



Appendix II: Environmental Baseline

Topic 3: Water

Context

“Water is a heritage which must be protected and defended.”

The European Union Water Framework Directive (2000/60/EC).

The Cairngorms National Park encompasses the headwaters of three of Scotland's major rivers as well as many smaller ones (**Figure 1**). Many of the rivers and their tributaries as well as lochs and wetlands are designated as European sites and Sites of Special Scientific Interest (SSSIs). The rivers are also important, providing water for business and people within and outwith the National Park, as they flow downstream towards the sea.

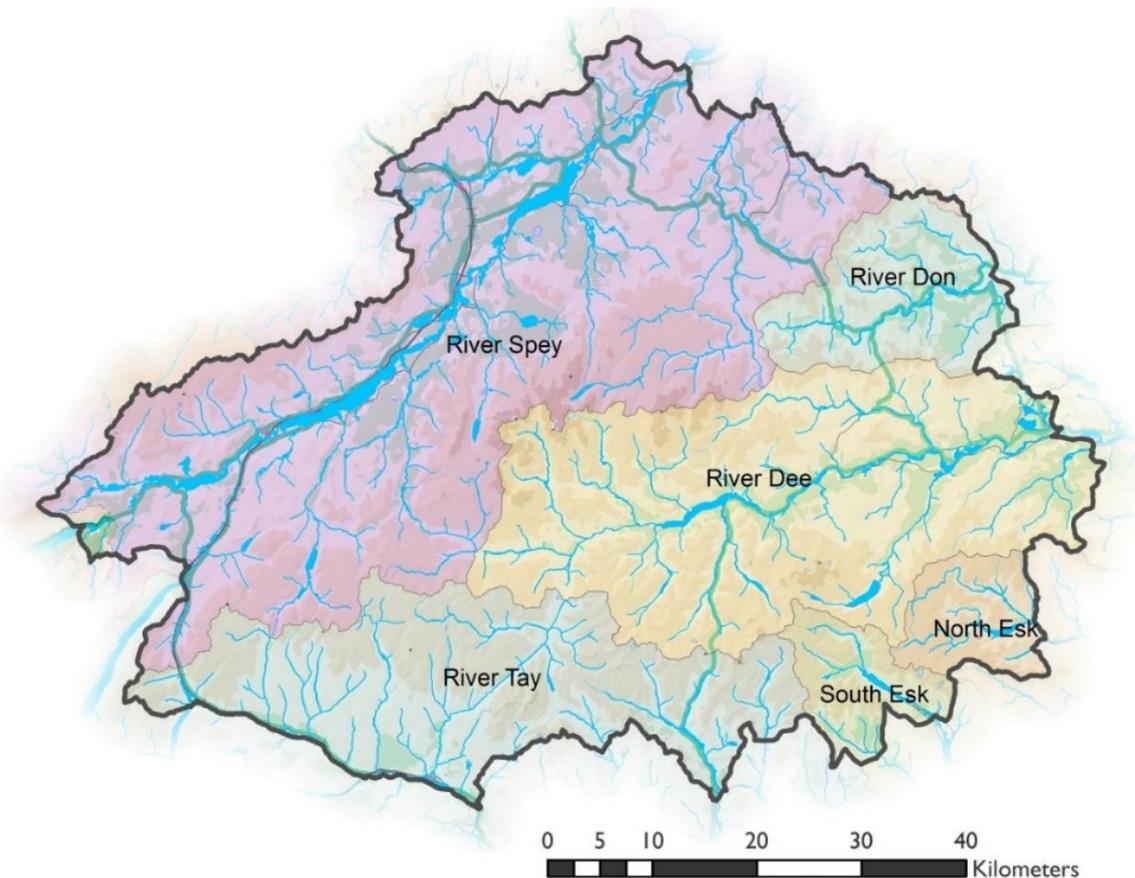


Figure 1 River catchments within the Cairngorms National Park (CNPA, 2023).



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Three of the rivers are subject to catchment management plans, the Dee, the Esk and the Spey. These plans aim to protect water quality, direct the use of the rivers as resources, protect against flooding, enhance biodiversity, and promote responsible access and economic development.

Water quality

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.

Examples include (but are not limited to) wastewater and trade effluent from industrial activities, and surface water collected then discharged in urban areas.

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 cumulative effect. Activities associated with diffuse pollution are varied and include (but are not limited to) run-off from roads, sediment and other matter released during agricultural and forestry activities, 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 the focus of attention. Diffuse sources of water pollution can have a significant effect on biodiversity and human health. The effects include (but are not limited to) contamination of water supplies, nutrient enrichment of water bodies leading to changes in habitats and the species that rely on them, oxygen depletion and smothering of substrates and habitats relied on by fish and other wildlife for key stages in their lifecycles.

The European Union Water Framework Directive (EU WFD) (2000/60/EC) sets out the objectives for water protection in Scotland. The WFD sets out several objectives to improve the quality of water and water bodies:

- general protection of the aquatic ecology
- specific protection of unique and valuable habitats
- protection of drinking water resources



- protection of bathing water

All these objectives must be integrated for each river basin. The Scottish Environment Protection Agency (SEPA) are responsible for monitoring water quality in Scotland to the requirements set out by the EU WFD. 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. 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 classed as being in bad status.

From the available information, between 2007 and 2020 the number of waterbodies in the Cairngorms National Park in high status have increased slightly, the number in good moderate and poor status have declined, while the number in bad/ fail status have increased two-fold (from 0.5% to 1.3%, see **Figure 2**) 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).

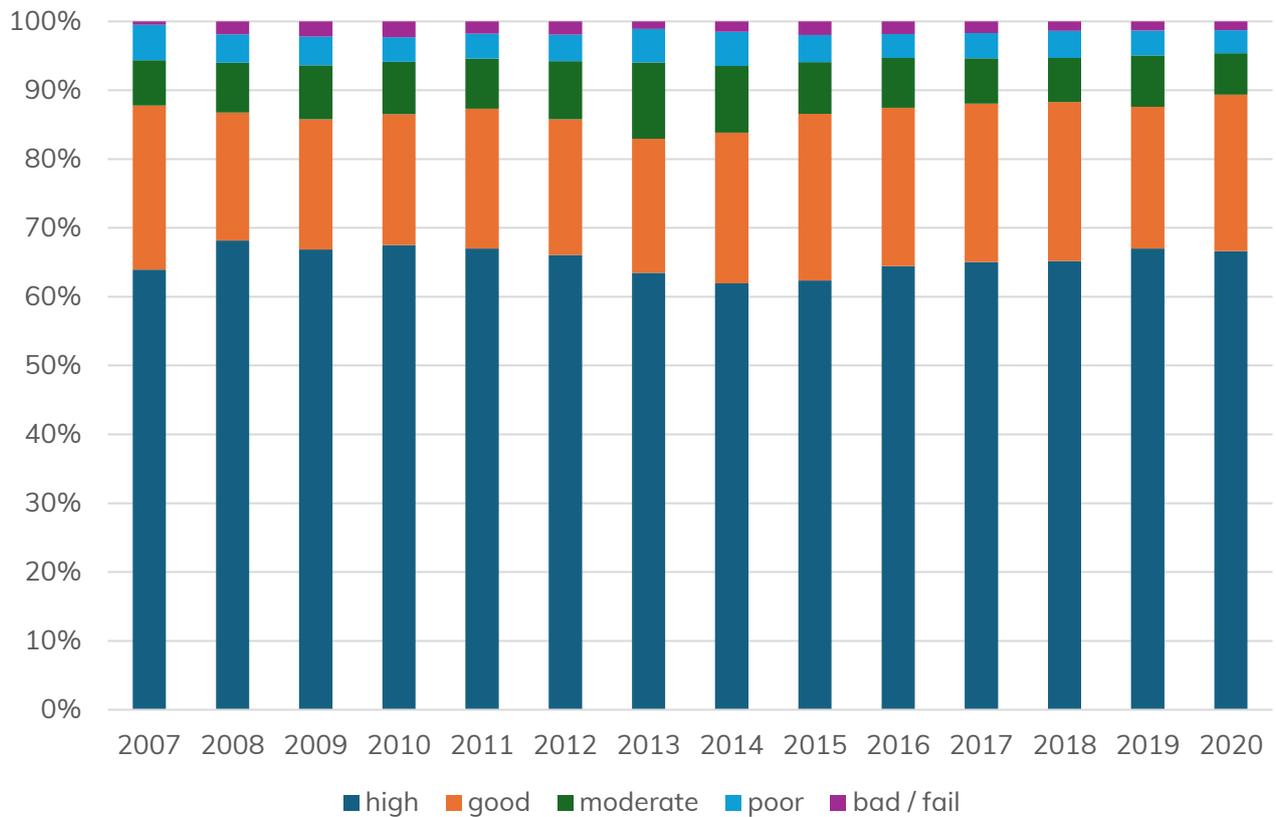


Figure 2 Proportion of waterbodies by status in the Cairngorms National Park, 2007-2020 (SEPA, 2022)

SEPA (2022) predict that more waterbodies in the Cairngorms National Park will move into the good/moderate category by 2027 (**Figure 3**). Note the figures for predicted figures for 2021 are shown as the proportion of waterbodies by status in the National Park, as 2022 figures have not yet been published.

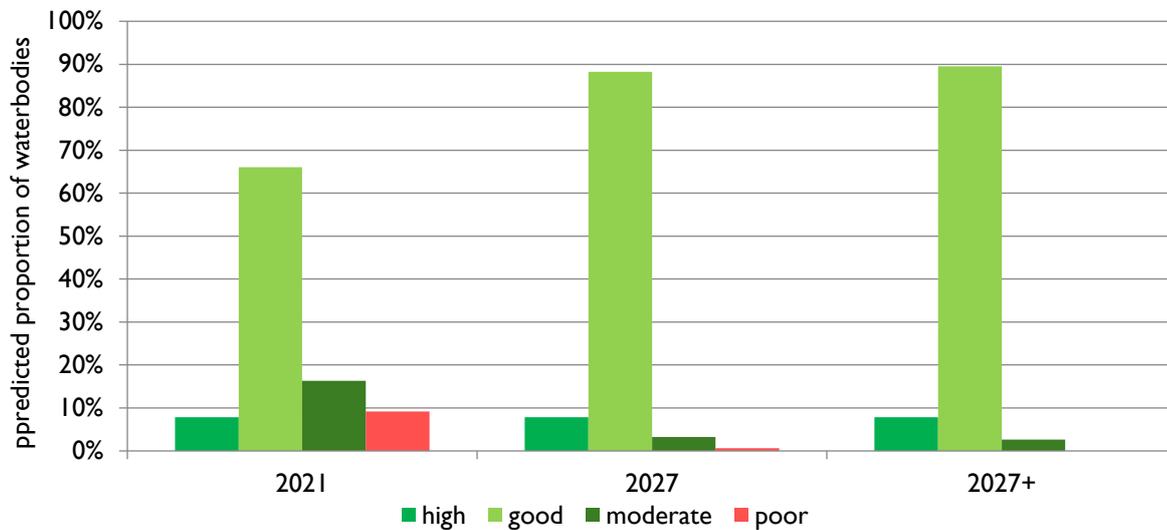


Figure 3 Predicted proportion of waterbodies by status in the Cairngorms National Park, 2021 – 2027 (SEPA, 2022).

The shift to a greater proportion having an improved status is likely to be a result of remediation works on historical engineering and barriers to fish passage.

Water quantity

In order to provide information for the management of water resources, SEPA monitor water levels at 20 sites within the Cairngorms National Park, as well as at a number of locations just outside the National Park boundary. Water levels are converted to flow at most river gauging stations.

The trends can be used as an indicator of climate change or as an identifier of potential risks such as flooding. **Figure 4** and **Figure 5** represent the series of maximum instantaneous peak flows within a given water year (October to September) for monitoring stations on the River Spey and the River Dee (data was not available for the River Dee from 2015 -2018).

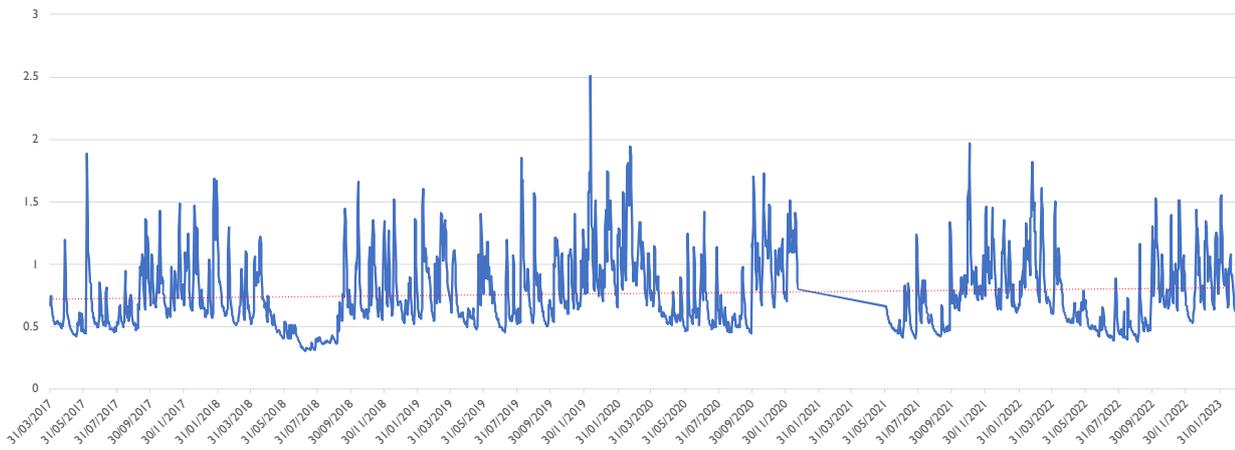


Figure 4 Monthly maximum level (m) and trend for the River Spey from the Granttown-on-Spey monitoring station (8010) between 2017 and 2023 (SEPA, 2023)

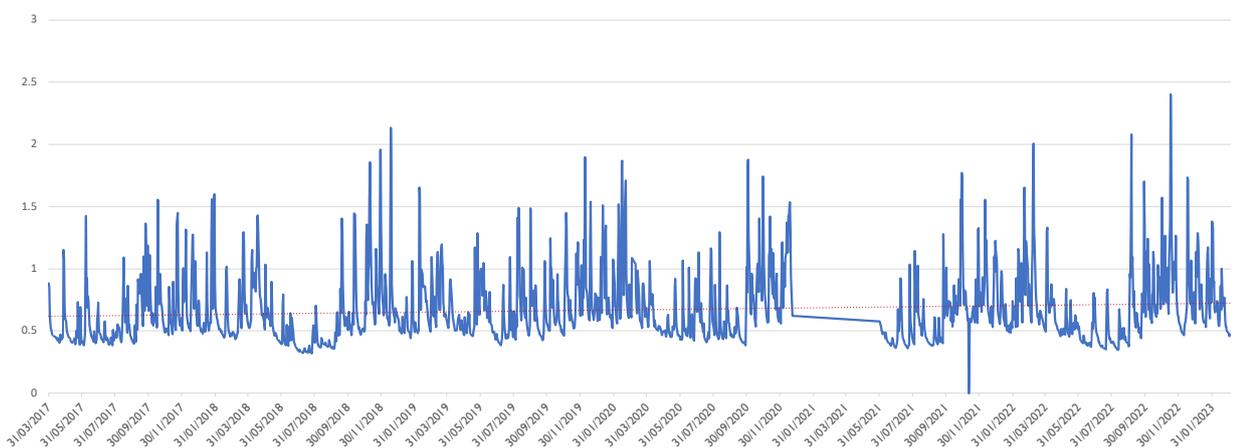


Figure 5 Monthly maximum levels (m) and trend for the River Dee at Polhollick, near Ballater (monitoring station 12003) between 2017 and 2023 (SEPA, 2023).

The data from both stations shows a general trend for higher annual maximums during the monitoring period, although the exact causes of this are uncertain.

Water infrastructure

The current capacity status of the water and waste-treatment plants provided by Scottish Water that serve the settlements in the National Park is shown in **Table 1**.



Table 1 Scottish Water information on water and waste treatment capacity in the Cairngorms National Park, Scottish Water, 2022.

Local Authority area	Settlement	Water Treatment Works	Capacity (housing units)	Waste treatment Works	Capacity (housing units)
Aberdeenshire	Ballater	Ballater	100+	Ballater	54
	Braemar	Braemar	350	Braemar	>60
	Dinnet	Ballater	95	Dinnet	<10
	Strathdon	Lumsden	30	Private	N/A
Angus	Angus Glens	Private	N/A	Private	N/A
Highland	Aviemore	Aviemore	812	Aviemore	500>
	Boat of Garten	Aviemore	812	Boat of Garten	100+
	Carr Bridge	Aviemore	812	Carr Bridge	100+
	Cromdale & Advie	Aviemore	812	Cromdale	124
	Dalwhinnie	Dalwhinnie	94	Dalwhinnie	<10
	Dalnain Bridge	Aviemore	812	Dalnain Bridge	25
	Glenmore	Private	N/A	Glenmore	<10
	Grantown of Spey	Aviemore	812	Grantown	190
	Insh	Aviemore	812	Insh	<10
	Inverdrue, Coylumbridge	Aviemore	812	Aviemore	500>
	Kincraig	Aviemore	812	Kincraig	52
	Kingussie	Aviemore	812	Kingussie	300+
	Laggan	Laggan Bridge	<10	Laggan Bridge ST	<10
	Nethy Bridge	Aviemore	812	Nethy Bridge	70
Newtonmore	Aviemore	812	Newtonmore	208	
Moray	Glenlivet	Tomnavoulin	<10	Private	N/A
	Tomintoul	Blairnamarrow	<10	Tomintoul	*Under Review
Perth & Kinross	Blair Atholl	Killiecrankie	1767	Blair Atholl	*Under Review
	Bruar & Pittagowan	Killiecrankie	1767	Private	N/A
	Calvine	Killiecrankie	1767	Private	N/A
	Glenshee	Private	N/A	Private	N/A
	Killiecrankie	Killiecrankie	1767	Killiecrankie	<10



Including all planned and committed development proposals, capacity exists at most of the Scottish Water treatment works serving settlements in the Cairngorms National Park. However, the reported capacity of many waste-treatment plants serving the Park is a constraint to development.

Flooding

All of the Cairngorms National Park's rivers and watercourses have the potential to flood to some degree (**Figure 6**). Most concern is generated along the National Park's main straths and glens, as when the rivers and tributaries that flow along these, namely the Spey, Dee and Don, break their banks, they often result in economic, and occasionally human, cost. Small watercourses also represent a risk but are often poorly understood with respect to the severity of the flood hazard that can be generated on a catchment scale. Furthermore, in some areas surface water flooding, which can arise for several reasons, is a significant risk.



Figure 6 Indicative river flooding extent (medium probability 1 in 200 years) in Cairngorms National Park (SEPA, 2023)



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The River Spey

The River Spey (**Figure 1**) rises in the high ground of the Monadhliath and Cairngorm Mountain ranges and flows in a north-easterly direction through narrow straths and scenic river valleys before discharging into the Moray Firth beyond the fertile farmlands of Morayshire. The upper part of the catchment is characterised by its mountainous areas, the highest point being the summit of Ben Macdui at 1,309 metres above sea level.

The River Spey is the seventh largest river in Britain, with a catchment area of over 3,000 km², and a stream network length of about 36,500 km, of which the main river comprises 157 km. There is a long history of flooding within the Spey catchment area, with a notable event, known as the Great Muckle Spate, destroying several bridges in 1829. The River Spey and its tributaries continue to flood regularly, with heavy rains and melting snows increasing the volumes of water in the catchment. These floods have damaged properties in Newtonmore, Aviemore and Carrbridge on several occasions.

Due to the potential risk caused by flooding within the catchment area, five Potentially Vulnerable Areas (PVAs) have been identified within the Cairngorms National Park (**Figure 7**), at:

- Nethybridge (PVA 02/05/15)
- Aviemore (PVA 02/05/10)
- Kingussie (PVA 02/05/11)
- Newtonmore (PVA 05/05/12); and
- Dalwhinnie (PVA 02/05/13).

Further information about the PVAs in the Spey Catchment area within the National Park can be found here: <https://www2.sepa.org.uk/frmplans/documents/lpd5-findhorn-nairn-and-speyside-frmp-2021.pdf>

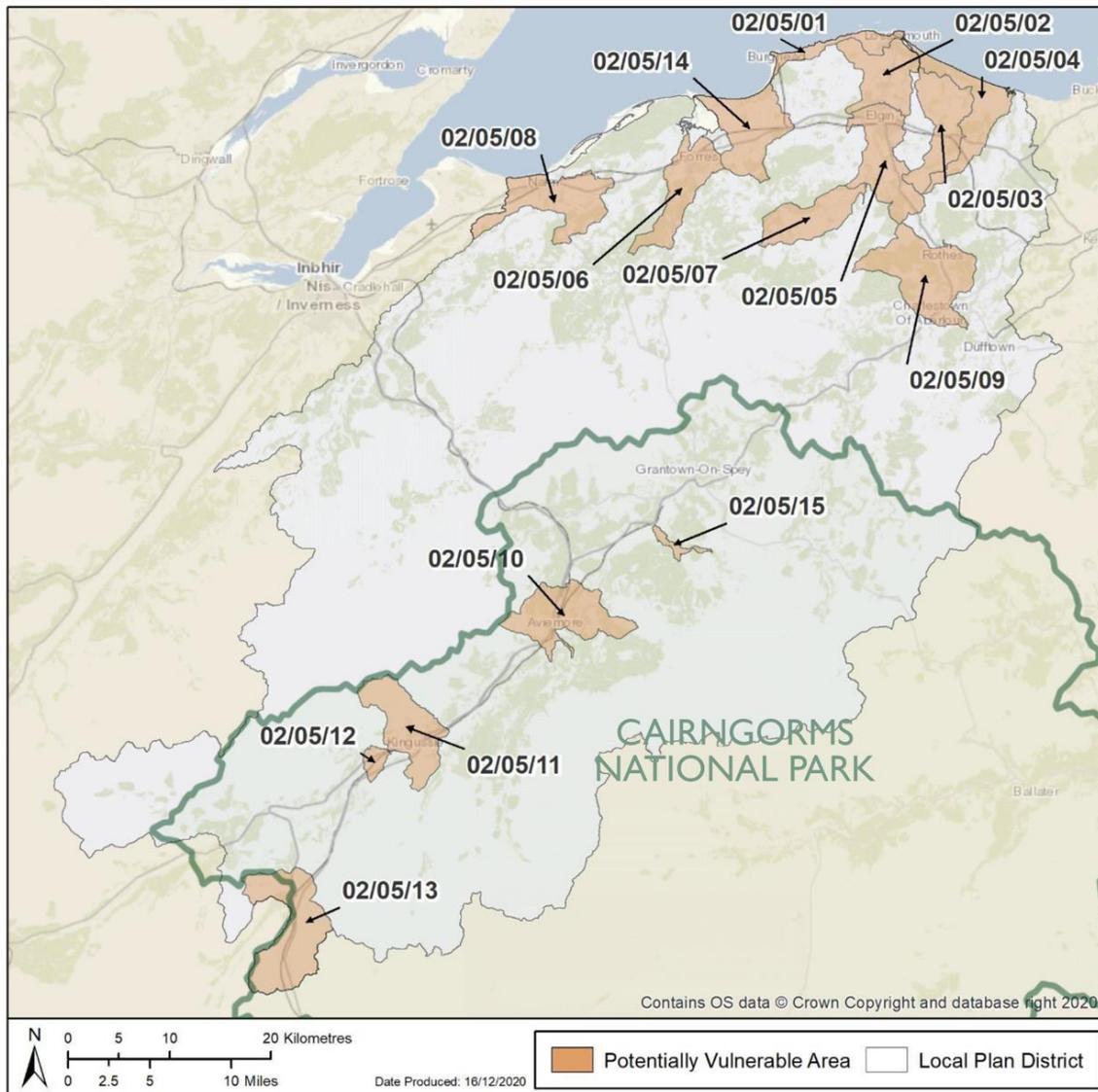


Figure 7 PVAs in the River Spey catchment area within the Cairngorms National Park (SEPA, 2021).

River Dee

The River Dee rises in the Cairngorm Mountains east of Braemar on the semi-arctic Braeriach-Cairn Toul plateau (**Figure 1**). For the majority of its course, the river flows eastwards through a broadening valley, which becomes much gentler in relief as it leaves the National Park. Within the National Park, the river is fed by a number of important tributaries, namely the Lui, Clunie, Gairn, Muick and Tanar, the latter's confluence located just outwith the National Park Boundary (Dee Catchment Partnership, 2007).

The river is considered to be the best example of a natural highland river in Scotland (Maitland, 1985). The notable characteristics of the river include its great altitudinal



range, its unique succession of plant communities, and its seep profile compared to other large British rivers (Dee Catchment Partnership, 2007).

Like the Spey, the Dee suffers from flooding related to heavy rain and melting snows. Major floods have been recorded in 1769, 1829 (the Great Muckle Spate), 1920 and 1956 (the Cairngorm Flood) (Dee Catchment Partnership, 2007). In 2008 surface run-off entered the Netherly Guesthouse in Ballater and in 2014 the town's caravan park and a number of roads were closed due to flooding (Scottish Environment Protection Agency, 2015). In December 2015 / January 2016, the Dee experienced widespread flooding, which caused significant damage to property and transport infrastructure.

The River Dee catchment contains one PVA that falls within or across the Cairngorms National Park boundary (**Figure 8**) namely: Ballater (PVA 02/06/20). Further information about the Ballater PVA can be found here:

<https://www2.sepa.org.uk/frmplans/documents/lpd6-north-east-frmp-2021.pdf>

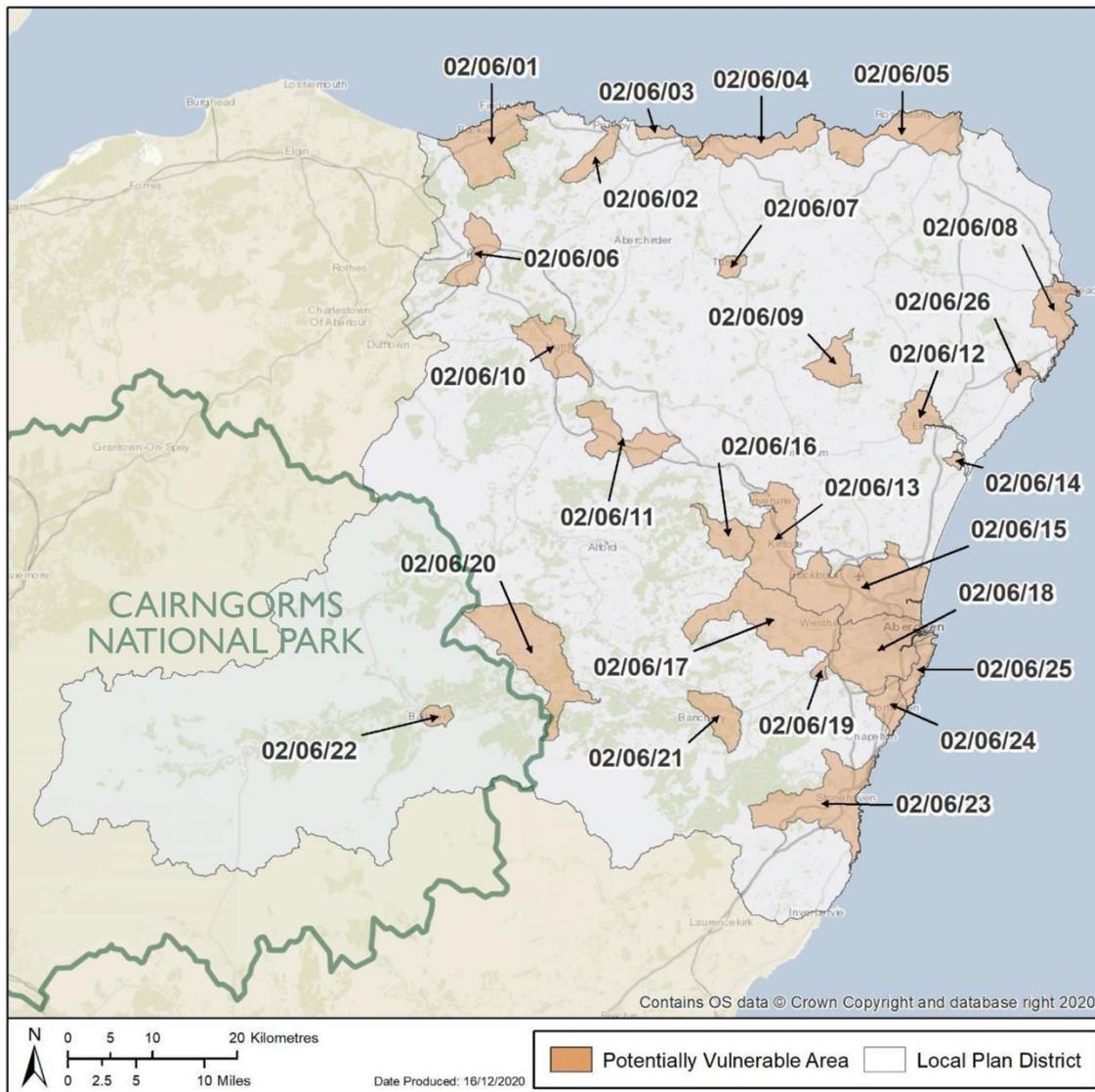


Figure 8 PVA in the River Dee catchment area within the Cairngorms National Park (SEPA, 2021).

River Don

Rising in the in the peat flat beneath Druim na Feithe, and in the shadow of Glen Avon, the River Don flows 135km east to the sea in Aberdeen. It's Scotland's 6th largest river, draining a catchment of around 1,300km².

There was a surface water flood in August 2006 affecting Strathdon, Waterside and Bellabeg when water ponded in low points of the road, with heavy rainfall and steep sloping fields to the south resulting in significant amounts of flood water.



River Tay

The River Tay has the largest catchment area and is the longest river in Scotland, with many of its headwaters lying within the Cairngorms National Park. More water flows through the River Tay than any other river in the United Kingdom. The Tay catchment contains one PVA that falls across the National Park boundary at Blair Atholl. Several 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.

Currently there is relatively low confidence in SEPA's river flood hazard maps due to limitations arising from the data used and techniques applied in the national modelling. The number of properties at risk of flooding in the Blair Atholl area is likely to be underestimated (Scottish Environmental Protection Agency, 2015).

The River Tay catchment contains one PVA that falls within or across the Cairngorms National Park boundary (**Figure 9**) namely: Blair Atholl (PVA 02/08/01). Further information about the Blair Atholl PVA can be found here:

<https://www2.sepa.org.uk/frmplans/documents/lpd8-tay-frmp-2021.pdf>

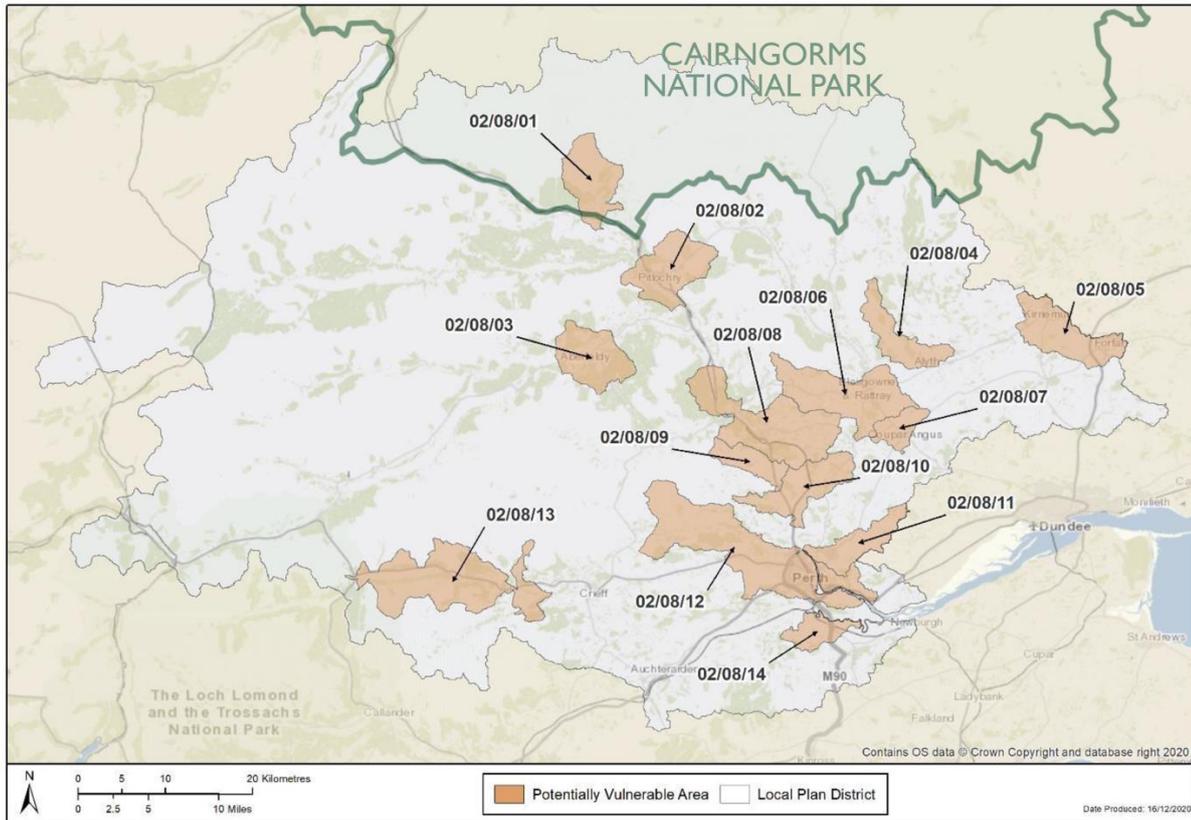


Figure 9 PVA in the River Tay catchment area within the Cairngorms National Park (SEPA, 2021).

Flood Risk Management Plans

A significant number of properties remain at risk of future flooding Potentially Vulnerable Areas (PVAs) in the Cairngorms National Park (**Figure 10**). The PVA's within the National Park fall within three National Flood Risk Management Plans namely: (see associated links in river sections).

Table 2 National Park PVAs

Settlement	PVA Ref.	Flood Risk Management Plan
Nethybridge	02/05/15	Findhorn, Nairn and Speyside Local Plan District
Aviemore	02/05/10	Findhorn, Nairn and Speyside Local Plan District
Kingussie	02/05/11	Findhorn, Nairn and Speyside Local Plan District
Newtonmore	05/05/12	Findhorn, Nairn and Speyside Local Plan District
Dalwhinnie	02/05/13	Findhorn, Nairn and Speyside Local Plan District
Ballater	02/06/22	North East Local Plan District
Blair Atholl	02/08/03	Tay Local Plan District

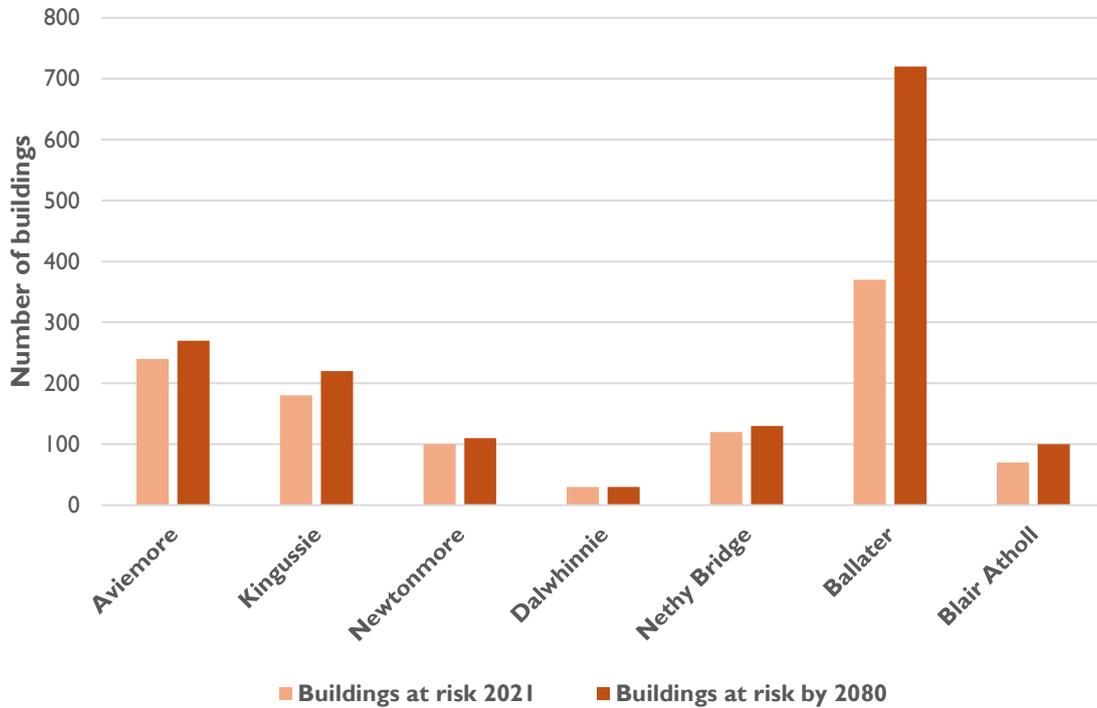


Figure 10 Buildings at risk of flooding in potentially vulnerable areas (SEPA, 2022).

Within all the PVA's there remains a significant risk to the local people that live there (Figure 11).

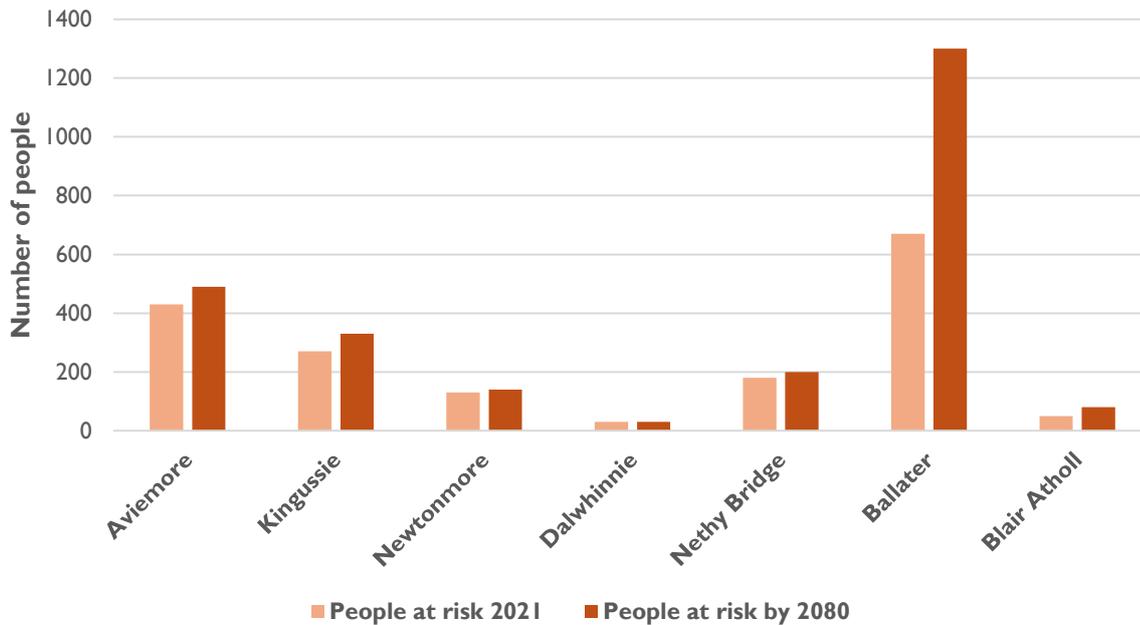


Figure 11 People at risk of flooding in potentially vulnerable areas (SEPA, 2022).



Key Messages

Water quality within the Cairngorms National Park is relatively high, however, monitoring indicates that recent years have seen an increase in the proportion of water bodies falling out of the high classification for overall status and water quality. The situation was particularly poor in 2013, which saw a large increase in the number of waterbodies falling into lower classifications.

River level data from the Spey and Dee indicates a general trend for higher monthly maximum river levels over the time they were monitored, indicating an increase in flood risk in these catchments.

Data discussed in topic one has inter-relationships with the following topics:

Topic 2: Air

Topic 3: Water

Topic 4: Soil

Topic 5: Material Assets

Topic 6: Biodiversity, Fauna and Flora

Topic 7: Landscape

Topic 8: Historic and Cultural Heritage

Topic 9: Population and Human Health



Topic 4: Soil

“Soil is a resource of common interest... and failure to protect it will undermine sustainability and long-term competitiveness in Europe.”

Commission of the European Communities (2006).

Soils cover most of the natural world, forming the foundation of all terrestrial ecosystems and services. They support key processes in biomass production and mass exchange with atmospheric and hydrological systems. Nearly all the food, fuel and fibres used by humans are produced in soil. Soil is also essential for water and ecosystem health. It is second only to the oceans as a carbon sink, with an important role in the potential slowing of carbon change. Soil functions depend on a multitude of soil organisms, which makes soil an important part of our biodiversity (Joint Research Centre, 2012).

Although soils are a continually evolving, living and dynamic medium responding to external pressures and management, some activities such as development or pollution can mean their recovery or reformation cannot take place within human timescales. This means soils are a finite and essentially non-renewable resource (Scottish Government, 2009).

Land Capability for Agriculture

Although it is estimated that Agriculture contributed about £672 million to the Scottish economy in 2018 (Scottish Government, 2019), it is difficult to value the direct financial contribution that healthy soils make to our economy. But it is now widely acknowledged that the sustainable management of soils, and the protection of soils' ability to deliver a wide range of environmental and ecological services, is essential to achieving sustainable economic growth.

Land Capability Classification for Agriculture mapping provides detailed information on soil, climate and relief for those involved in the management of land use and resources. The classification ranks land from 1 to 7 based on its potential productivity and cropping flexibility determined by the extent to which its physical characteristics (soil, climate and relief) impose long term restrictions on its agricultural use. Land classified from 1 to 3.1 is prime agricultural land, while land classified as 3.2 to 7 is considered to be non-prime (Soil Survey of Scotland Staff, 1981).



There are no areas of prime agricultural land within the Cairngorms National Park, although there are areas of land in Strath Spey and Deeside within the 3.2 classification (around 1.2% of the National Park's total area), which denotes non-prime land that is limited by moderate climatic factors and may yield a moderate range of crops, with average production, but potentially high yields of barley, oats and grass. Most land within the National Park is classified as 6 or 7 (around 73%), which denote areas of 'rough grazing only' and 'very limited agricultural value' respectively.

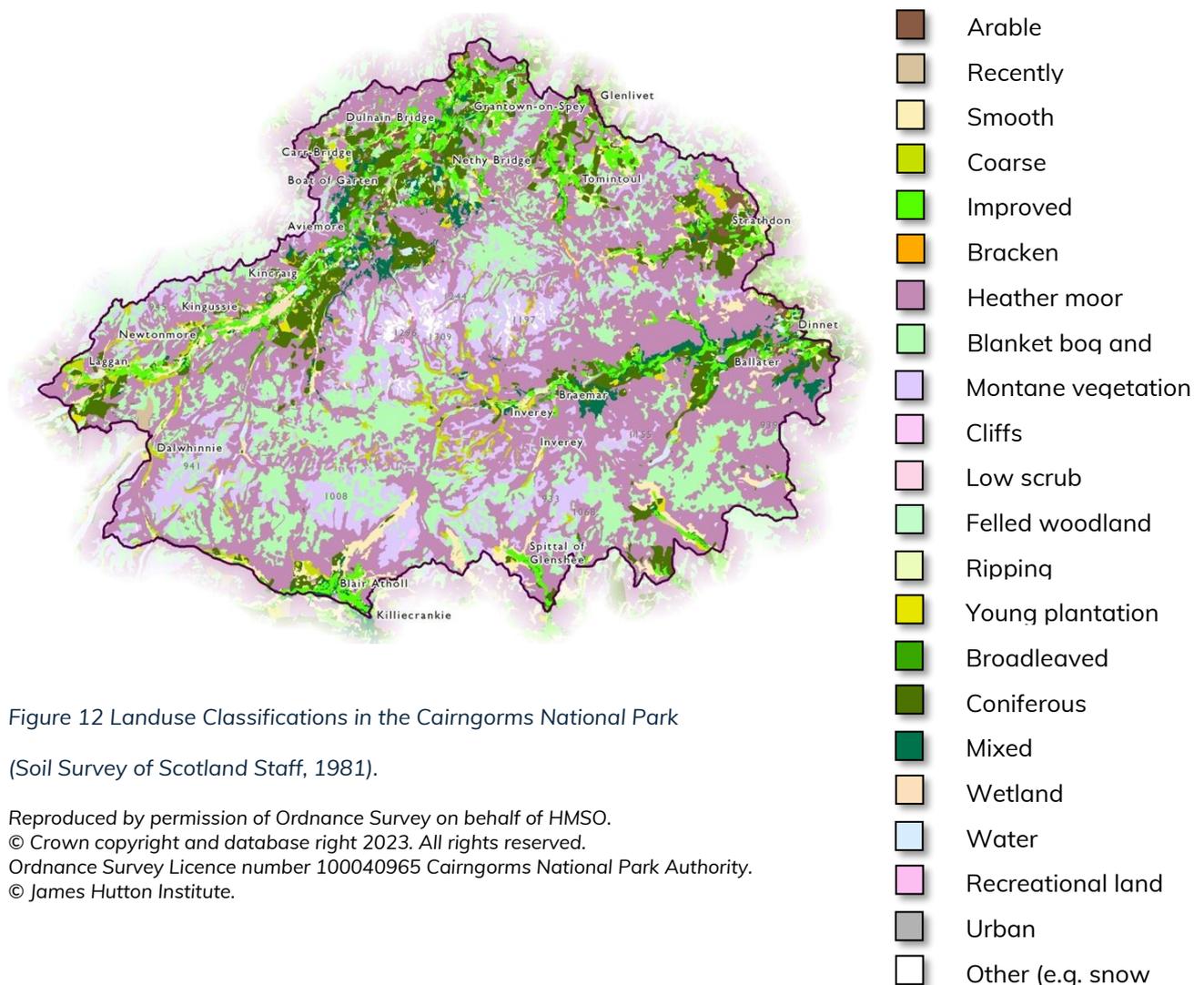


Figure 12 Landuse Classifications in the Cairngorms National Park

(Soil Survey of Scotland Staff, 1981).

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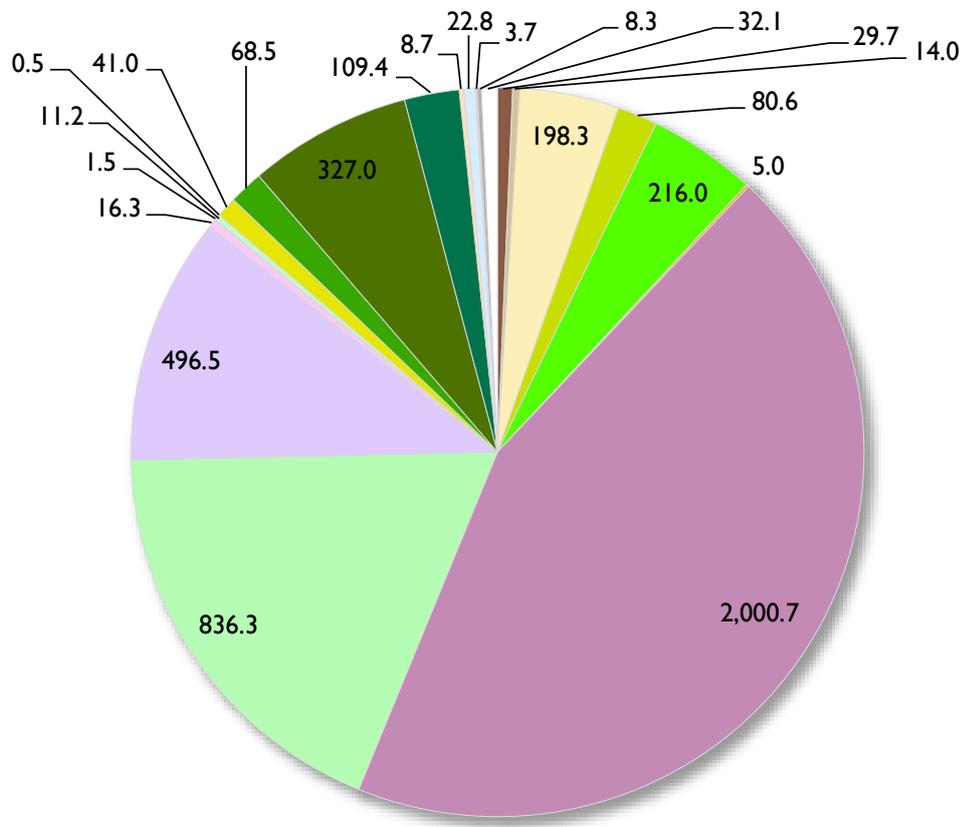


Figure 13 Land use classification by area (km²) in the Cairngorms National Park (Soil Survey of Scotland Staff, 1981).

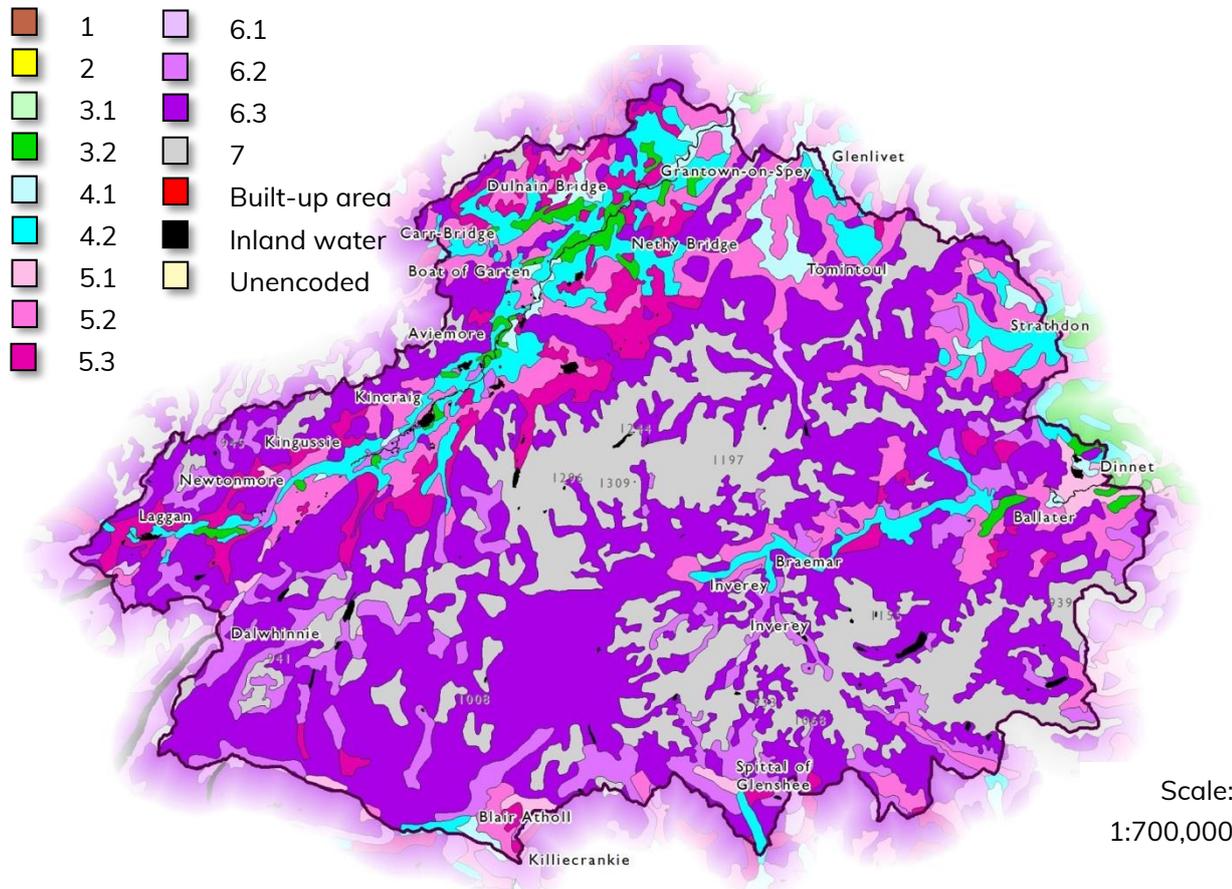


Figure 14 Agricultural land classification in the Cairngorms National Park (Soil Survey of Scotland Staff, 1981).

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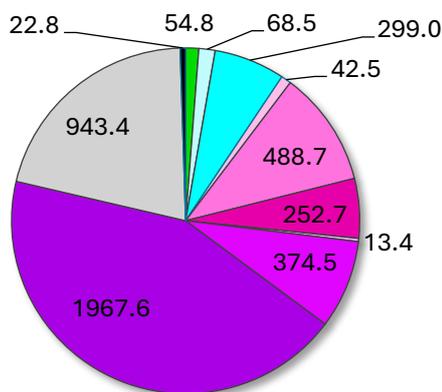


Figure 15 Agricultural land classification by area (km²) in the Cairngorms National Park (Soil Survey of Scotland Staff, 1981).



Organic Matter

Soil organic matter is a universal constituent of soils and plays a vital role in contributing to a range of soil functions. Organic carbon is the dominant component of soil organic matter (around 50%), so management of soil has important wider consequences in the context of greenhouse gas emissions and climate change. Soil organic matter also contains a wide range of nutrients (e.g., nitrogen, phosphorus) and trace elements that are essential for plant growth and health. The presence of soil organic matter is a critical indicator of soil quality and is required to deliver many of the vital functions of soil including its ability to provide nutrients, ameliorate the inputs of wastes and pollutants, contribute to the formation of good physical conditions, improve water storage, and provide a habitat for microbial populations (Rees et al. 2011).

The soils of the Cairngorms National Park are particularly rich in soil organic matter because the cool, moist climate encourages the retention of decomposed organic materials, with peatlands containing the largest quantities of soil organic matter (**Figure 38** and **Figure 17**). These soils are important global reserves of soil carbon.

The organic matter content of soils is at risk from a range of pressures, with land use change and climate change being of particular importance. The pressures affect the incorporation, cycling and breakdown of organic matter in the soil through alteration of soil conditions populations (Rees et al. 2011). The major pathway of loss of organic matter from soils is by carbon dioxide (CO₂) emission to the atmosphere via soil respiration, but other greenhouse gases can also be emitted due to soil organic matter decomposition, for example methane (CH₄) and nitrous oxide (N₂O) (Scottish Executive, 2007). In addition, carbon compounds can be released from soil into water, for example dissolved organic carbon and particulate organic carbon (Buckingham et al. 2008; Dinsmore et al. 2010). Other processes can also influence the amount of organic matter loss, such as soil erosion (Bilotta et al. 2007). Although most CO₂ is returned to soils due to the photosynthetic activity of plants, the net exchange (the difference between gains and losses) of carbon from land surfaces may still be large (Rees et al. 2011).

Climate is important in determining the equilibrium soil organic matter content. Temperature and rainfall influence both the input of organic matter via photosynthesis (for example, litter and root inputs), and its subsequent decomposition through microbial activity, with resultant release of greenhouse gases and dissolved organic carbon, along with nutrients and trace elements. Therefore, any change in climate, for example increased rainfall and/ or increased temperature, is likely to change the rate at which organic matter is lost or accumulated in Scottish soils (Rees et al. 2011).

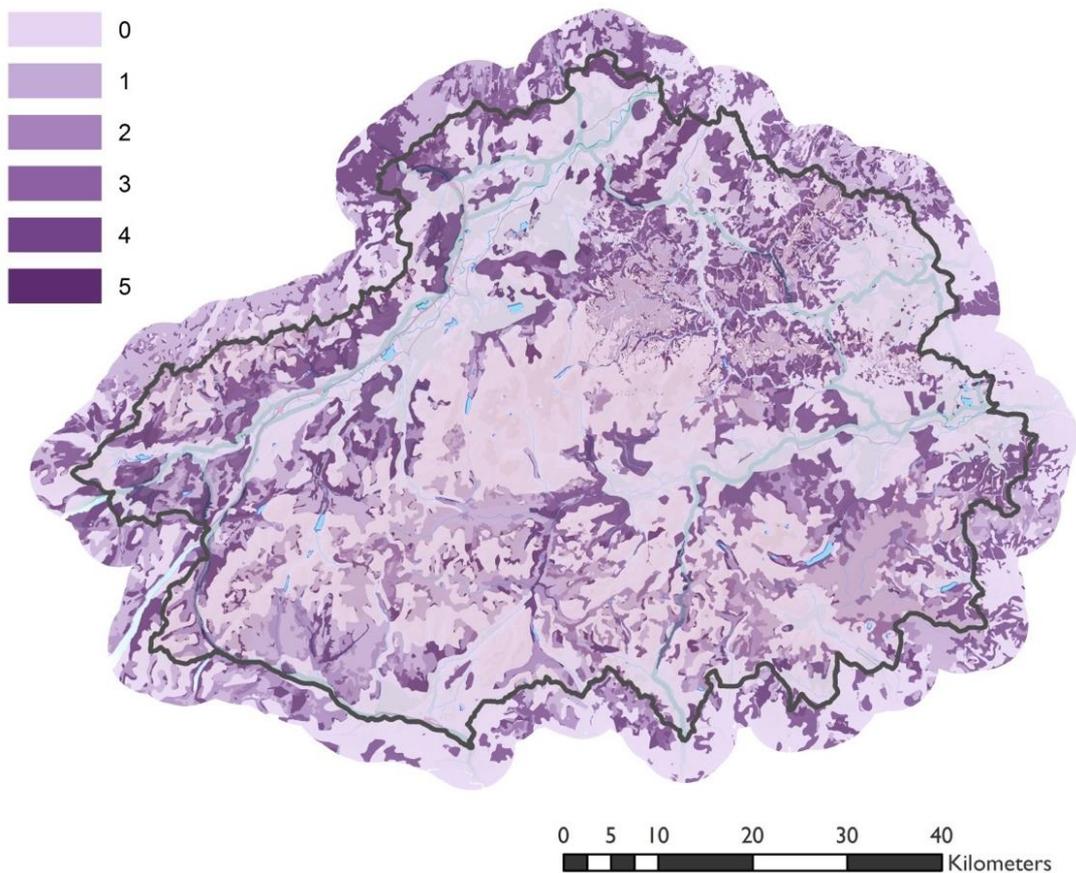


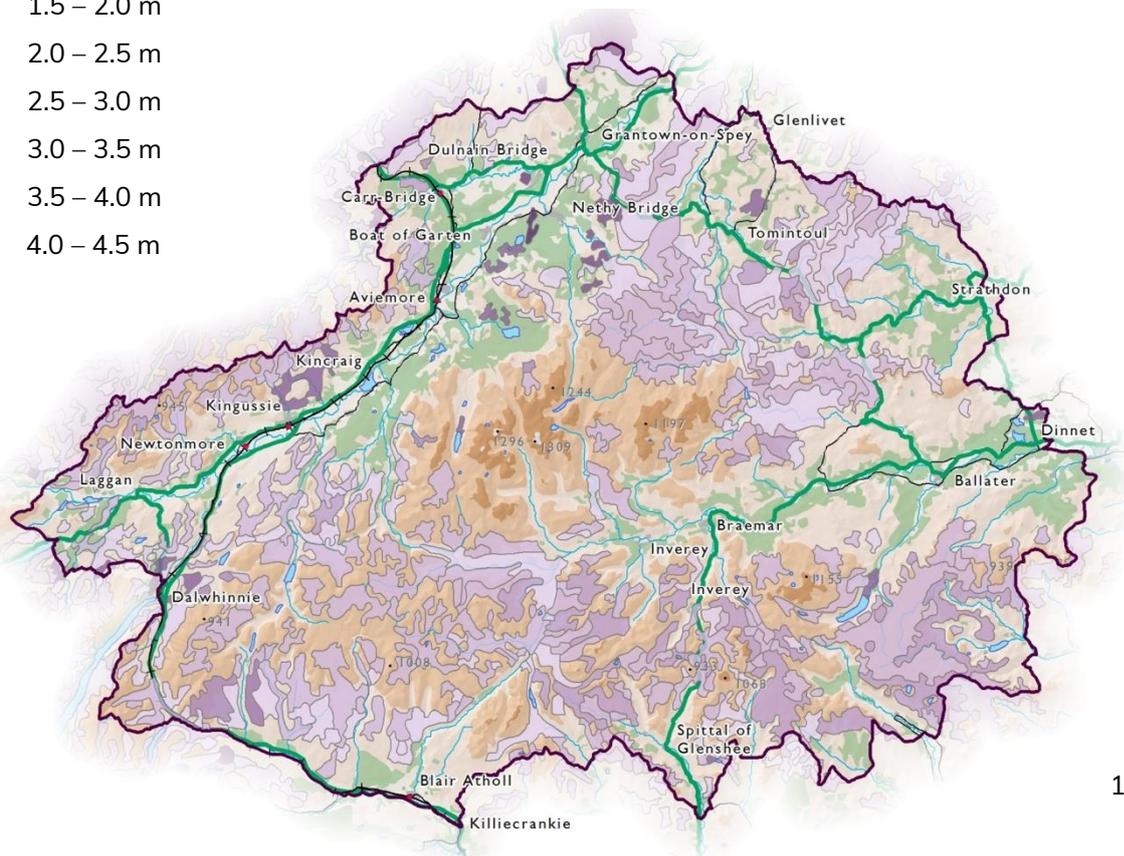
Figure 16 Mapping of carbon rich soils in the Park (legend detailed below)(NatureScot, 2016)

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-  Class 5. Soil information takes precedence over vegetation data. No peatland recorded. May show signs of bare soil. All soils are carbon-rich soil and deep peat.
-  Class 4. Area unlikely to be associated with peatland habitats or wet and acidic type. Area unlikely to include carbon-rich soils.
-  Class 3. Dominant vegetation cover is not priority peatland habitat but is associated with wet acidic type. Occasional peatland habitats can be found. Most soils are carbon-rich soils, with some areas of deep peat.
-  Class 2. All vegetation cover is dominated by priority peatland habitats. All soils are carbon-rich soil and deep peat.
-  Class 1. All vegetation cover is by priority peatland habitats. All soils are carbon-rich soil and deep peat.
-  Class 0. Mineral soils. Peatland habitats are not typically found on such soils.



- 0.0 – 0.5
- 0.5 – 1.0 m
- 1.0 – 1.5 m
- 1.5 – 2.0 m
- 2.0 – 2.5 m
- 2.5 – 3.0 m
- 3.0 – 3.5 m
- 3.5 – 4.0 m
- 4.0 – 4.5 m



Scale:
1:700,000

Figure 17 Depth of peat in the Cairngorms National Park (Soil Survey of Scotland Staff, 1981)

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There is a particular concern regarding the sensitivity of soil organic matter to changes in climate. Projected climate change in the Cairngorms National Park, with warmer and drier summers and wetter winters, threatens to increase losses of soil organic matter (see Topic 1: Climatic Factors). Another concern is that extreme weather events such as heavy rainfall could contribute to significant losses of organic matter through soil erosion (Rees et al. 2011).

Issues caused by climate change may be compounded by unsustainable land use activities such as those related to agriculture, forestry practices, recreation / game management, peat exploitation and development. Many of the Cairngorms National Park's most organic rich soils are located on its moorlands, large areas of which are managed for game. Deer can cause compaction and erosion and it is necessary to



maintain the deer population at a sustainable level. Grouse shooting requires management of the moorland habitat such that a good balance of young heather is available for forage. This is normally done by burning (muirburn), typically in patches which are burnt every 10–20 years. Carefully managed heather moorland should aim to retain soil organic matter and the soil carbon balance over time, but poorly managed burning can result in losses. There is evidence of soil organic matter loss following burning though the evidence base is scant (Rees et al. 2011).

The consequences of organic soil loss are potentially serious since it provides several important ecosystem services, such as:

- Providing the basis for food and biomass production.
- Controlling and regulating environmental interactions.
- Storing carbon and maintaining the balance of gases in the air.
- Providing valued habitats and sustaining biodiversity.
- Preserving cultural and archaeological heritage.
- Providing raw materials.

Contamination

Soil contamination can come in many forms and from many sources. However, not all are of concern within the Cairngorms National Park. While contamination from metals, organic chemicals, radioactive substances and pathogens may exist within National Park boundary, they are not of an order that is likely to cause significant harm to the environment and can therefore be scoped out of the assessment.

Due to its potential effects on habitat and biodiversity, soil acidification is however of significance to the National Park. Typically, this pollution originates from gaseous emissions of sulphur dioxide and oxides of nitrogen, which are dissolved in rainwater to form sulphuric and nitric acids which subsequently are deposited on soil, causing soil acidification. Excess nitrogen deposition can also lead to soil eutrophication.

Acidification and eutrophication impacts are often greatest in upland areas as a result of high rainfall and are exacerbated by predominantly poorly-buffered and nutrient-poor soils and the greater sensitivity of locally adapted biodiversity to a change in soil conditions. However, lowland soils, especially those associated with ecosystems of high conservation value, may also be affected by acidification and eutrophication. In addition, fertiliser application applied beyond the crop nutrient requirements can result in acidification and eutrophication of agricultural and forestry soils (Cundill et al. 2011).



Acidification can impact on soil nutrient cycling, causing critical load exceedance and a reduction in the ability of soils to filter contaminants. Further nitrogen additions are also less readily retained in ecosystems where the critical load for nitrogen is exceeded, resulting in 'nitrogen' saturation' (Aber et al. 1989; Agren & Bosatta, 1988).

Contaminates may therefore more readily enter water bodies, the acidification of which has been linked with soil acidification in Scotland (Helliwell et al. 2001). The impacts of soil acidification on both the biological and chemical quality of water has been observed in the Cairngorms (Soulsby et al. 1997). See Topic 3: Water for further details.

Soil Erosion

Soil erosion by water or wind is a natural process where soil particles become detached and are transported within the landscape. Features of soil erosion may be found throughout the Cairngorms National Park (Figure 18). For example, landslides and debris flows are a relatively common occurrence on many of the National Park's hill slopes, which have been over-steepened by glaciation (Ballantyne, 1986, 2004). The rate of soil loss via erosion and the incidence of landslides can be increased by removing the vegetation cover that protects the soil (e.g. ploughing to grow crops, deforestation) or by engineering works. Tillage erosion also leads to the redistribution of soil downslope (Lilly et al. 2011).

The erosion of upland organic (peat) soils is also prevalent in some parts of the National Park, in particular on the Monadhliath Mountains, the southern part of which fall within its boundary. The mechanisms that lead to erosion in these soils are not fully understood although historic overgrazing by sheep and deer may be a contributory factor. There is also evidence that changes in climate over many years may be partly responsible for the development of gully systems in these areas (Lilly et al. 2009).

Landslides (in the form of debris flows) have occurred in clusters over the last 7,000 years which may be related to climatic factors such as the frequency of extreme rainfall events, for example, although deforestation is also likely to be an important factor. Debris flows in the Lairig Ghru appear to occur with a return period of around 20 years, with each episode of debris flow activity thought to be linked to intense rainstorms (Baird & Lewis, 1957; Innes, 1982; Luckman, 1992). Landslide and debris flow activity is reported to have increased over the last 200–500 years (Innes, 1985; Ballantyne, 2004) and it is thought that localised extreme rainfall was the major contributing factor to the Scottish landslides in 2004 (Winter et al. 2005). Triggering of peat slides is also commonly attributed to intense rainfall events (Dykes & Warburton, 2008).



Climate change (see Topic 1: Climatic Factors) is therefore likely to lead to an increase in the frequency of landslides and in the intensity of soil erosion (Ballantyne, 2004; Winter et al. 2005).

One of the most important factors in the protection of soils from erosion is vegetation cover, as roots bind soil particles together and plants protect soil from direct raindrop impact, as well as disrupting overland flow. Where vegetation cover is sparse, or soils are bare, the incidence of landslides and soil erosion (by wind and water) is greater.

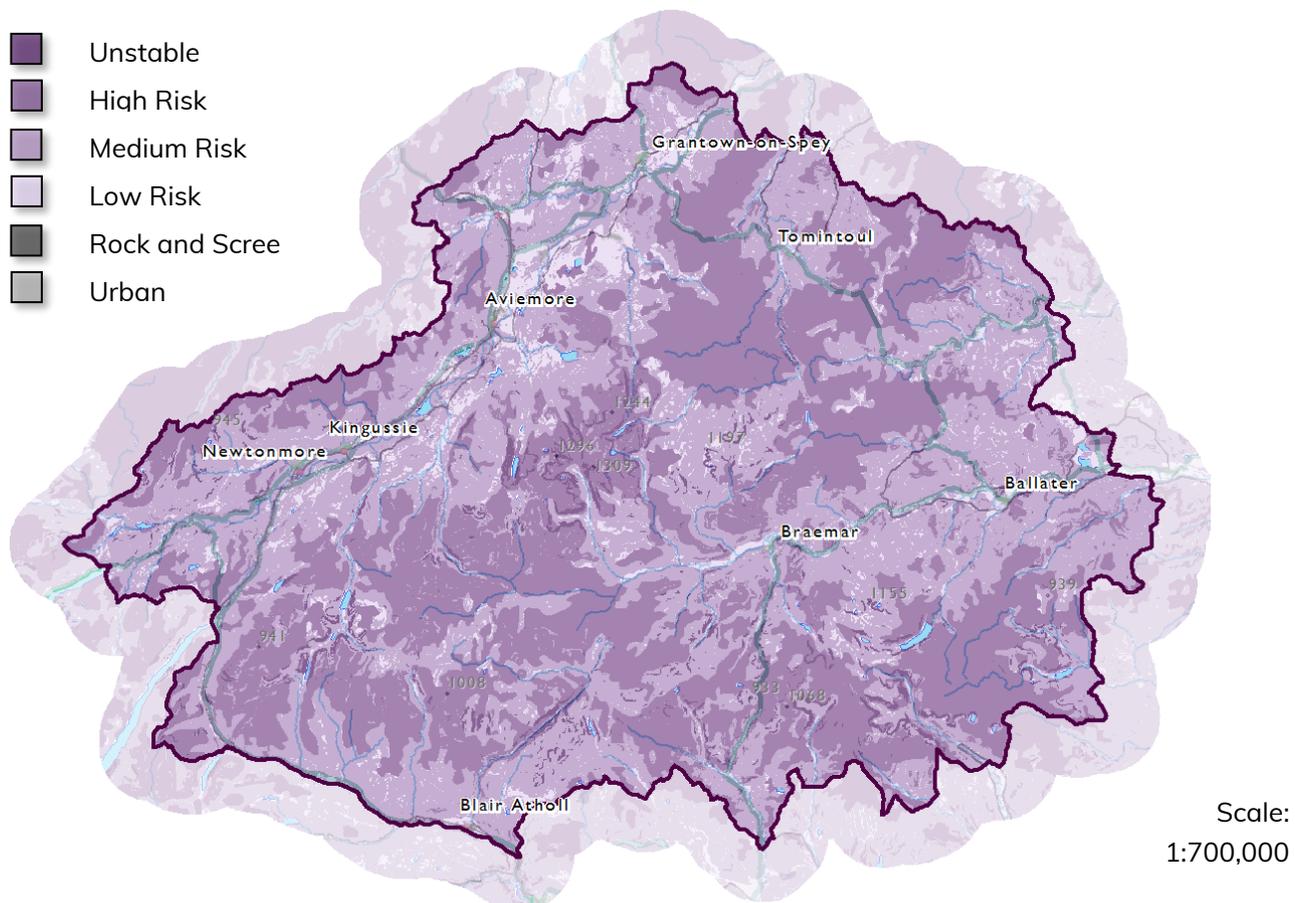


Figure 18 Soil erosion risk within Cairngorms National Park (James Hutton Institute, 2018)

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In some upland areas of the Cairngorms National Park, heavy grazing by sheep and deer has caused a decline in heather cover which has then been replaced by tussock forming grasses with poorer soil binding abilities. However, one difficulty in establishing links between soil erosion (in particular, the erosion of peat) and grazing is that historic



stocking densities, which are generally unknown, may have had more influence on the risk of erosion than current stocking densities. Also, both sheep and deer will preferentially graze specific areas, resulting in localised areas experiencing greater grazing pressures and an increased risk of erosion (Lilly et al. 2011).

In the Cairngorms National Park, estates and upland farms have commonly used burning as a means of controlling vegetation structure and improved heathland productivity. This can cause issues when too much vegetation is removed. Severe burning may even make the surface organic layer of the soil water resistant, resulting in greater run-off and greater potential for soil erosion and landslides (Lilly et al. 2011).

With an area around 600 km² of forest cover, soil erosion originating from forestry activities is also a consideration for the National Park. While in most instances, tree cover has a positive effect on soil erosion, providing vegetation cover and binding soils, certain activities may cause issues. For example, the bed of new drainage ditches can be scoured and run-off during harvesting can remove the loosened soil (Lilly et al. 2011).

Due to the National Park's popularity as a visitor and tourist destination, the effects of recreation must also be given consideration. Hill walking and mountain biking on some hill and upland areas can cause erosion and lead to the extension of paths across sensitive environments where natural regeneration of the vegetation is slow. These areas then become vulnerable to continued erosion (Lilly et al. 2011).

Key Messages

The Cairngorms National Park does not contain any mapped areas of Prime Agricultural Land; it does however have large areas of Carbon Rich soils, which perform important ecosystem services, particularly as a carbon sink. Soil erosion, both natural and through inappropriate land management techniques place many of these soils at risk. There is little evidence of soil contamination within the National Park, however inappropriate agricultural practices may lead to instances, which in turn may have a negative effect on water quality.

The LDP may have an effect on soil quality, particularly through its influence on the level and distribution of development within the National Park.

Data discussed in topic one has inter-relationships with the following topics:

Topic 1: Climatic Factors

Topic 3: Water



Topic 5: Material Assets

Topic 6: Biodiversity, Fauna and Flora

Topic 7: Landscape

Topic 8: Historic and Cultural Heritage

Topic 9: Population and Human Health



Topic 5: Material Assets

In SEA terms Material Assets may cover a range of apparently disparate environmental concerns, including natural resources, geodiversity, waste, infrastructure and property. Many can be scoped out of the SEA for the Cairngorms National Park, while others may be covered in other topics. For example, soil and water are covered by their own topics. The issues covered within this section are:

Geo-conservation.

Energy.

Waste.

Transport infrastructure.

Digital infrastructure.

Geo-conservation

“...geological heritage constitutes a natural heritage of scientific, cultural, aesthetic, landscape, economic and intrinsic values, which needs to be preserved and handed down to future generations.”

(Council of Europe, 2004)

Geo-conservation involves recognising, protecting, and managing sites and landscapes identified as important for their rocks, fossils, minerals, or other geological or geomorphological features of interest. Some of the concepts of geo-conservation are still being developed; however, in some areas a good deal has been achieved, particularly in the creation of the UK Geodiversity Action Plan (UK GAP) and Scotland's Geodiversity Charter.

There are many definitions of 'geodiversity', but the majority are variations on similar wording (see Gray, 2008, 2013; Sharples, 1993). Broadly, it may be defined as: “The variety of rocks, minerals, fossils, landforms, sediments and soils, together with the natural processes which form and alter them” (Bruneau et al. 2011, p. 3).

As well as being of scientific and cultural importance, geodiversity makes an immense contribution to Scotland's economy, as a source of energy and materials, and as a visitor attraction through its contribution to our unique landscape. Crucially, geodiversity underpins biodiversity through providing mosaics of landforms, soils, water, nutrients and natural processes to support our nationally and internationally important habitats,



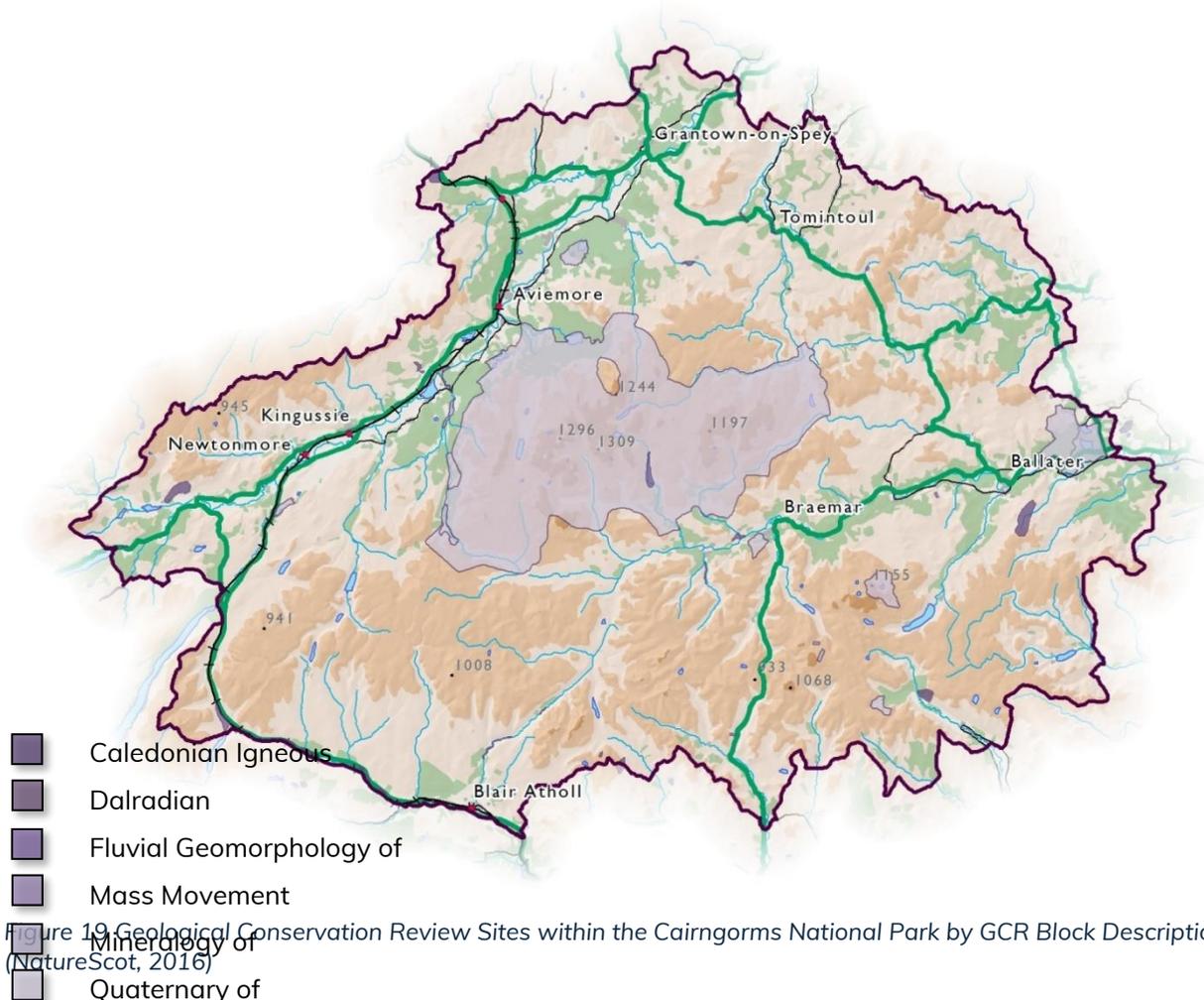
species and ecosystems (Scottish Geodiversity Forum, 2013; Bruneau et al. 2011; Gordon et al. 1998, 2001; Haynes, et al. 1998; Jonasson et al. 2005).

Protecting Geodiversity

There are a range of designations that help to safeguard geodiversity within the Cairngorms National Park, including Sites of Special Scientific Interest (SSSI) and Geological Conservation Review (GCR) Sites. Indeed, geodiversity is part of the special qualities of the National Park.

The landscapes of the Cairngorms National Park have a remarkable history stretching back to some 700 million years. The processes that have led to these old landscapes can be traced today in the rocks, landforms and soils beneath our feet and in the shapes of the straths and mountains around us (Gordon et al. 2006; Thomas et al. 2004). These landscapes incorporate a wealth of information about past environmental change and in particular, the Cairngorm Mountains are considered to be one of the finest examples in the world of glaciated granite mountains, notable for their distinctive plateau surfaces, tors and glacially sculptured features. These mountains therefore represent a precious scientific, educational, environmental and Earth heritage asset (Kirkbride et al. 2010).

There are 16 Geological and Mixed SSSI within the National Park, covering an area of some 680 km² (around 15% of the Park's area).



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Further protection is given to certain areas, which includes areas both within and outwith SSSIs, by the 39 GCR sites within or overlapping the Cairngorms National Park boundary (**Figure 19** and **Figure 20**) Combined they cover an area of around 592 km², the vast majority of which lies wholly within the National Park itself. In fact, the majority of this area (around 526 km²) is attributed to a single GCR site, the Cairngorms Mountains (site 2284), which is listed for its exceptional assemblage of pre-glacial, glacial, glaciofluvial and periglacial features.

Although British Geological Society (BGS) mapping is available for the whole of the Cairngorms National Park, detailed geomorphological information is more limited. However, NatureScot along with the BGS have compiled a spatial inventory of the geomorphology of the Cairngorm Mountains core area (Kirkbride & Gordon, 2010) (**Figure 21**).

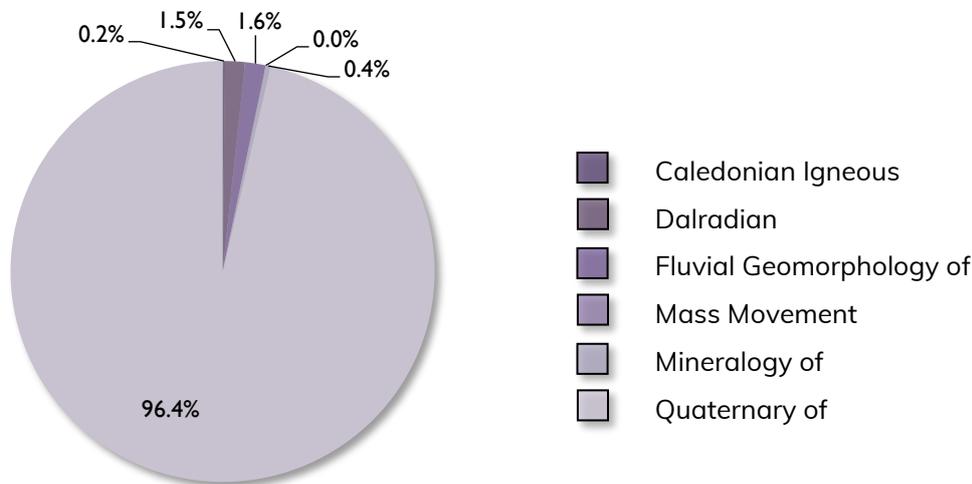


Figure 20 Area covered by GCR Site block description (NatureScot, 2016)

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The inventory identifies the location and extent of the main landform assemblages: landforms of glacial erosion; landforms of glacial and glaciofluvial deposition; relict periglacial landforms; and postglacial and contemporary landforms and processes. The spatial data is complemented by descriptions of the landforms and additional information on larger landscape features, the survival of relict non-glacial features and details of Late glacial and Holocene paleoenvironmental records. Together, they provide a basic source of information for the development of conservation management and interpretation of the Cairngorm Mountains.

The inventory highlights that understanding the links between geodiversity and biodiversity is particularly crucial for conservation management in dynamic environments such as the Cairngorm Mountains, where natural processes (for example, floods, sediment transport and flow regimes) maintain habitat diversity and ecological functions. It also highlights that consideration of geomorphological sensitivity is a vital part of working in sympathy with natural processes, in assessing natural hazards and implementing sustainable management of ecosystems, particularly under future climate change scenarios.

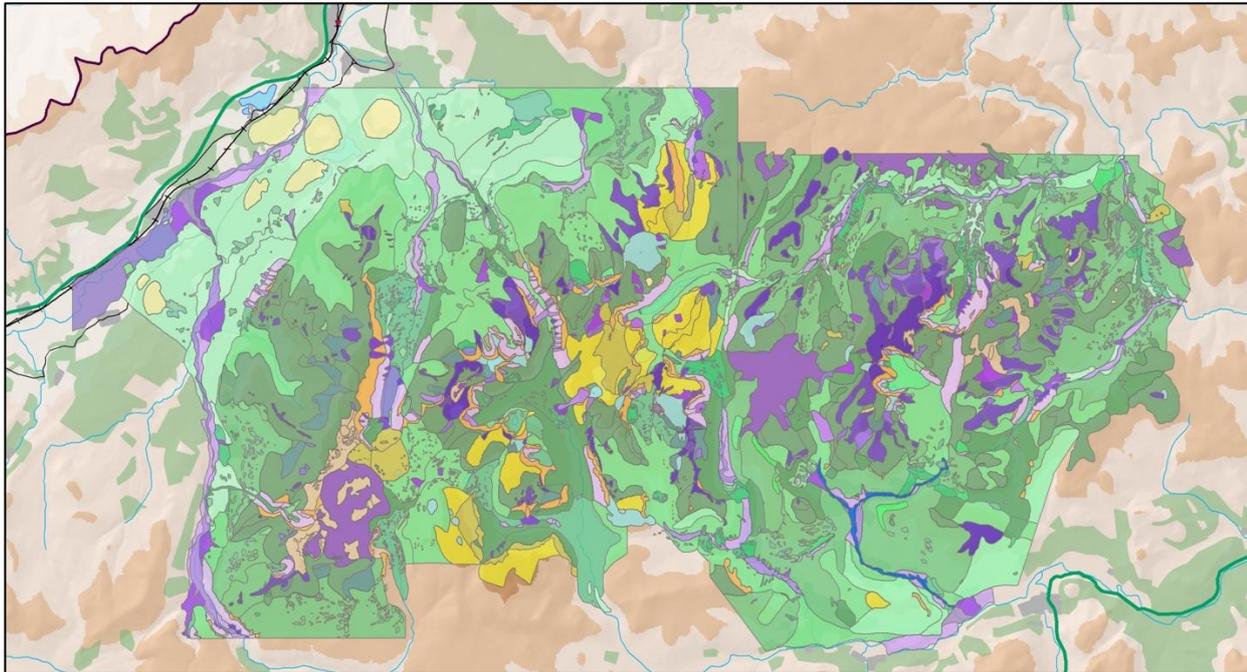


Figure 21 Geomorphological heritage of the Cairngorm Mountains (legend below)

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Postglacial and contemporary landforms and processes	Landforms of glacial erosion	Undifferentiated ice-marginal deposits
Active river corridor	Corrie headwall	Other landform types
Debris cone	Ice-scoured bedrock	
Debris slope	Roche moutonnée	Stable vegetated surface
Large scale rockfall deposits	Thin regolith covered rock	Tor
Partially vegetated wind stressed surface	Landforms of glacial and glaciofluvial deposition	
Peat	Boulder and drift limit	
Postglacial active alluvial fan surface	Delta deposit	
Postglacial relict alluvial fan surface	Dissected drift	
Postglacial river terraces and alluvium	Eskers	
Semi-permanent snow patch and melt-out deposits	Former lake shoreline	
Snow avalanche modified debris slope	Ice-contact slope	
Sparse vegetation	Ice-marginal kame	
Wet flushes and snowmelt drainage	Kames and kettled kame	
Wetland	Kettle hole	
Relict periglacial landforms	Meltwater channel (bedrock)	
Blockfield	Meltwater channel (drift)	
Boulder lobes	Moraine	
Patterned ground	Moraine limit	
Rock glacier deposits	Undifferentiated drift	
Solifluction sheets and lobes	Undifferentiated glaciofluvial deposits	

The inventory recommends that geomorphology is integrated in current monitoring programmes in the Cairngorm Mountains and that much more could be done to raise wider awareness of geodiversity interests within the overall framework for



interpretation within the Cairngorms National Park. Issues include raising awareness of geodiversity per se, as well as the links between geodiversity and other elements of the landscape and land use (Kirkbride & Gordon, 2010).

Within the context of the Cairngorms National Park, the diversity of Earth heritage interests also offers potential opportunities for local involvement in income-generating tourism.

Geological mineral resources

The British Geological Society identifies 4 active quarries operating in the Cairngorms National Park (<https://www.bgs.ac.uk/GeolIndex/>), based on 2014 information. However additional quarries are known to operate or have consent in the National 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 National Park can extract a variety of mineral resources (**Table 3**) mainly used for construction works.

Table 3 Available information for quarries in the Cairngorms National Park

Quarry, location	Mineral resource extracted
Alvie, Easter Delfour (near Kincaig)	igneous and metamorphic rock
Alvie, Dalraddy (near Aviemore)	sand and gravel
Brickford quarry (Strathdon)	sand and gravel
Broomhill (near Dulnain Bridge)	unspecified
Carn Dhomhnuill Bhain (near Dalwhinnie)	unspecified aggregate
Granish (near Aviemore)	sand and gravel
Meadowside (near Kincaig)	igneous and metamorphic rock



Energy generation

In order to safeguard the special landscape qualities of the Cairngorms National Park, the Scottish Planning Policy has historically implemented restrictive policies on large scale renewable energy development in the National Park. This policy approach has been carried forward by National Planning Framework 4. As a result, developments of energy generating infrastructure have been relatively minor in scale and number. **Figure 22** shows the total kW of renewable energy generation development granted permission in the National Park, according to the available data from planning permissions granted by the Park Authority and the five Local Authorities covering the National Park's area. 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. Furthermore, due to the small population size in the National Park and its rural nature, larger developments can skew the annual total figures.

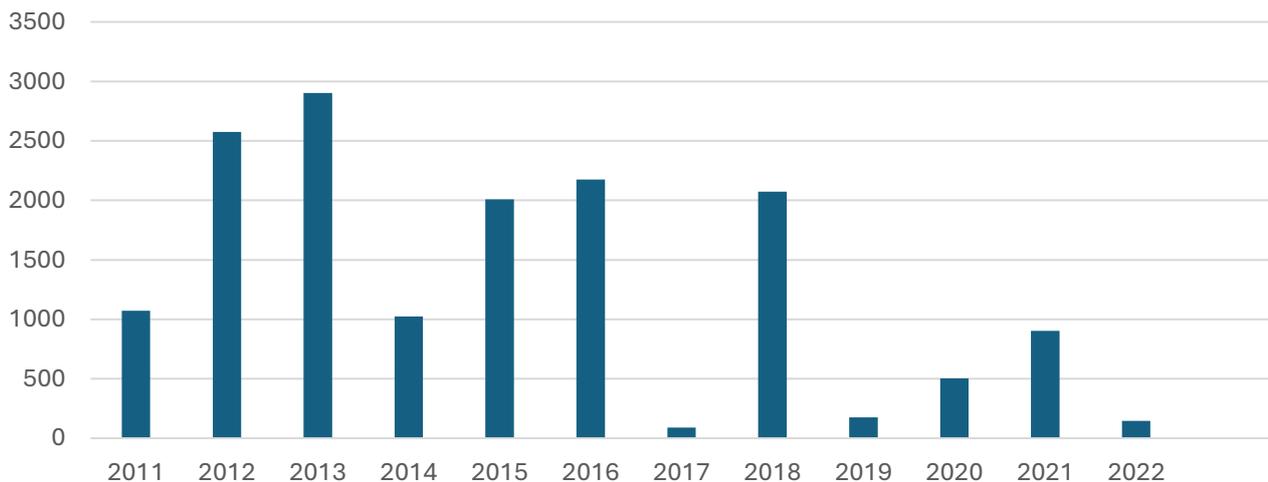


Figure 22 kW of installed renewable energy generation by type granted planning permission in the Park, 2011-2022 (Data available through planning applications submitted to CNPA).

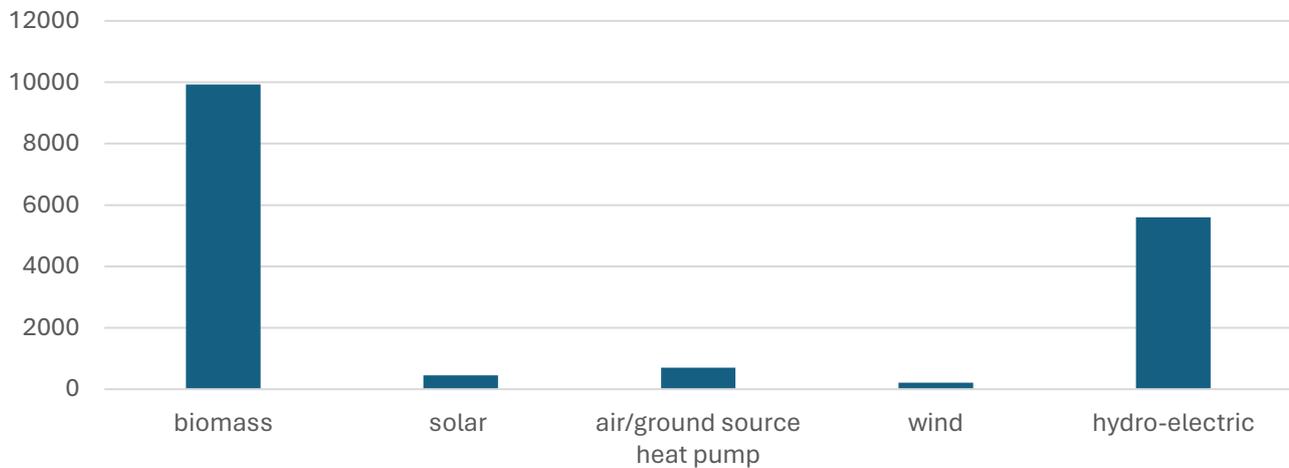


Figure 23 kW of installed renewable energy (all types) by year 2011-2022 (Data available through planning applications submitted to CNPA).

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. Therefore **Figure 23**, does not offer a comprehensive indication of the amount of energy generated within the Cairngorms National Park - the figures are likely to be higher.

Energy infrastructure changes

Scottish and Southern Electricity Networks (SSEN) are responsible for electricity transmission in the Cairngorms National Park. The VISTA (Visual Impact of Scottish Transmission Assets) project in Scotland seeks to mitigate the visual impacts on energy infrastructure on National Parks and National Scenic Areas. In the Park, SSEN are in the process of removing 46 pylons and 12 km of overhead power lines between Boat of Garten and Nethy Bridge, relocating the cables underground. The next phase of upgrades is expected to continue to Cromdale.

Waste

Estimates of household waste and recycling for Local Authority (LA) areas for 2011-2021 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 Cairngorms National Park's area to the National Park itself (see Appendix 3 for further details). It is recognised that this is a blunt means of estimation; however, estimates based on estimates should always be treated with caution.

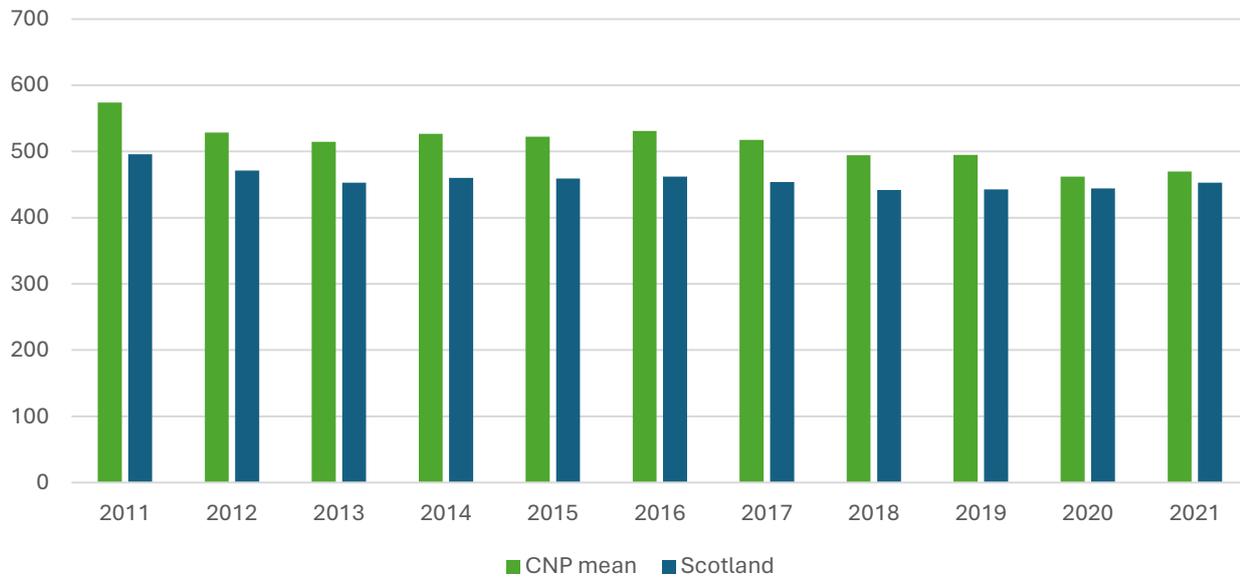


Figure 24 Mean average kg of waste generated per person, Cairngorms National Park and Scotland (CNP figures derived from LA data from SEPA, 2022).

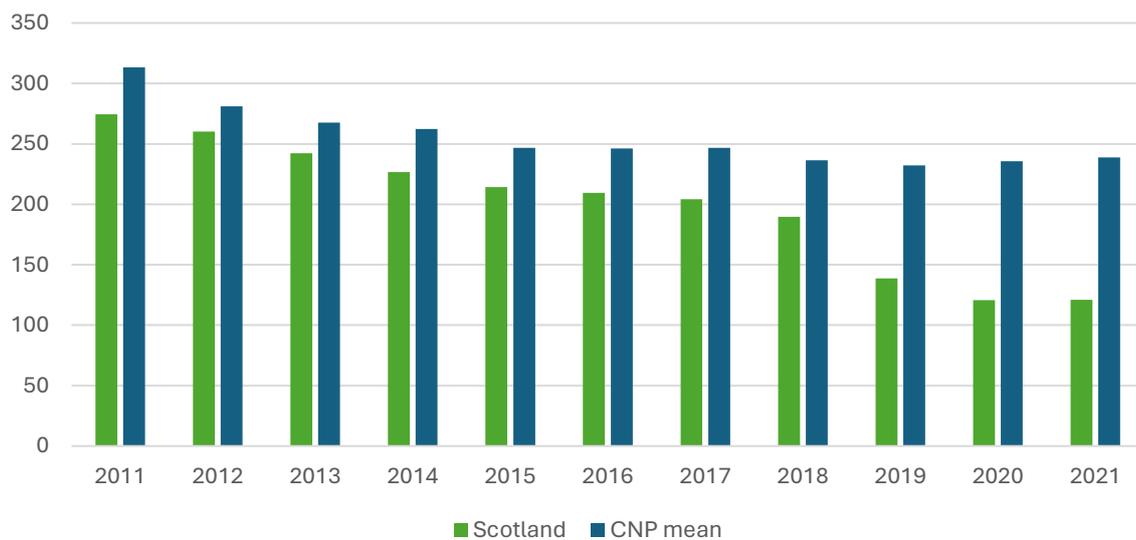


Figure 25 Mean average kg of waste sent to landfill per person, Cairngorms National Park and Scotland (CNP figures derived from LA data from SEPA, 2022).

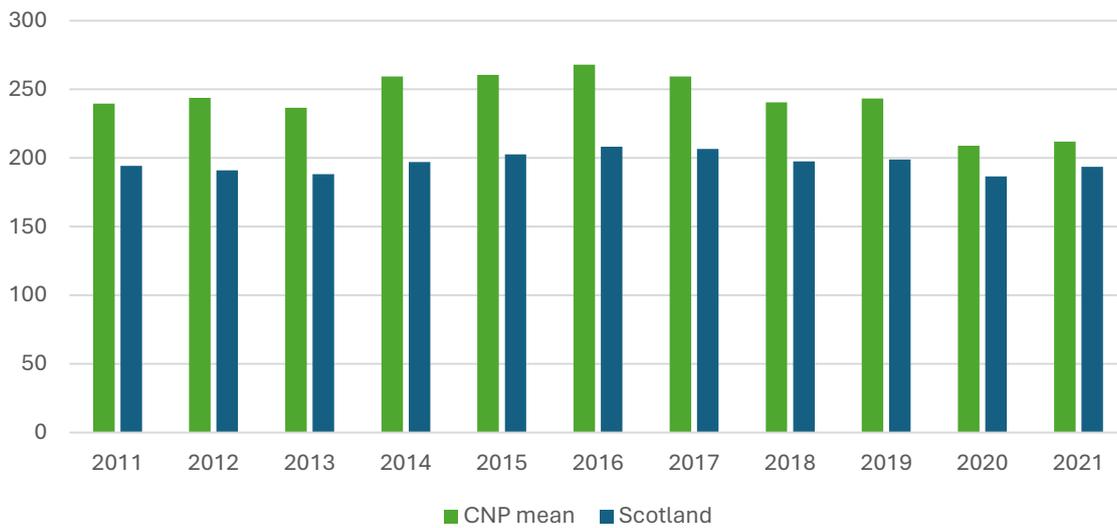


Figure 26 Mean average kg of waste recycled per person, Cairngorms National Park and Scotland (CNP figures derived from LA data from SEPA, 2022).

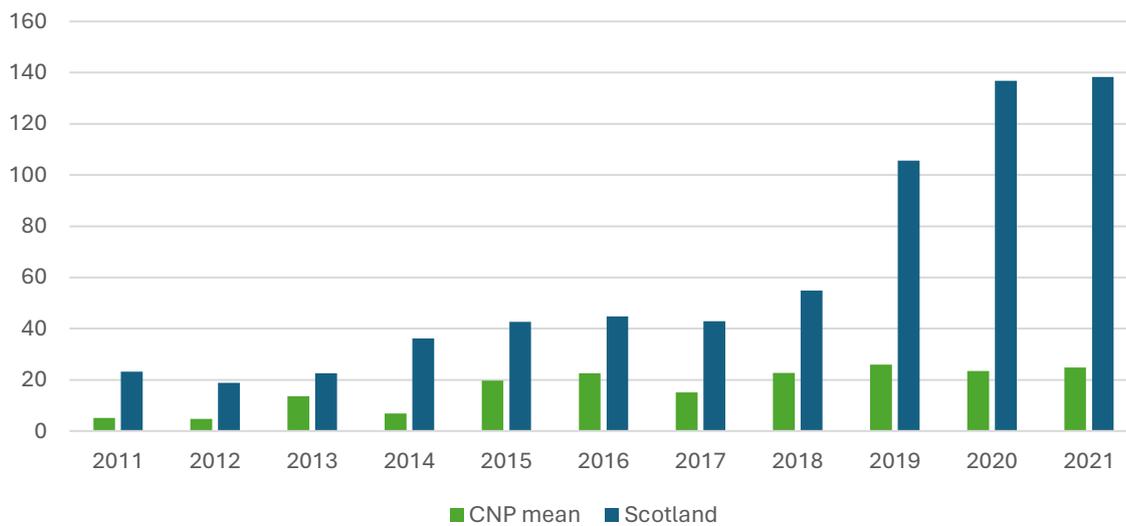


Figure 27 Mean average kg of waste diverted from landfill by other means, Cairngorms National Park and Scotland (figures derived from LA data from SEPA, 2022), (waste diverted from landfill, apart from waste recycled, comprising waste disposed by incineration, recovered by incineration, recovered by co-incineration and waste managed by other methods).

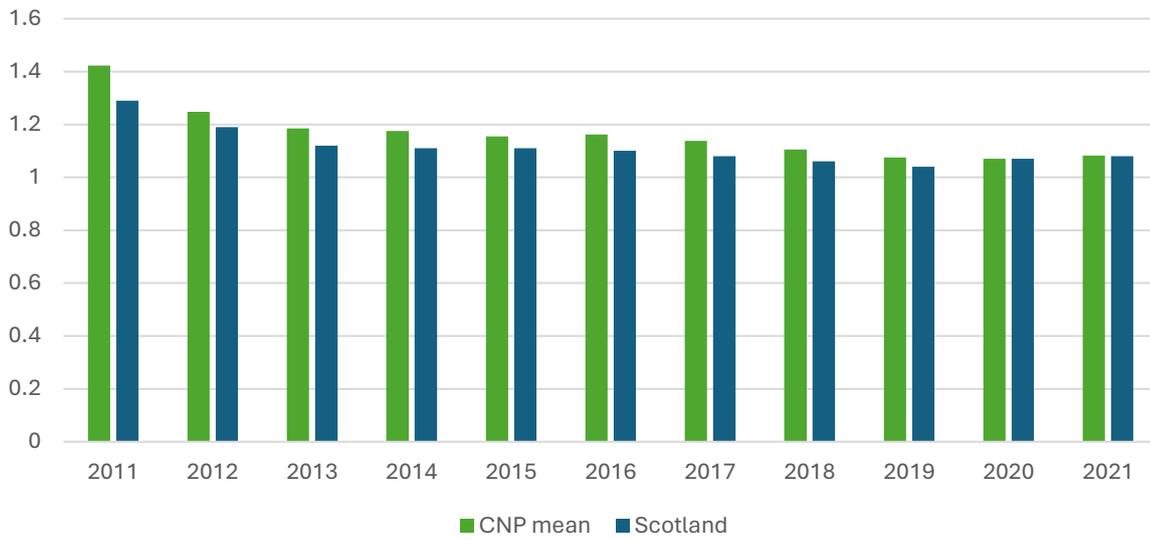


Figure 28 Mean average tonnes of CO2 equivalent per person produced from waste, Cairngorms National Park and Scotland (CNP figures derived from LA data from SEPA, 2022).

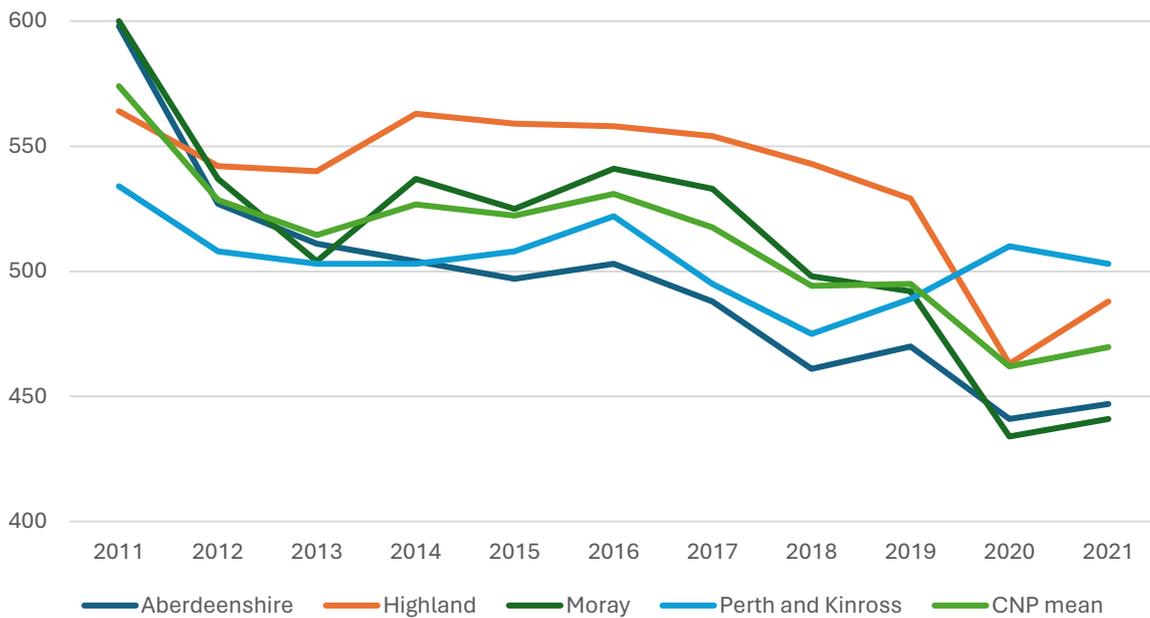


Figure 29 Mean average kg of waste generated per person, Cairngorms National Park and bordering LAs (CNP figures derived from LA data from SEPA, 2022).

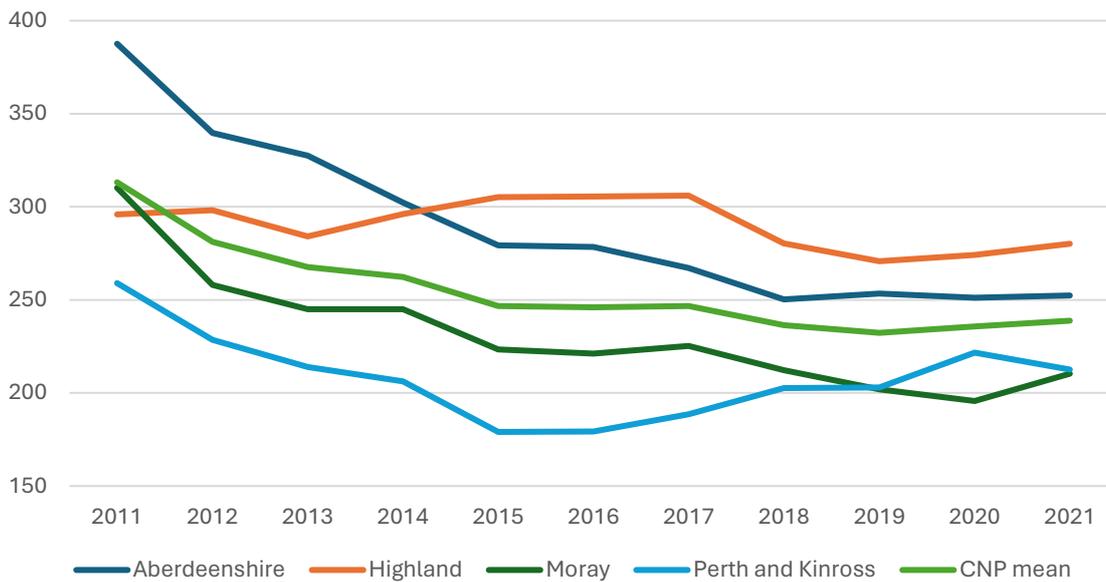


Figure 30 Mean average kg of waste sent to landfill per person, Cairngorms National Park and bordering LAs (CNP figures derived from LA data from SEPA, 2022).

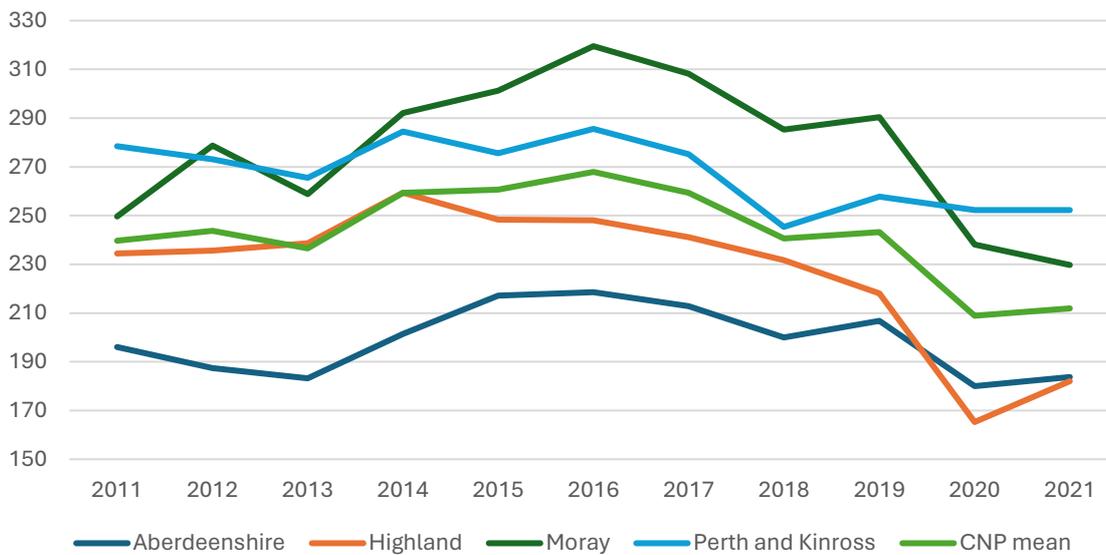


Figure 31 Mean average kg of waste recycled per person, Cairngorms National Park and bordering LAs (CNP figures derived from LA data from SEPA, 2022).

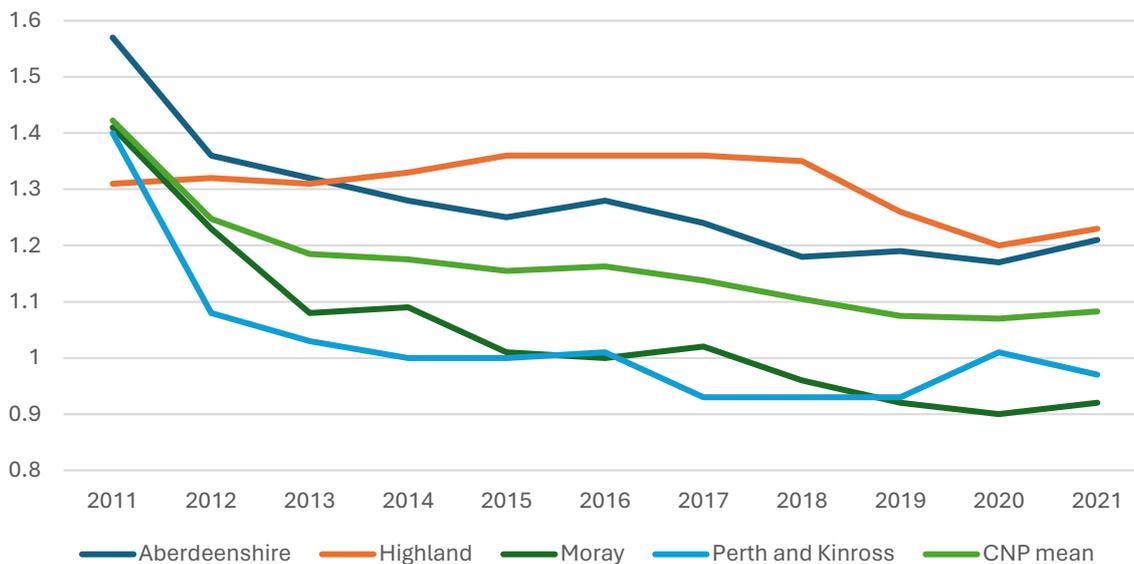


Figure 32 Mean average tonnes of CO2 equivalent (CO2e) per person produced from waste, Cairngorms National Park and bordering LAs (CNP figures derived from LA data from SEPA, 2022).

Household waste per person produced in the Cairngorms National Park is slightly higher than the Scottish average, which for 2021 was 453 kg per person, compared to Park average of 470kg (**Figure 24**). Per person in the National Park, significantly more waste is sent to Landfill compared to the Scottish (mean) average. In 2021 in the National Park, the mean amount of waste sent to landfill per person was 239kg compared to the Scottish average per person of 121kg (**Figure 25**). The mean average amount of waste recycled (**Figure 26**) is slightly higher in the National Park (212kg) compared to the Scottish average (187kg), however this may simply reflect the higher amount of waste generated per person in the Park (**Figure 24**). In terms of the average amount of CO₂ produced per person, the Park is the same as Scotland at 1.08 tonnes (tCO₂e) per person (**Figure 28**).

When we compare the National Park to the five local authorities it overlaps, it sits above Aberdeenshire and Moray, but below Highland and Perth and Kinross (**Figure 29**). In terms of the CO₂ equivalent per person produced per person from waste the CNP (1.08t CO₂e) is better performing than Aberdeenshire (1.21t CO₂e) and Highland (1.23t CO₂e), but under performing when compared to Perth and Kinross (0.97t CO₂e) and Moray (0.92t CO₂e)(**Figure 32**).

Table 4 Recycling Rates for the Cairngorms National Park

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Mean kg of waste	574	529	515	527	522	531	518	494	495	462	470



	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
generated per /person,											
Mean kg of waste recycled /person,	239.7	243.7	236.5	259.4	260.6	267.9	259.3	240.6	243.3	208.9	212.0
Recycling Rate	41.8 %	46.1 %	45.9 %	49.2 %	49.9 %	50.5 %	50.1 %	48.7 %	49.2 %	45.2 %	45.1 %

The recycling rate is slightly lower but comparable to the Scottish average, which in 2021 was 42.7% for Scotland compared to 45.1% in the National Park. Between 2011 and 2021, the waste generated in the National Park has fallen significantly from 574kg to 470kg (Error! Reference source not found.).

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.

Transport Infrastructure

The Cairngorms National 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 (**Figure 33**). Of the A roads, one 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 by 2025.

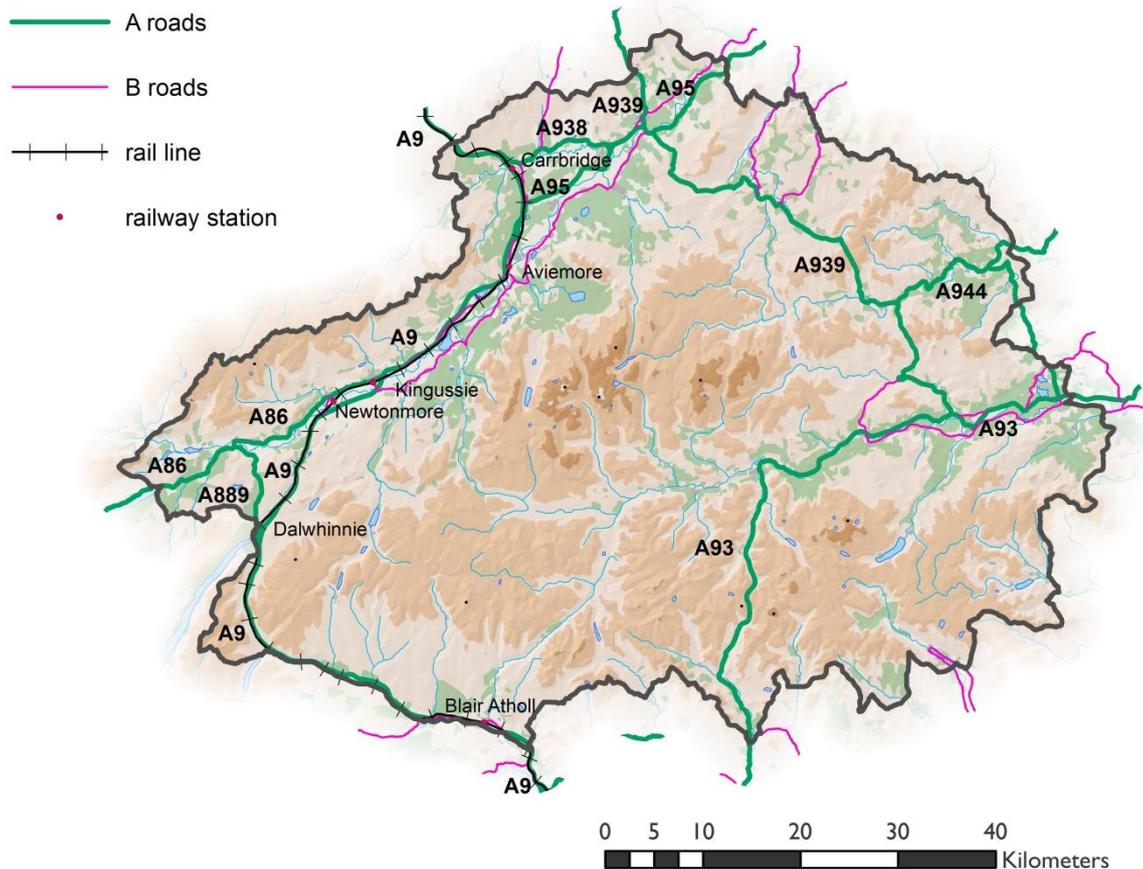


Figure 33 Major road and rail links outwith/ into the Park (CNPA, 2023).

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Once completed the A9 dualling project will link up the road's existing sections of dual carriageway to create a continuous Category 7 All Purpose Dual Carriageway between Inverness and Perth. It's one of the biggest infrastructure projects in Scotland's history involving:

- Full grade separation of junctions to remove at-grade junctions.
- Grade separated junctions to provide direct links, over and under, the A9 for non-motorised user crossing / access.
- No gaps in the central reserve, to prevent right-turns across carriageways.
- Hard shoulder strips at least 1m width.
- Route, signage and lighting design to minimise overall visual impact.

Once complete, the project is anticipated to provide the following benefits:

- Improved road safety and reduction in accident severity.



Improved journey times and reliability.

Safe crossing points to link non-motorised user touts and public transport facilities.

Improved access to tourist and recreation sites.

Improved trunk road transport infrastructure supporting sustainable economic growth, and resilience to climate change (Transport Scotland, 2023).

It is therefore anticipated that the programme will have significant implications for the LDP, which may result in cumulative effects that demand consideration.

Networks of other A, B, C and unclassified roads provide access to other parts of the Cairngorms National Park. The geography of the area means that links between certain parts of the National Park are relatively poor due to topography and climate affecting their travel times and passability in poor weather. A notable example is the route between Badenoch and Strathspey and Deeside, with the principal road, the A939 being susceptible to inclement weather. Networks of other A, B, C, and unclassified roads provide access to other parts of the National Park, although many are narrow and twisty, increasing journey times. The travel times influence access to services for residents and visitors.

Table 5 Available approximate road infrastructure (in km), and the Authority responsible for its maintenance, in the Cairngorms National Park (source: Local Authorities).

Local Authority	A Class (Trunk)	A Class	B Class	C Class	Unclassified	Total ¹
Angus ²	0	0	65.363	49.499	5.979	120.841
Highland ³	128	40.7	106.7	69.9	169.9	515.2
Moray	0	18.1	24.4	10.6	24.6	77.7
Perth & Kinross	43.54 ⁴	16.6	15.16	0.34	23.0	124.3

The Scottish Index of Multiple Deprivation (SIMD) gives an indication some of the accessibility issues faced by certain parts of the Park, with 11 of the 24 data zones used to define the National Park falling within the Index's most deprived 10% in terms of geographic access to services (**Figure 34**). It should be noted that such a situation is not unexpected for such a rural area, and none of the National Park's data zones rank highly in terms of overall deprivation.

¹ Figures may not sum due to rounding.

² Angus Council does not keep a record of road length within the National Park. Therefore, the figure quoted are for public roads in Angus that cross into the National Park.

³ Figures refer to the Badenoch & Strathspey Area of Highland Council.

⁴ Trunk A Roads value managed by Perth & Kinross Council includes only one side of the dual carriageway along Glen Garry.

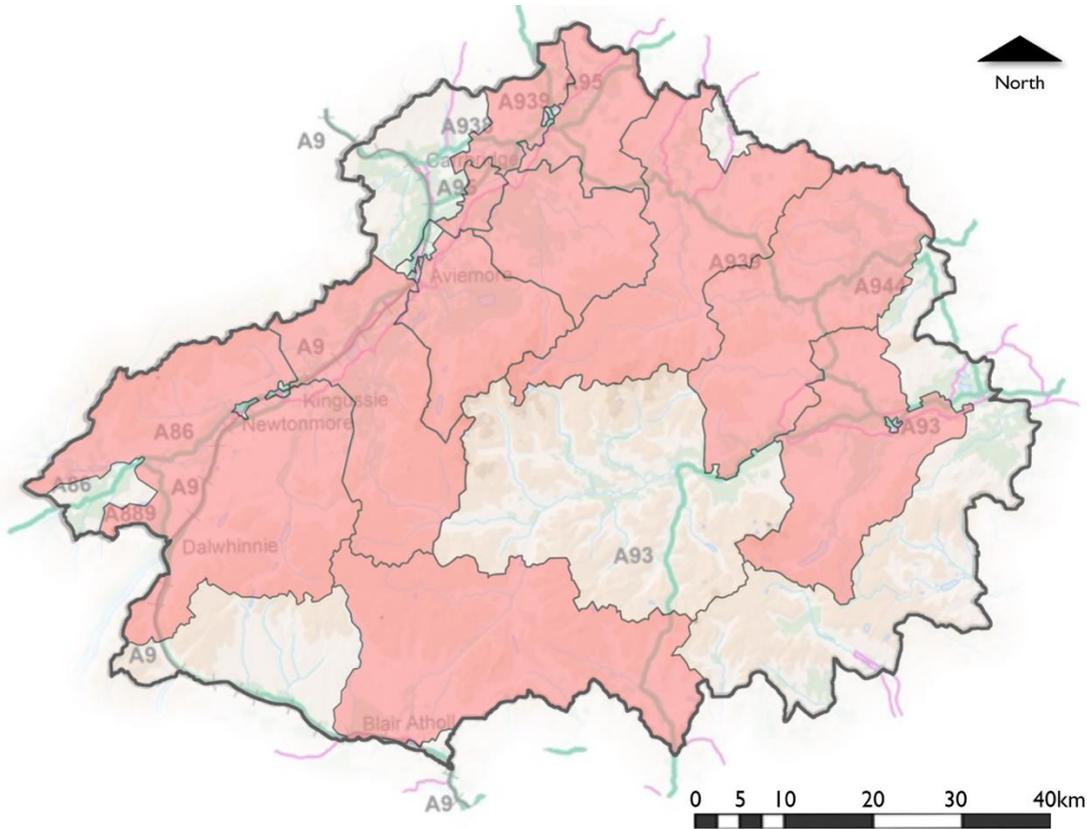


Figure 34 Data zones ranked within the 10% most deprived according to Access to Amenities in the Cairngorms National Park (SIMD, 2020).

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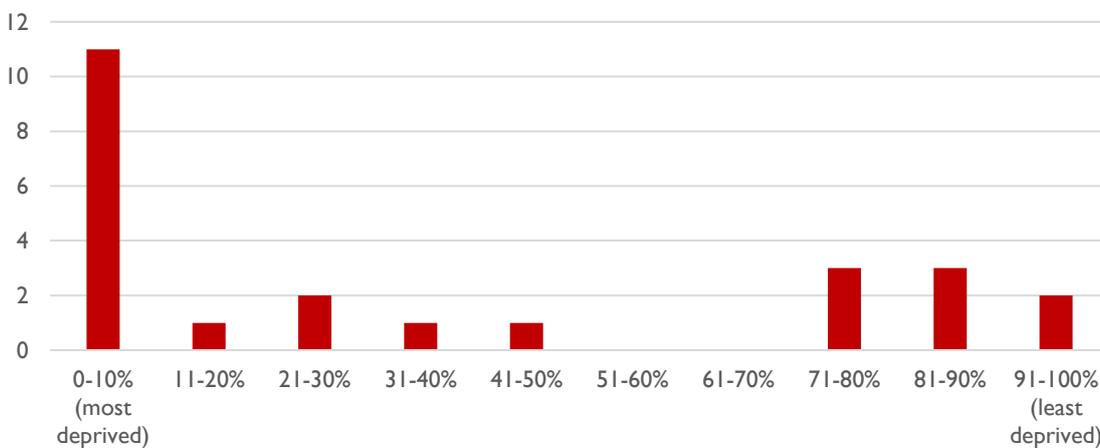


Figure 35 Data zone distribution by decile according to Geographic Access to Services Deprivation (SIMD, 2020).

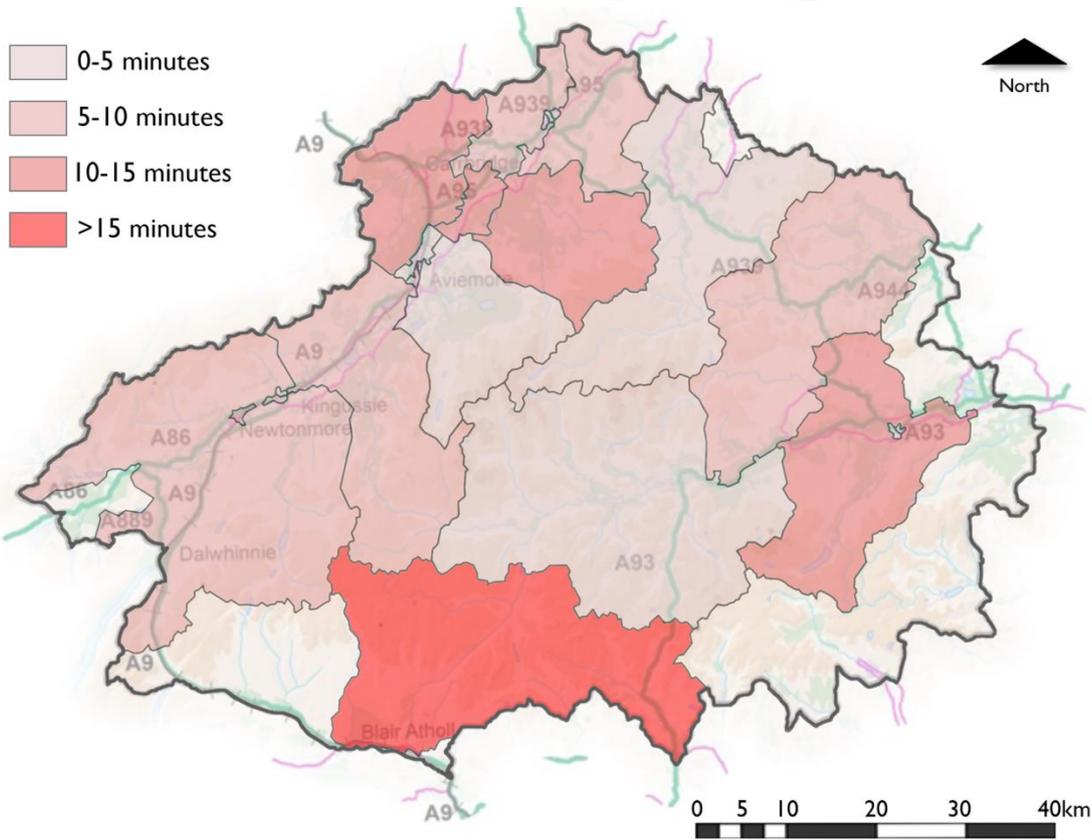


Figure 36 SIMD 2020 average drive time to GP surgery.

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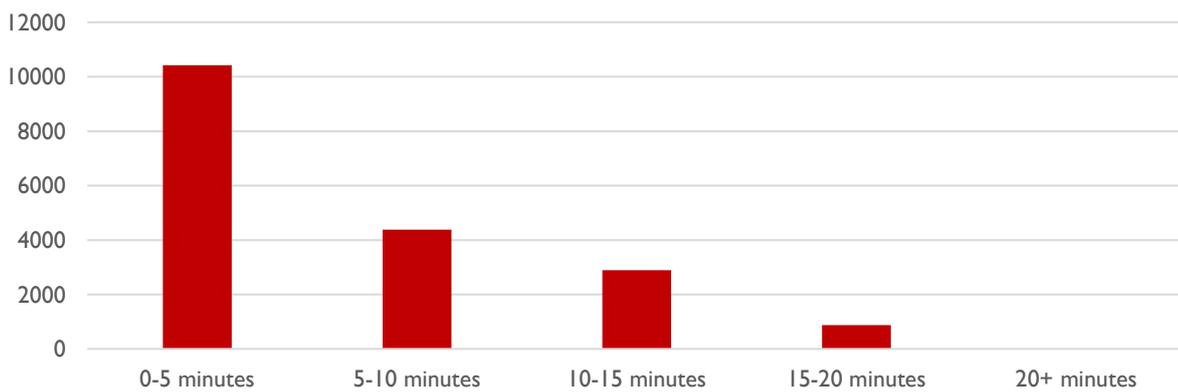


Figure 37 Population distribution by average drive time (minutes) to a GP surgery (SIMD, 2020). To maintain consistency with SIMD data, population data is based on 2020 mid-year estimates.

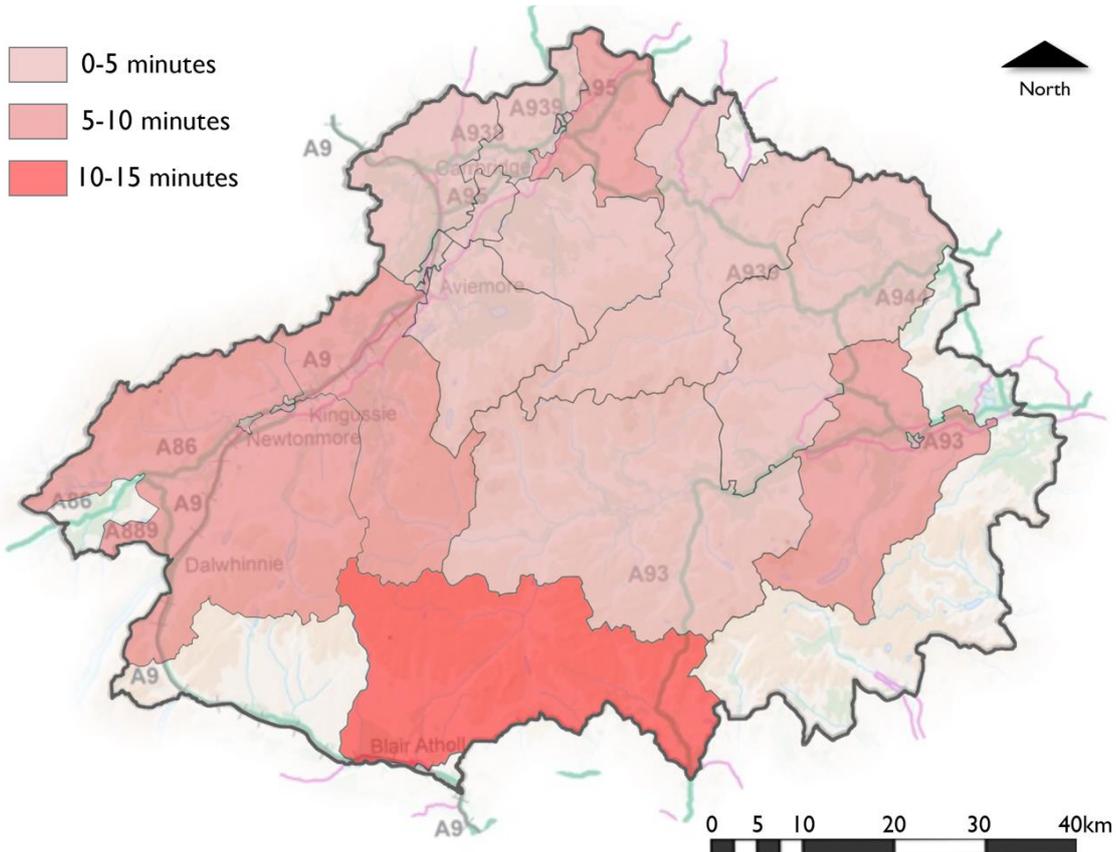


Figure 38 SIMD 2020 average drive time to Post Office.

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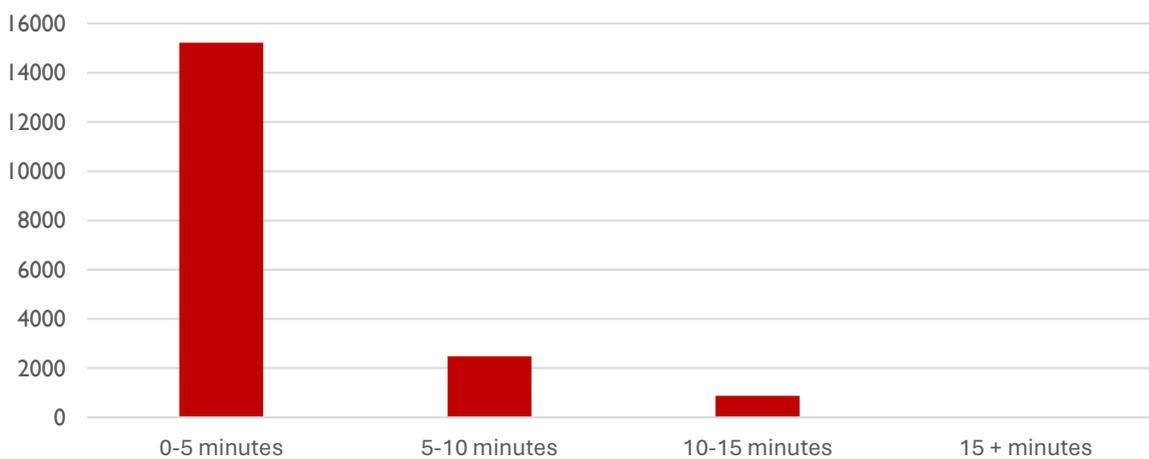


Figure 39 Population distribution by average drive time (minutes) to a Post Office (SIMD, 2020). To maintain consistency with SIMD data, population data is based on 2020 mid-year estimates.

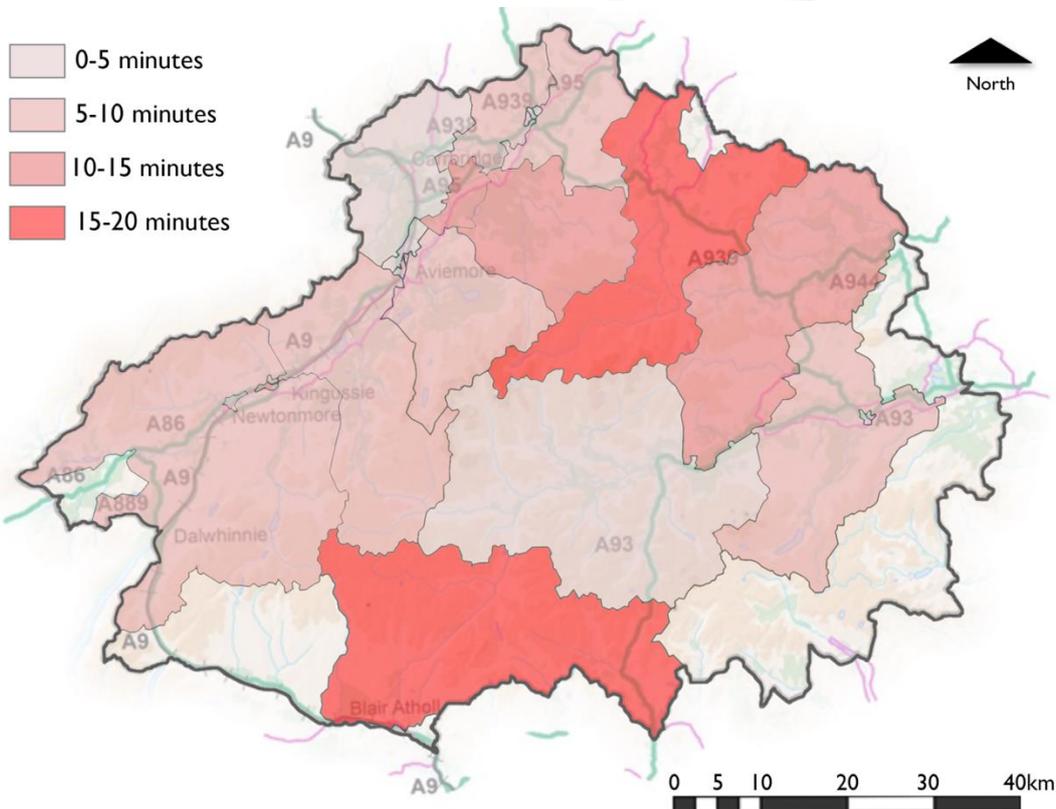


Figure 40 SIMD 2020 average drive time to Petrol Station.

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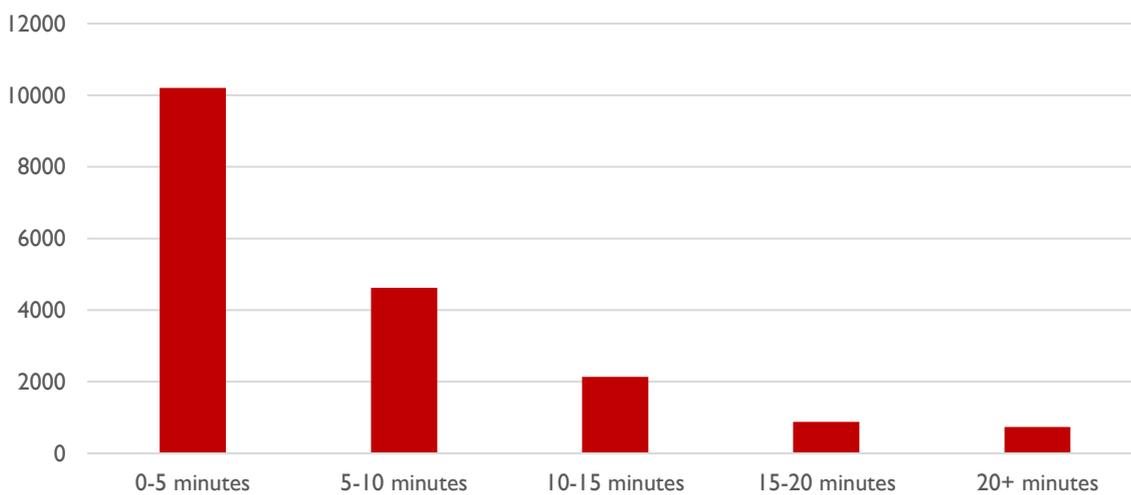


Figure 41 Population distribution by average drive time (minutes) to a Petrol Station (SIMD, 2020). To maintain consistency with SIMD data, population data is based on 2020 mid-year estimates.

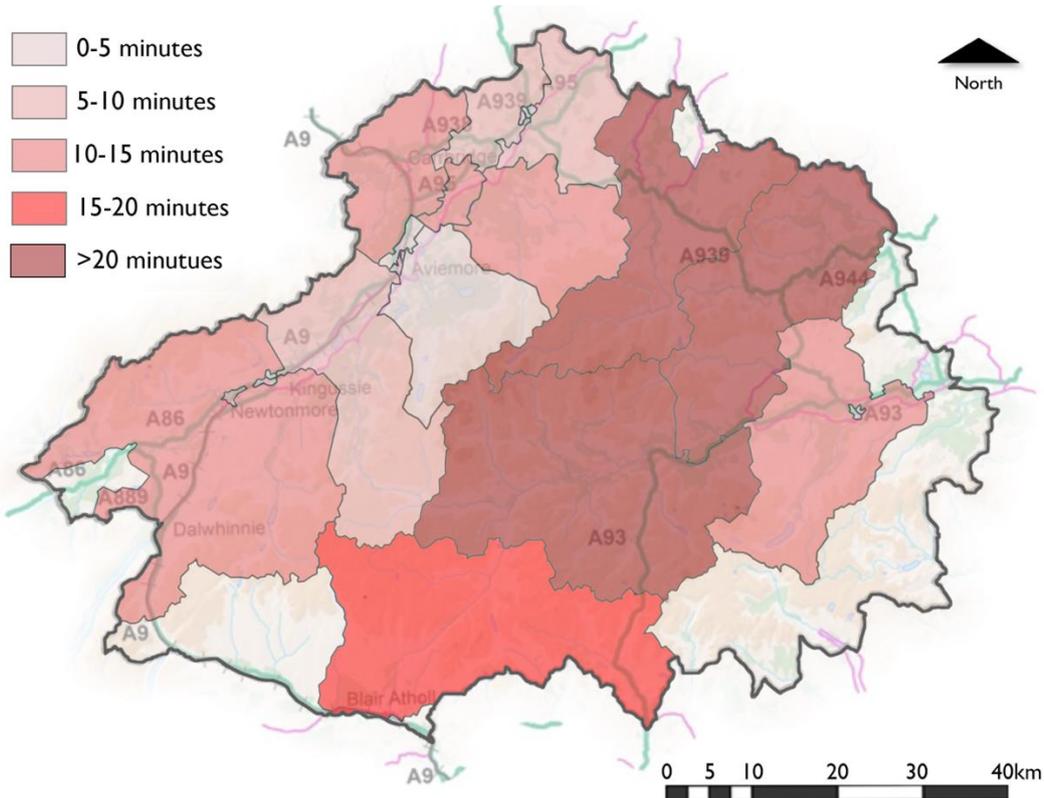


Figure 42 SIMD 2020 average drive time to Retail Centre.

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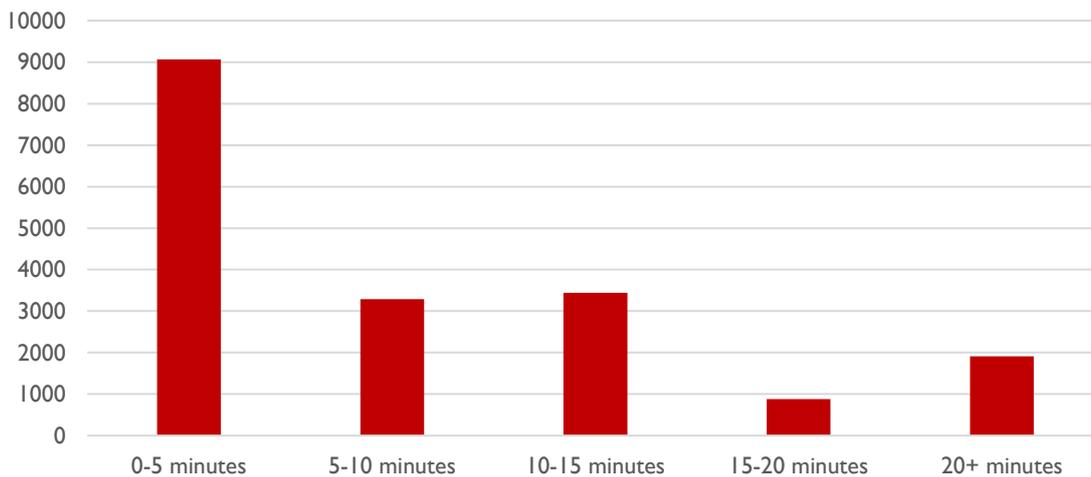


Figure 43 Population distribution by average drive time (minutes) to a Petrol Station (SIMD, 2020). To maintain consistency with SIMD data, population data is based on 2020 mid-year estimates.

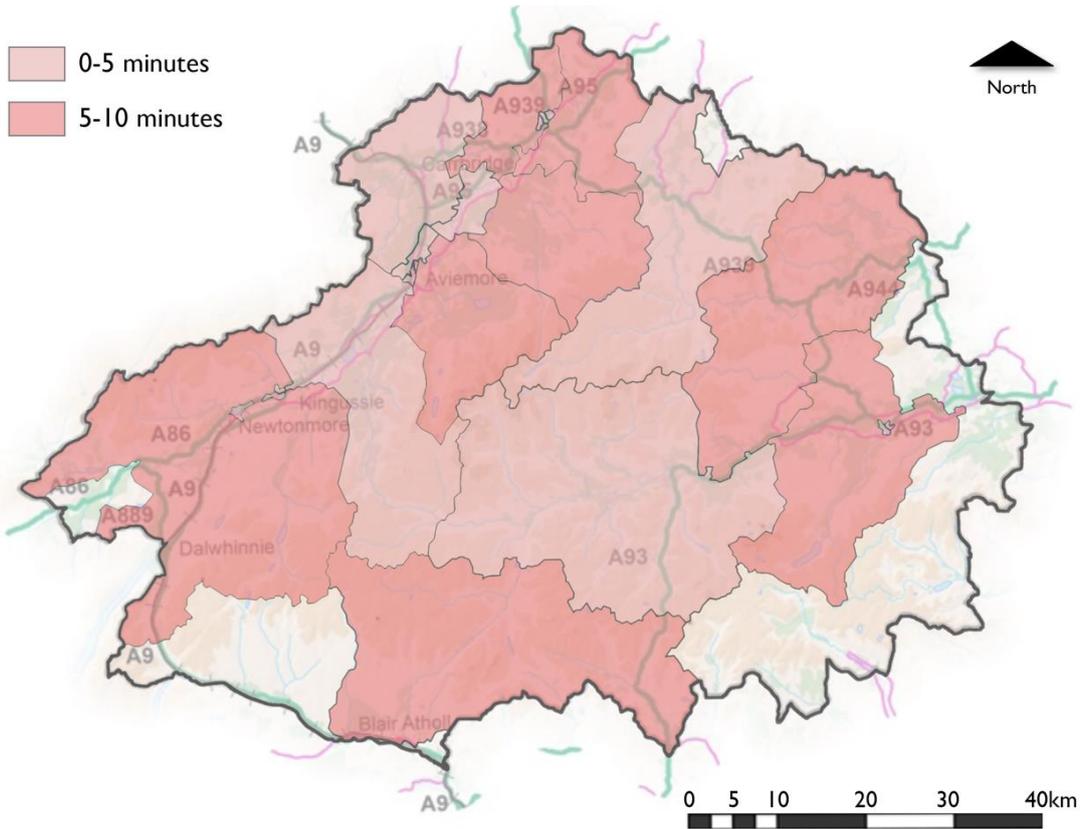


Figure 44 SIMD 2020 average drive time to Primary School.

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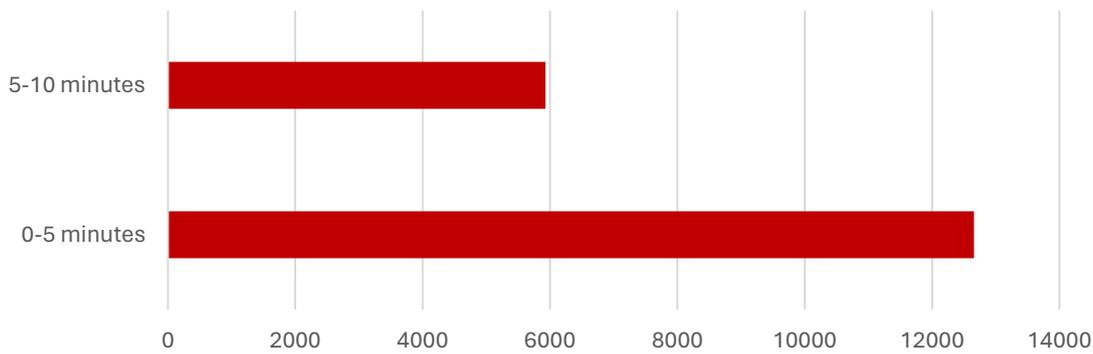


Figure 45 Population distribution by average drive time (minutes) to a Primary School (SIMD, 2020). To maintain consistency with SIMD data, population data is based on 2020 mid-year estimates.

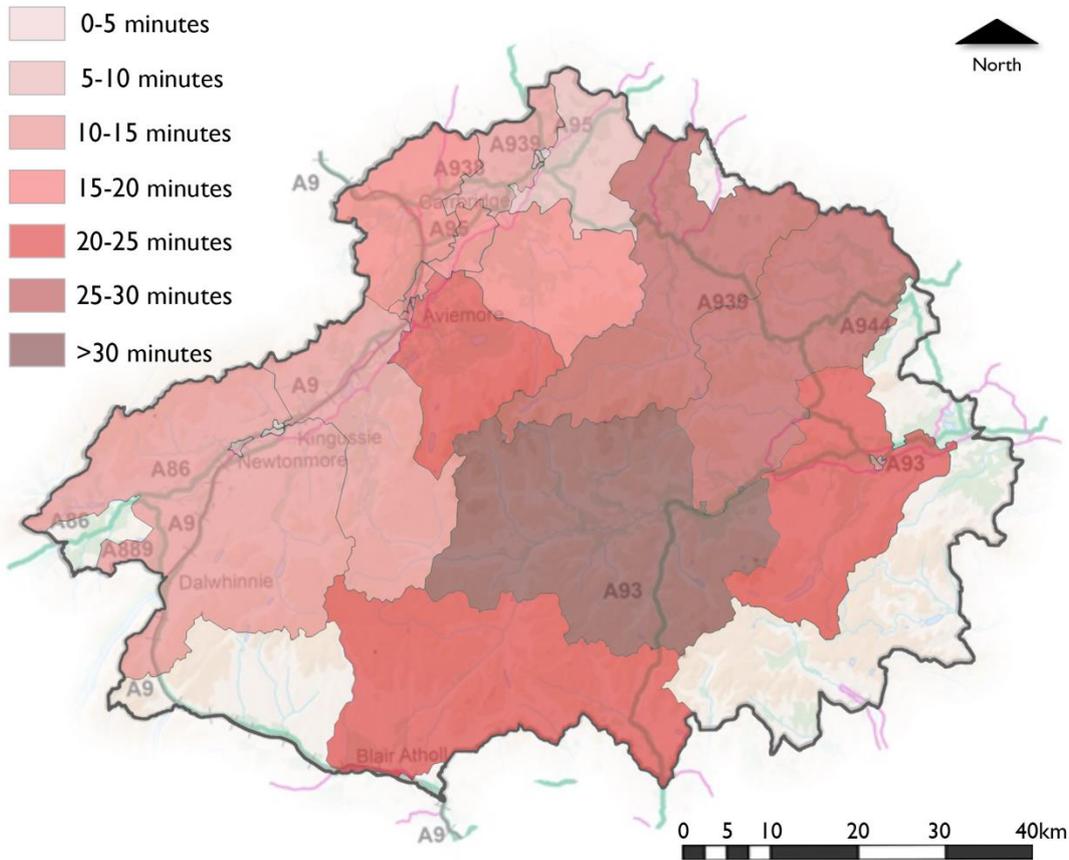


Figure 46 SIMD 2020 average drive time to Secondary School

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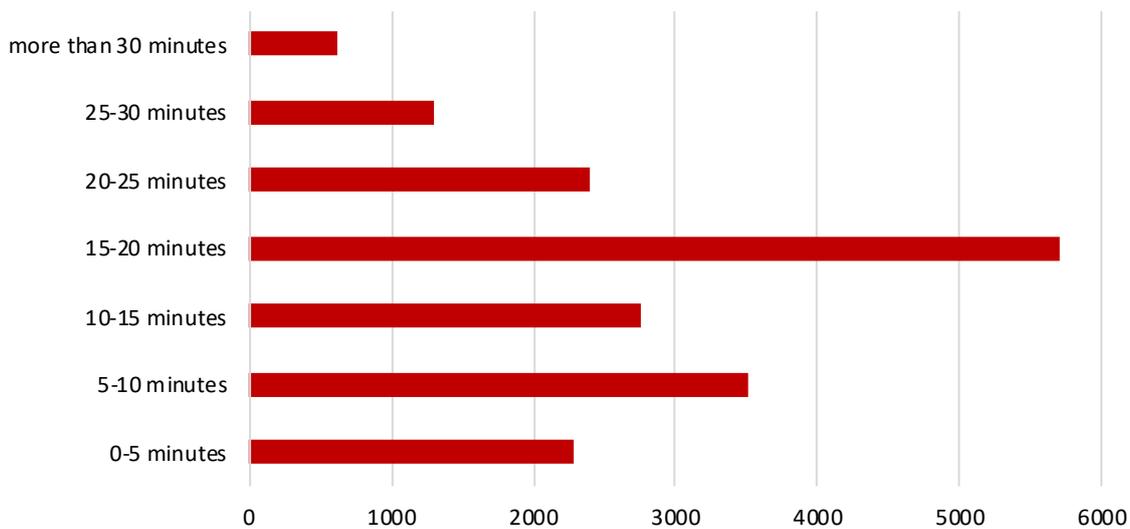




Figure 47 Population distribution by average drive time (minutes) to a Secondary School (SIMD, 2020). To maintain consistency with SIMD data, population data is based on 2020 mid-year estimates.

The drive times demonstrate the nature of the road infrastructure in the Cairngorms National Park, with the population often having to travel for a long time to reach key services. 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 National Park have a reliance on the road infrastructure of the area for access to services, as well as for work.

The rurality of the area is also demonstrated through the relatively high instances of car ownership within the Cairngorms National Park (**Figure 48** and **Figure 49**) 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 National Park's population have a reliance on the area's road infrastructure.

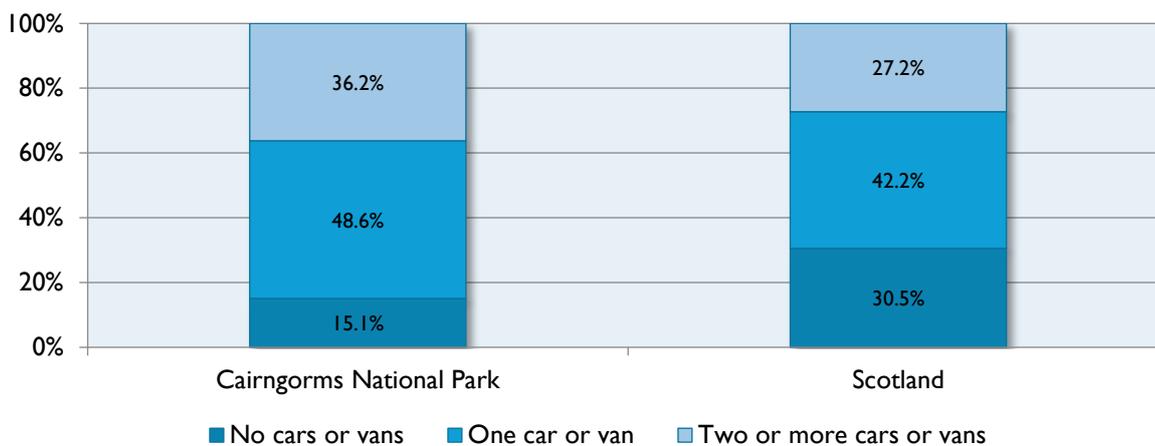


Figure 48 Proportion of households with access to a car or van (Census table LC1401SC).

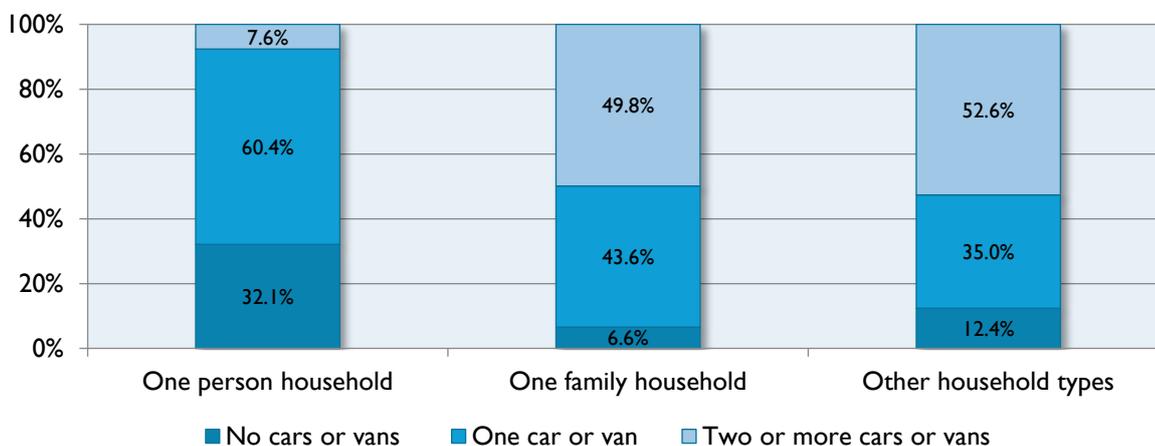




Figure 49 Household composition by car or van availability in the Cairngorms National Park (Census table LC1401SC).

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For further information on variables, see www.scotlandscensus.gov.uk/variables.

Rail

The Highland Main Railway Line runs between Inverness and Perth, through the Cairngorms National Park with stations at Carr-Bridge, Aviemore, Kingussie, Newtonmore, Dalwhinnie and Blair Atholl. Much of the line is single track, so trains coming in opposite directions are often timed to arrive at stations at the same time, where crossing loops permit them to pass. When trains are delayed and miss the scheduled crossing point, this can cause significant delays for other trains that cannot proceed until the line is clear.

Using annual passenger usage at stations based on sales of tickets as an indicator of the overall use of the line, then there is an indication that use has increased significantly within the Cairngorms National Park over the last 17 years (**Figure 50** and **Table 6**).

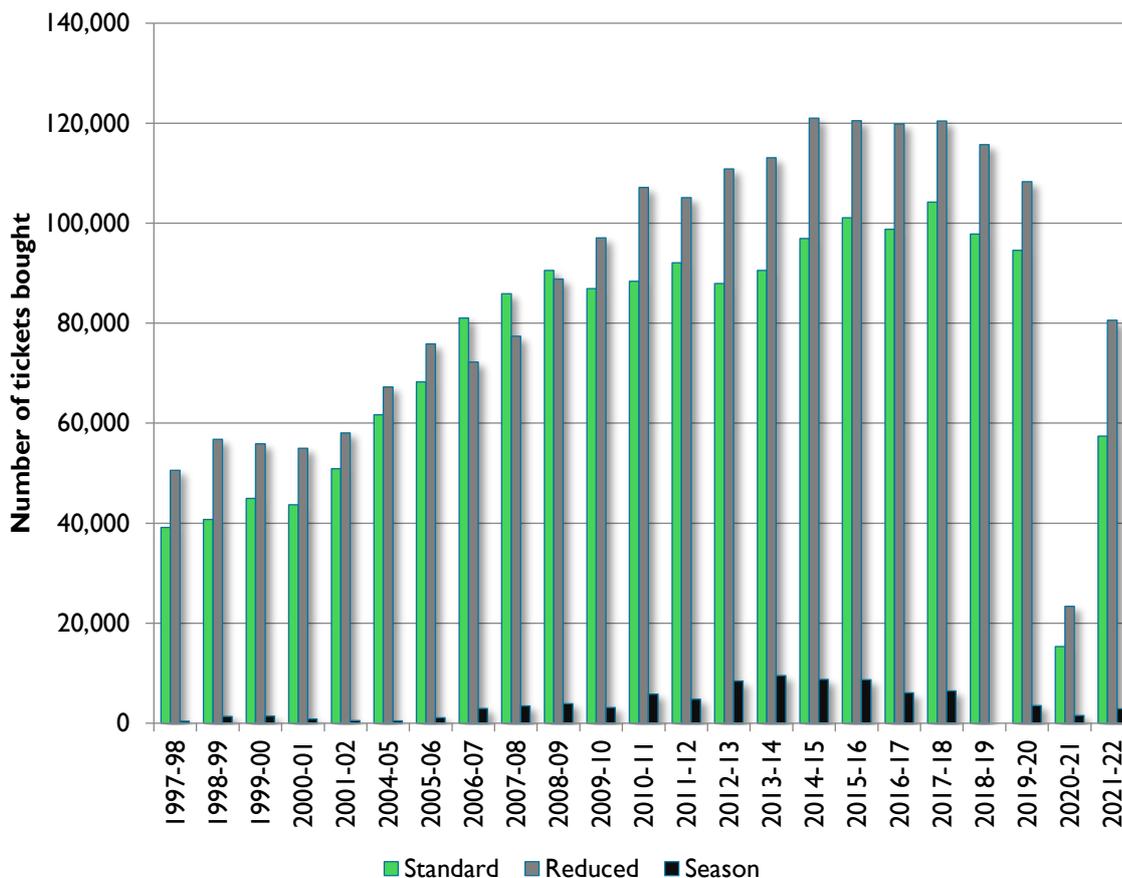


Figure 50 Office of Rail and Road figures for total annual passenger usage (the sum of entrances and exits) by fare type at stations within the Cairngorms National Park (source www.orr.gov.uk/statistics/published-stats/station-usage-estimates). Note no data available for years 2002-03 and 2003-04.



Table 6 Office of Road and Rail annual passenger usage at stations (the sum of entrances and exits) within the Cairngorms National Park 1999 – 2022 (<https://dataportal.orr.gov.uk/statistics/usage/estimates-of-station-usage>).

Year	Number of passengers using the station						Total
	Carr-Bridge	Aviemore	Kingussie	Newtonmore	Dalwhinnie	Blair Atholl	
1999-2000	2,432	61,795	21,196	4,013	1,937	10,893	102,266
2000-2001	2,441	62,338	19,207	4,146	2,027	9,341	99,500
2001-2002	1,930	70,230	22,585	4,062	2,062	8,573	109,442
2003-2004	1,531	70,272	23,815	4,184	2,066	8,613	110,481
2004-2005	1,910	80,977	27,725	5,396	1,619	11,708	129,335
2005-2006	2,987	91,456	30,045	6,815	2,013	11,896	145,212
2006-2007	3,954	101,294	32,135	6,585	1,774	10,491	156,233
2007-2008	5,508	108,353	33,416	7,060	1,975	10,443	166,755
2008-2009	3,796	121,090	38,054	7,446	2,296	10,580	183,262
2009-2010	4,500	124,972	35,838	7,972	2,208	11,572	187,062
2010-2011	5,118	132,336	38,544	9,484	1,894	13,948	201,324
2011-2012	5,636	132,052	40,298	9,406	1,984	12,608	201,984
2012-2013	4,454	136,456	40,954	8,958	2,172	14,280	207,274
2013-2014	5,540	141,311	41,400	8,326	2,472	14,084	213,133
2014-2015	6,256	150,724	42,522	8,636	2,460	16,062	226,660
2015-2016	6,898	152,082	42,850	9,432	2,392	16,652	230,306
2016-2017	5,808	145,200	44,200	8,770	3,188	17,598	224,764
2017-2018	6,064	147,964	44,736	9,194	3,372	19,802	231,132
2018-2019	5584	138490	40758	7848	3368	21008	211,184
2019-2020	5474	132618	39254	7456	3226	18388	214,436
2020-2021	1622	25492	7352	1498	614	3688	40,266



2021-2022	3714	92240	25682	5400	1960	11870	140,866
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A marked reduction in rail use during the 2020-21 period can be attributed to the impacts of the Covid-19 Global Pandemic which led to national lockdowns in Scotland. During 2021-22 rail usage has increased but is not comparable to pre-covid levels. This may in part be due to a change in working arrangements as part of the legacy of the Pandemic. Many companies have moved to a hybrid way of working requiring less in people to travel into the office every day, if at all (ONS, 2022)

Digital Infrastructure

Good digital connectivity is increasingly seen as a basic service that is required by residents, businesses, students, visitors and the public sector. It allows businesses to function more effectively and expand their reach, people to connect with each other as well as access services such as health care and education from remote areas.

There are currently 28 telephone exchanges that cover the Cairngorms National Park, not all of which are located within the National Park boundary. Combined, they service around 15,065 telephone connections (not all within the National Park area) of which 13,682 are classed as residential and 1,176 as non-residential. 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. (ADSL is a broadband connection provided over home telephone lines.) The two exchanges that are not equipped for these speeds are Clova and Advie, which only provide speeds of up to 512 Kbps (according to <https://availability.samknows.com/broadband/broadband>).

There remain large portions of the Cairngorms National Park that are unable to access superfast broadband (**Figure 51**). As part of the Scottish Government Digital Scotland Superfast Broadband programme, high-speed fibre broadband networks were implemented for 95% of Scottish premises by December 2017. Scottish Government figures for 2019/20 identify 10,352 premises within the National Park as having access to fibre broadband, with around 87% of these having speeds of > 24Mbps – although it is unclear how many of these potential connections were as a result of the programme and how many already had access. Focus has subsequently switched to the Reaching 100% programme, which does include Moray and Highland, were aiming to get to 100% of premises with broadband speeds of at least 30 Mbps by 2021. The tender for the north area (which includes the Park) has just been awarded, but the programme of works is unknown at present.

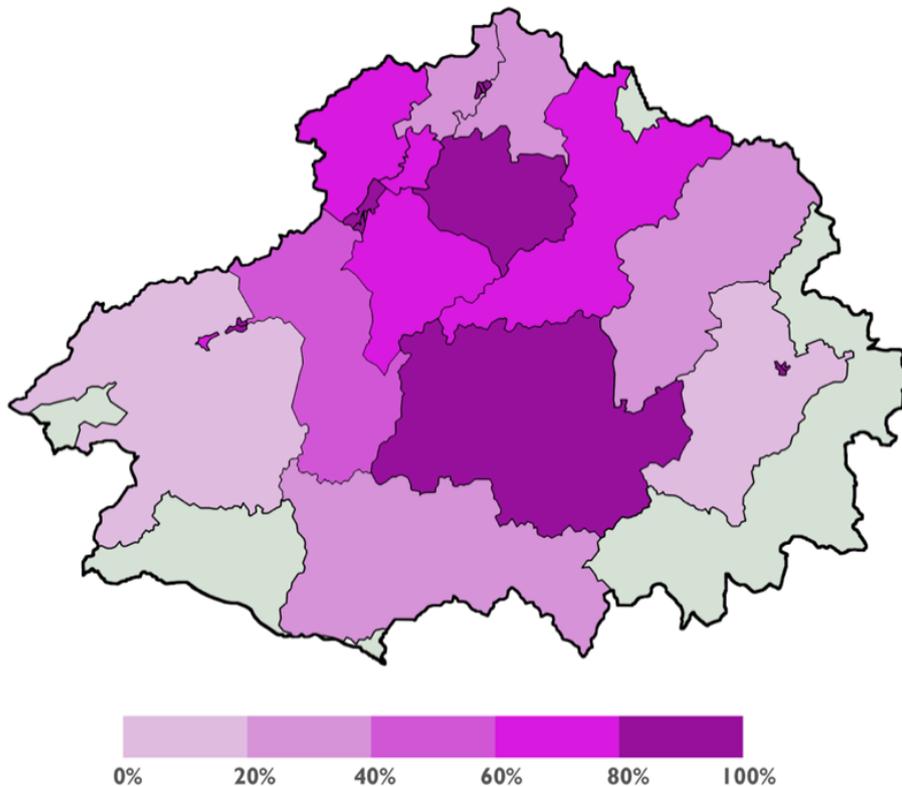


Figure 51 Superfast Broadband Availability in the Park (SIMD, 2020)

In addition to the Scottish Government programmes for improved accessibility to high speed broadband in Scotland is the Universal Service Obligation (USO - <http://researchbriefings.files.parliament.uk/documents/CBP-8146/CBP-8146.pdf>). The USO is a UK-wide measure intended as a minimum technical standard and financial cost to provide broadband to those premises that do not have access to a decent and affordable connection. This means premises that do not have access to a connection that can deliver 10 Mbps download speed and which costs less than £45 per month have a legal right to request a decent broadband connection up to a cost threshold of £3,400. Residents and businesses were able to make requests under the USO from 20 March 2020.

4G Not Spots

In relation of mobile coverage, there are a number of 'not spots' within the Cairngorms National Park for mobile reception (**Figure 52**). However, the Scottish 4G Infill programme, which sought to address up to 60 'not spots' in Scotland by 2022, does not include any areas within the National Park. Currently EE has the best coverage in the



National Park in terms of 'not spots' covered (**Figure 53**). There are still areas within the National Park that have no 4G coverage, with any of the four main carriers.

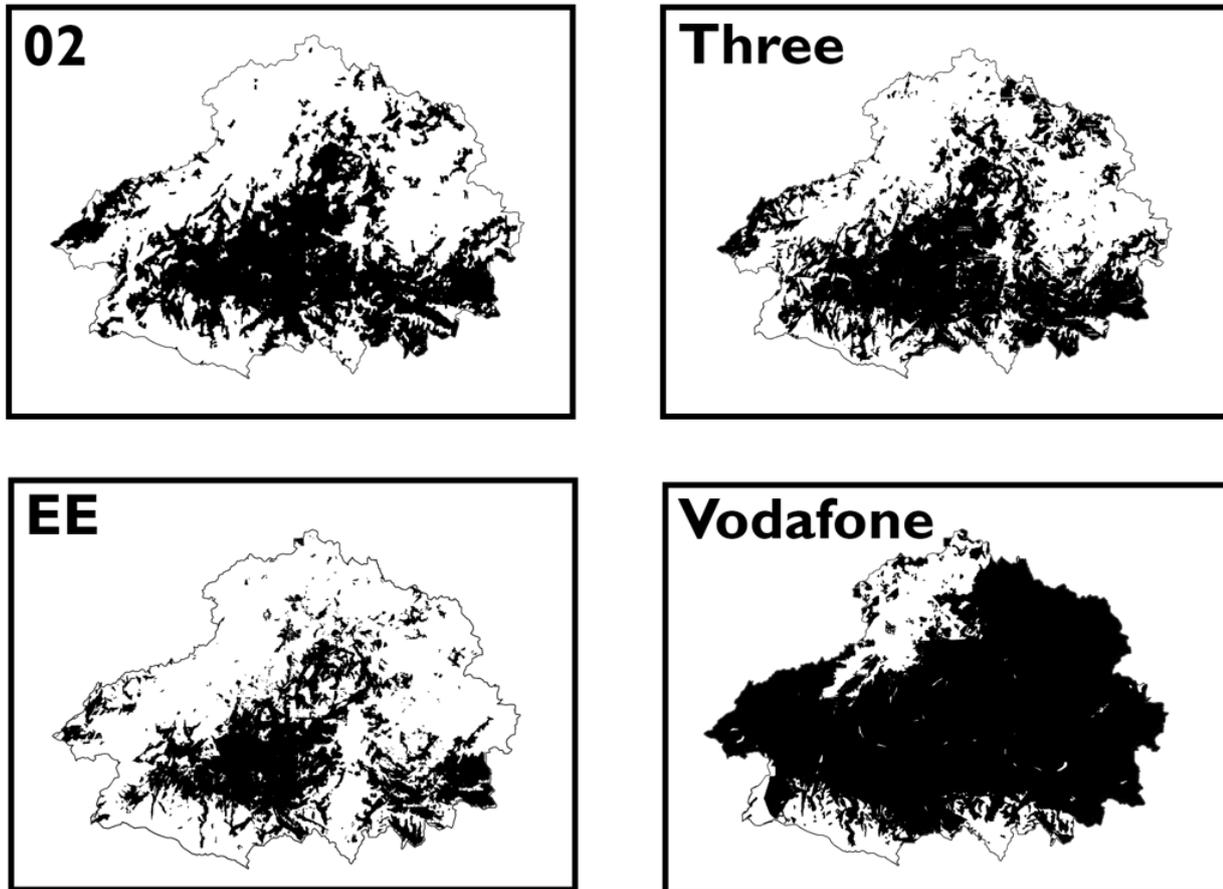


Figure 52 4G Not Spots in the National Park with the four main carriers (2021)

Data sourced from EE: <http://coverage.ee.co.uk/coverage/ee>, O2: <https://www.o2.co.uk/coveragechecker>, Vodafone: <https://www.vodafone.co.uk/network/status-checker>, Three: <https://www.three.co.uk/Discover/Network/Coverage>. Accessed June 2021.

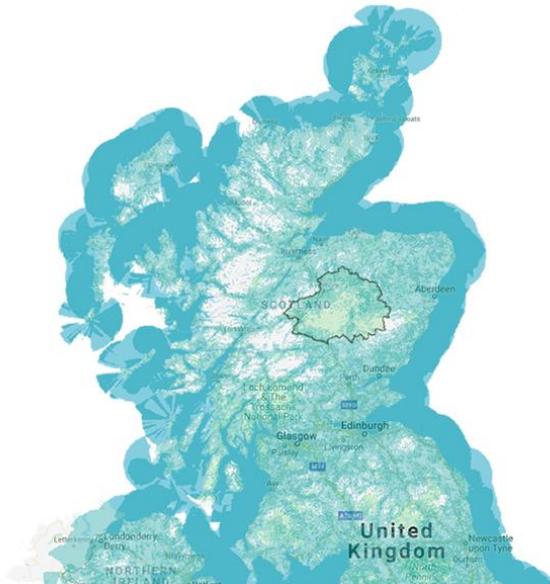
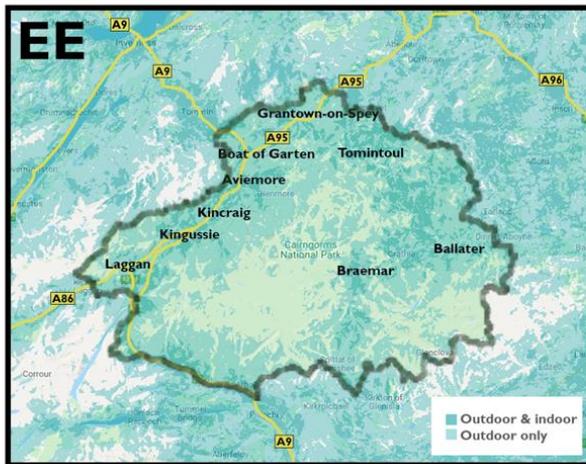


Figure 53 EE 4G Coverage (EE, 2021).

The impending roll out of 5G should play an increasingly important role in improving digital access in more rural and remote areas, although it is unclear whether 5G will suffer from the same not spot issues as 4G. Different models are currently being assessed to reduce the deployment and operational costs of providing a 5G network in rural and remote areas, so the baseline at present is zero.

Key Messages

Material assets cover a wide range of environmental concerns. 39 GCR sites within or overlapping the Cairngorms National Park boundary; combined they cover an area of around 592 km².

The Park Authority have permitted around 16.9MW of renewable energy since 2011 although gaps remain in the data relating to total energy production.

The level of household waste produced appears to be reducing while recycling rates appear to be increasing.

Transport infrastructure, while good along the Cairngorms National Park's main corridors, is poor elsewhere in the National Park, resulting in long drive times and high levels of deprivation in SIMD domains relating to access. The development of new



infrastructure, in particular the dualling of the A9, may result in cumulative effects when implemented alongside the LDP.

Rail use has sharply declined, mainly due to the Covid-19 pandemic, although the reliance on private transport remains high. There are signs of rail usage increasing post-pandemic.

There remains a need to address the poor digital infrastructure in the Cairngorms National Park. The National Park's internet infrastructure is still in the process of being upgraded, although plans are yet to be confirmed for a third of the exchanges servicing the area. Despite Government led programmes there still remain large areas of the National Park that don't have access to superfast broadband. There also remains an issue with 4G connectivity in the National Park with large areas not able to receive any signal on any of the four main carriers.

Data discussed in topic one has inter-relationships with the following topics:

Topic 1: Climatic Factors

Topic 2: Air

Topic 3: Water

Topic 6: Biodiversity, Fauna and Flora

Topic 7: Landscape

Topic 8: Historic and Cultural Heritage

Topic 9: Population and Human Health



Topic 6: Biodiversity, Fauna and Flora

The Cairngorms National Park is a nationally and internationally important haven for nature and wildlife. The National Park covers less than two per cent of the UK landmass but is home to 25% of its rare animal, insect, lichen, fungi and insect species. Habitats are rich and varied from, montane alpine habitats high on the Cairngorms plateaux; freshwater and riparian habitats of the renowned salmon rivers the Spey, Dee, Tay and South Esk; peatland habitats important for storing carbon; Caledonian pine woodlands, home of the rare capercaillie; to stands of aspen in Strathspey supporting rare insects and fungi.

The habitats and species that baseline information is provided for have been selected as those identified as priorities in the Cairngorms Nature Action Plan 2019 (<https://cairngorms.co.uk/working-together/authority/national-park-strategies/cnap/>) for focussed attention and action, plus other habitats that the future LDP has the potential to have an effect on, either positive or negative, based on the broad topic areas covered in the current LDP.

Of relevance to the baseline, a number of partnership projects are underway in the Cairngorms National Park that seek to enhance biodiversity, flora and fauna. The partnership projects include:

Peatland Action, focussing on peatland habitats (<https://cairngorms.co.uk/discover-explore/landscapes-scenery/peatland/>).

Cairngorms Connect, including measures for freshwater and wetland, woodland and peatland habitats, as well as predator monitoring including raptors (<http://cairngormsconnect.org.uk/projects/restoration-projects>).

East Cairngorms Moorland Partnership, including measures for peatland and woodland habitats, raptor and waders, as well as carrying out mountain hare monitoring (<http://cairngorms.co.uk/wp-content/uploads/2018/02/ECMPStatementofPurpose.pdf>).

The environmental assessment of the LDP will consider in-combination effects with these projects.



Protected Areas

Protected areas represent the very best of Scotland's landscapes, plants and animals, rocks, fossils and landforms. Their protection and management will help to ensure that they remain in good health for all to enjoy, both now and for future generations. With 55 nationally and 42 internationally important areas protected for a 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 of more areas protected for nature conservation (**Figure 54**) Data from Scottish Environmental Web (<https://www.environment.gov.scot/data/data-analysis/protected-nature-sites/>) has been used to provide up to date information on protected areas.

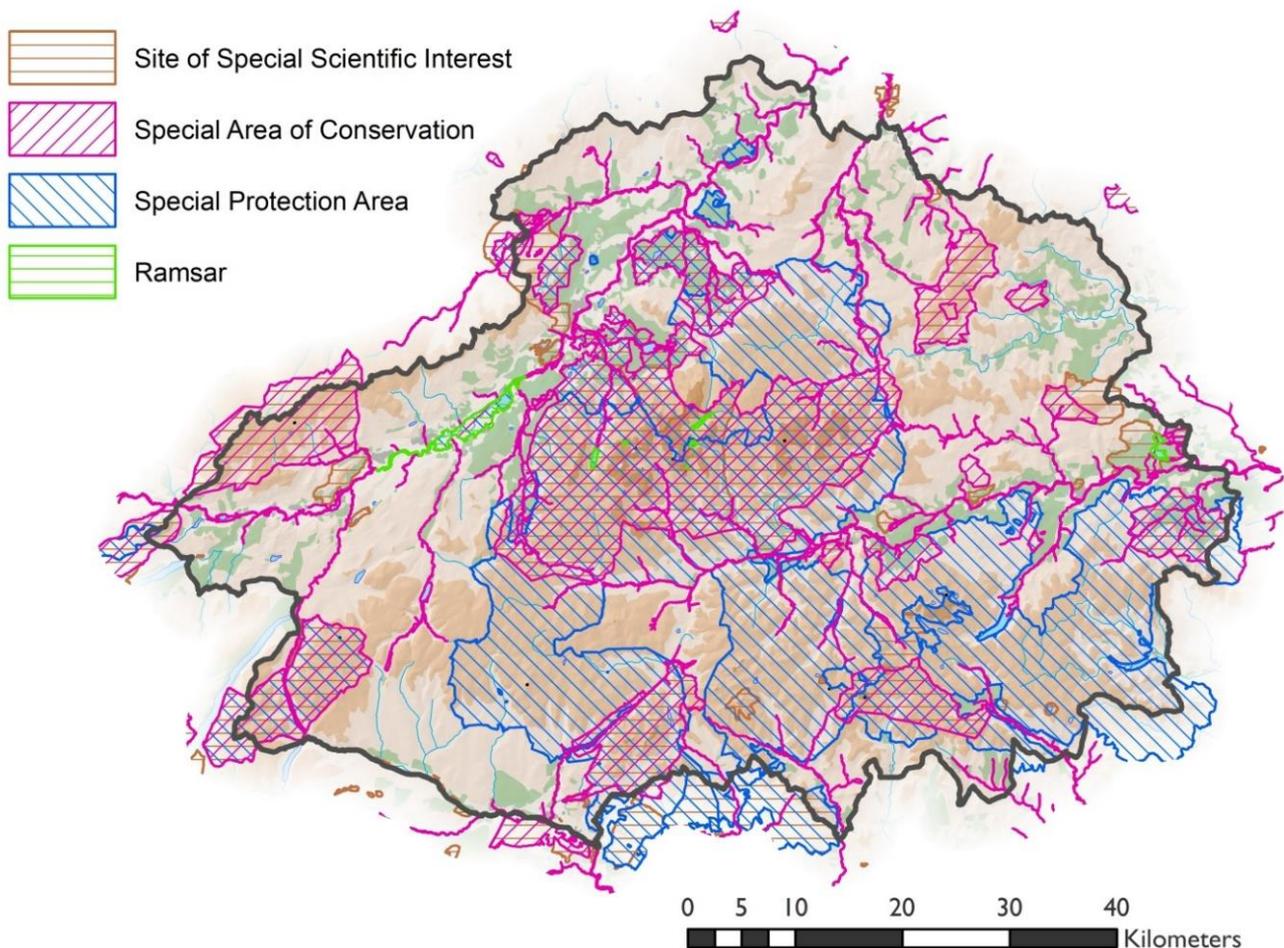


Figure 54 NatureScot Map of areas protected for nature conservation.



The Cairngorms National Park is home to a number of areas designated to meet the needs of international directives and treaties, national legislation and policies as well as more local needs and interests.

Reflecting the diversity of nature in the Cairngorms National Park, 18 protected areas are designated solely for bird features/interests, 1 for freshwater habitats, 20 for terrestrial plants/habitats, 7 for geological features (geodiversity is considered further under Topic 4, Soils), with the remainder (51) designated for a combination of these and/or invertebrate and/or mammal features/interests.

The condition of the protected areas could be considered a reflection of the wider state of biodiversity within the Cairngorms National Park.

Table 7 Changes in protected area condition since 2015

Protected area type	Number completely or partially within the Park	Number in unfavourable condition		Change in condition 2015-2022
		2015	2022	
Site of Special Scientific Interest	55	23	20	5% increase in favourable condition
Special Area of Conservation	23	16	11	22% increase in favourable condition
Special Protection Area	16	9	8	6%
Ramsar site	3	2	0	67% increase in favourable condition

A wide range of pressures affect protected areas resulting in unfavourable condition, most of which relate to land/water use and management. The most notable change is the increase in condition of the Ramsar sites. In 2022 100% of the sites were in a



favourable condition (for reference, 67% of SSSIs, 52% of SACs and 50% of SPAs were in favourable conditions).

Table 8 Summary of the pressures (NatureScot, 2022).

	Total number of features affected (affecting the feature but not it's condition)	Number of unfavourable features affected (affecting the feature and it's condition)
Agricultural operations	18	1
Burning	47	24
Climate change	9	3
Conservation activities	1	0
Development with planning permission	4	1
Dumping/spreading/storage of materials	1	0
Extraction - sand & gravel	1	0
Extraction - water (freshwater catchment; industrial, e.g. power station)	2	2
Fishing - recreational	1	0
Flood defence/coastal defence works	2	0
Forestry operations	12	2
Game or fisheries management	18	5
Grazing - appropriate level	13	0
Grazing - over	105	39
Grazing - under	32	12
Inter-specific competition	1	0
Lack of remedial management	4	0
Maintenance activities carried on site by an organisation	3	0
Mineral extraction	2	0
Natural event	20	10
No on-site activities related to feature condition noted	4	1
Non intervention	3	0
Other activity	7	1



	Total number of features affected (affecting the feature but not it's condition)	Number of unfavourable features affected (affecting the feature and it's condition)
Plant Pests and Diseases	5	1
Pollution - air-based sources (inc. greenhouse gases)	1	1
Presence or changing extent of invasive species	13	2
Presence/changing extent invasive species - NATIVE	10	3
Presence/changing extent invasive species - NON NATIVE	14	2
Pressure to be identified	4	4
Proactive on-site management	5	0
Recreation/disturbance	42	8
Trampling	29	11
Tree regeneration	9	0
Water Dependant Pressure- abstraction	1	1
Water Dependant Pressure- diffuse source pollution	2	1
Water Dependant Pressure- flow regulation	1	0
Water Dependant Pressure- morphological alteration	3	0
Water management	9	2
Water quality	12	2
Wildlife Crime	4	3

National Designations

National designations cover a range of different types of protected area, including Natural Nature Reserves (NNR) and Sites of Special Scientific Interest (SSSI), both of which are located within the Cairngorms National Park. The National Park is also home to a number of non-statutory protected sites, such as the RSPB reserve at Loch Garten.



National Nature Reserves

National Nature Reserves (NNRs) are nature reserves with nationally or internationally important habitats and species, where people are also encouraged to visit. NNRs are statutory nature reserves designed under Part III of the National Parks and Access to the Countryside Act 1949. The main aims of managing them are to conserve their important habitats and species and to give people the opportunity to enjoy and connect with nature. Most NNRs have some form of visitor facilities that are designed to ensure recreational activities do not adversely affect the wildlife and habitat that exists there.

There are 9 actively promoted/ managed NNRs within the Cairngorms National Park (**Figure 55**). They are managed by a range of organisations (Table 9).

The NNRs are run by a range of organisations. For example, most of the Abernethy and Inch Marshes NNRs are also managed as part of RSPB reserves.

Table 9 Actively Managed National Nature Reserves in the Cairngorms National Park

Site Code	Name	Year Est.	Area (ha)	Managed by
5020	Craigellachie	1960	257.46	NatureScot
5052	Glen Tanar	1979	4,186.76	Glen Tanar Estate
10531	Mar Lodge	2017	29,324.6	National Trust for Scotland
4054	Invereshie & Inshriach NNR	1977	1,166.17	NatureScot
6026	Cairngorms NNR	2003	695.18	RSPB
8670	Corrie Fee	2005	165.38	NatureScot
10097	Invereshie and Inshriach	2007	3,730.86	NatureScot
10098	Glenmore	2007	2,119.49	Scottish Forestry
10099	Abernethy	2007	12,753.81	NatureScot and RSPB

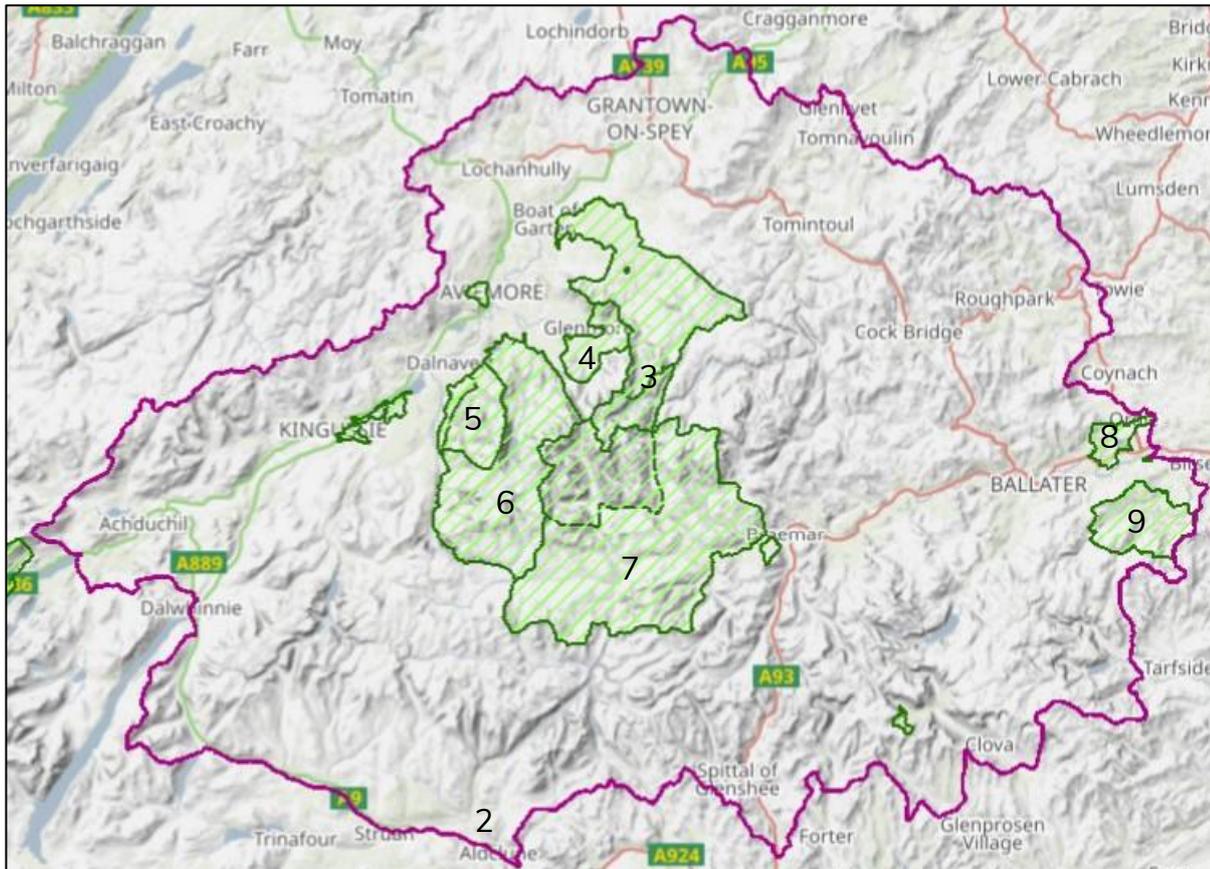


Figure 55 Actively Managed National Nature Reserves in the Cairngorms National Park.

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Sites of Special Scientific Interest

Designated under the Nature Conservation (Scotland) Act 2004, SSSIs are those areas of land and water that NatureScot considers to best represent Scotland's natural heritage - its diversity of plants, animals and habitats, rocks and landforms, or a combinations of such natural features (**Figure 54**) They are the essential building blocks of Scotland's protected areas for nature conservation and therefore many are also designated as European sites.



A simple colour scheme has been used to highlight the condition of interests, the key to which is provided:

Features in favourable maintained condition.
Features that are unfavourable but recovering or favourable but declining condition.
Features that are unfavourable no change or declining condition.
Features that have not been monitored.

Table 10 Condition of SSSIs located within the Cairngorms National (Data from NatureScot Sitelink, March 2023).

SSSI	Feature Name	Assessed Condition	Assessed Visit Date
Abernethy Forest	Basin fen	Favourable Maintained	18/10/2014
	Beetle assemblage	Favourable Maintained	17/11/2002
	Breeding bird assemblage	Favourable Maintained	23/04/2013
	Capercaillie (<i>Tetrao urogallus</i>), breeding	Favourable Declining	19/04/2014
	Crested tit (<i>Lophophanes cristatus</i>), breeding	Favourable Maintained	03/05/1998
	Dragonfly assemblage	Favourable Maintained	01/08/2013
	Fluvial Geomorphology of Scotland	Favourable Maintained	17/03/2015
	Fungi assemblage	Favourable Maintained	01/10/2014
	Invertebrate assemblage	Favourable Maintained	01/08/2013
	Lichen assemblage	Favourable Maintained	25/06/2010
	Native pinewood	Favourable Maintained	30/09/2008
	Osprey (<i>Pandion haliaetus</i>), breeding	Unfavourable Declining	14/06/2013
	Quaternary of Scotland	Favourable Maintained	19/03/2015
	Raised bog	Favourable Maintained	12/08/2014
	Scottish crossbill (<i>Loxia scotica</i>), breeding	Favourable Maintained	28/03/2012
	Subalpine dry heath	Unfavourable No change	27/09/2004
Vascular plant assemblage	Favourable Maintained	28/03/2007	
Aldclune and Invervack Meadows	Lowland calcareous grassland	Unfavourable No change	22/08/2012



Allt Mor	Fluvial Geomorphology of Scotland	Favourable Maintained	27/04/2007
Alvie	Goldeneye (<i>Bucephala clangula</i>), breeding	Favourable Maintained	15/05/2013
	Hydromorphological mire range	Favourable Maintained	05/08/2014
	Invertebrate assemblage	Favourable Maintained	16/07/2013
	Upland oak woodland	Unfavourable Recovering	03/08/2021
Beinn a' Ghlo	Breeding bird assemblage	Favourable Maintained	20/06/2013
	Bryophyte assemblage	Favourable Maintained	17/08/2013
	Caledonian Igneous	Favourable Maintained	24/11/2010
	Dalradian	Favourable Maintained	21/06/2016
	Upland assemblage	Unfavourable Recovering	22/07/2010
	Upland birch woodland	Favourable Maintained	15/06/2016
	Vascular plant assemblage	Favourable Declining	24/08/2014
Blair Atholl Meadow	Lowland calcareous grassland	Unfavourable No change	17/07/2007
Bochel Wood	Upland birch woodland	Favourable Maintained	19/06/2000
Caenlochan	Breeding bird assemblage	Favourable Maintained	01/07/2003
	Bryophyte assemblage	Favourable Maintained	31/12/2005
	Dystrophic loch	Favourable Maintained	02/07/2004
	Invertebrate assemblage	Favourable Maintained	26/07/2017
	Lichen assemblage	Favourable Maintained	03/10/2010
	Montane assemblage	Unfavourable No change	16/07/2006
	Quaternary of Scotland	Favourable Maintained	23/07/2011
	Vascular plant assemblage	Unfavourable No change	12/08/2017
Cairngorms	Breeding bird assemblage	Favourable Maintained	15/07/2006
	Bryophyte assemblage	Favourable Maintained	30/10/2014
	Dotterel (<i>Charadrius morinellus</i>), breeding	Favourable Declining	01/07/2011
	Dystrophic and oligotrophic lochs		
	Fluvial Geomorphology of Scotland	Favourable Maintained	08/07/2015
	Fungi assemblage	Favourable Maintained	21/10/2015
	Golden eagle (<i>Aquila chrysaetos</i>), breeding	Favourable Maintained	21/10/2007
	Invertebrate assemblage	Favourable Maintained	30/08/2013
	Lichen assemblage	Favourable Declining	19/08/2010
	Mineralogy of Scotland	Favourable Maintained	30/08/2006
	Native pinewood	Unfavourable Declining	21/01/2009



	Ptarmigan (<i>Lagopus muta</i>), breeding	Favourable Maintained	17/07/2004
	Quaternary of Scotland	Favourable Maintained	06/08/2015
	Snow bunting (<i>Plectrophenax nivalis</i>), breeding	Favourable Maintained	24/07/2004
	Upland assemblage	Unfavourable No change	25/08/2015
	Vascular plant assemblage	Favourable Maintained	26/09/2013
Cairnwell	Alpine calcareous grassland	Favourable Maintained	20/08/2008
	Vascular plant assemblage	Favourable Declining	28/07/2016
Coyles of Muick	Calaminarian grassland and serpentine heath	Favourable Maintained	25/07/2012
	Subalpine flushes	Favourable Maintained	08/07/2008
	Vascular plant assemblage	Favourable Maintained	25/07/2012
Craig Leek	Bryophyte assemblage	Unfavourable Declining	22/05/2015
	Native pinewood	Favourable Maintained	10/09/2009
	Subalpine calcareous grassland	Favourable Maintained	01/08/2006
	Upland assemblage	Unfavourable Declining	16/07/2012
	Upland birch woodland	Unfavourable No change	08/10/2015
	Vascular plant assemblage	Favourable Maintained	21/11/2013
Craigellachie	Moth assemblage	Favourable Maintained	13/08/2014
	Upland birch woodland	Favourable Maintained	23/07/2009
Craigendarroch	Upland oak woodland	Favourable Maintained	10/07/2013
Crathie Wood	Invertebrate assemblage	Favourable Maintained	05/08/2013
	Juniper scrub	Favourable Maintained	08/09/2012
	Native pinewood	Favourable Maintained	13/08/2009
	Rocky slopes (includes inland cliff, rocky outcrops, chasmophytic vegetation)	Favourable Maintained	18/09/2012
	Upland birch woodland	Favourable Maintained	08/09/2012
Creag Clunie and the Lion's Face	Bryophyte assemblage	Favourable Maintained	02/09/2015
	Capercaillie (<i>Tetrao urogallus</i>), breeding	Unfavourable Declining	31/03/2011
	Elm <i>Gyalecta</i> lichen (<i>Gyalecta ulmi</i>)	Favourable Declining	13/11/2013
	Lichen assemblage	Favourable Maintained	13/11/2013
	Native pinewood	Unfavourable Declining	08/08/2011
	Scottish crossbill (<i>Loxia scotica</i>), breeding	Favourable Maintained	01/03/2015
Creag Dhubh	Upland birch woodland	Unfavourable No change	03/07/2009



Creag Meagaidh	Breeding bird assemblage	Favourable Maintained	26/06/2013
	Rocky slopes (includes inland cliff, rocky outcrops, chasmophytic vegetation)	Favourable Maintained	02/10/2015
	Upland assemblage	Unfavourable Recovering	02/10/2015
	Upland birch woodland	Favourable Maintained	10/09/2015
	Vascular plant assemblage	Favourable Recovered	04/09/2011
Creag nan Gamhainn	Broad-leaved helleborine (Epipactis helleborine)	Favourable Maintained	28/08/2012
	Lowland calcareous grassland	Favourable Maintained	28/08/2012
	Lowland neutral grassland	Favourable Maintained	14/07/2008
	Northern brown argus butterfly (Aricia artaxerxes)	Favourable Maintained	06/08/2013
	Springs (including flushes)	Unfavourable Declining	26/06/2013
	Upland birch woodland	Favourable Maintained	16/07/2002
Dalnabo Quarry	Mineralogy of Scotland	Favourable Maintained	18/10/2007
Dinnet Oakwood	Upland oak woodland	Favourable Maintained	12/07/2002
Drumochter Hills	Breeding bird assemblage	Favourable Maintained	25/04/2003
	Fluvial Geomorphology of Scotland	Favourable Maintained	11/10/2011
	Montane assemblage	Favourable Maintained	31/07/2006
	Vascular plant assemblage	Unfavourable Declining	15/08/2003
Eastern Cairngorms	Arctic charr (<i>Salvelinus alpinus</i>)	Favourable Maintained	18/07/2008
	Breeding bird assemblage	Favourable Maintained	14/06/2013
	Bryophyte assemblage	Unfavourable Declining	31/07/2010
	Dystrophic and oligotrophic lochs	Favourable Maintained	21/06/2010
	Fluvial Geomorphology of Scotland	Favourable Maintained	08/07/2015
	Fungi assemblage	Favourable Declining	22/10/2012
	Invertebrate assemblage	Favourable Declining	04/07/2013
	Lichen assemblage		
	Native pinewood	Unfavourable Declining	01/04/2008
	Quaternary of Scotland	Favourable Maintained	07/08/2003
	Upland assemblage	Unfavourable No change	27/08/2015
	Vascular plant assemblage	Favourable Maintained	31/08/2010
	Fafernie	Breeding bird assemblage	Favourable Maintained
Dotterel (<i>Charadrius morinellus</i>), breeding		Unfavourable Declining	07/04/2011



Fodderletter	Lowland acid grassland	Favourable Declining	31/08/2018
	Springs (including flushes)	Favourable Declining	25/06/2013
Forest of Clunie	Black grouse (<i>Tetrao tetrix</i>), breeding	Favourable Maintained	15/05/2015
	Breeding bird assemblage	Favourable Maintained	29/05/2009
	Hen harrier (<i>Circus cyaneus</i>), breeding	Unfavourable Declining	29/05/2009
	Osprey (<i>Pandion haliaetus</i>), breeding	Favourable Declining	01/08/2010
	Short-eared owl (<i>Asio flammeus</i>), breeding	Unfavourable Declining	29/05/2009
Garbh Choire	Alpine flush	Favourable Recovered	22/06/2011
	Bryophyte assemblage	Unfavourable Declining	27/10/2004
	Snowbed	Unfavourable No change	03/08/2012
	Spring-head, rill and flush	Unfavourable No change	10/07/2006
	Upland assemblage	Unfavourable No change	03/08/2012
	Vascular plant assemblage	Unfavourable No change	16/07/2005
Glas Tulaichean	Vascular plant assemblage	Favourable Recovered	13/07/2010
Glen Callater	Alpine blue-sow-thistle (<i>Cicerbita alpina</i>)	Favourable Maintained	03/09/2015
	Alpine heath	Favourable Maintained	30/07/2015
	Blanket bog	Unfavourable Declining	30/07/2015
	Breeding bird assemblage	Favourable Maintained	21/06/2013
	Bryophyte assemblage	Favourable Maintained	11/09/2014
	Mineralogy of Scotland	Favourable Maintained	10/07/2013
	Oligotrophic loch	Favourable Declining	18/08/2015
	Spring-head, rill and flush	Favourable Maintained	05/09/2001
	Tall herb ledge	Favourable Maintained	30/07/2015
	Upland assemblage	Unfavourable No change	30/07/2015
	Vascular plant assemblage	Unfavourable No change	04/08/2006
Glen Ey Gorge	Dalradian	Favourable Maintained	31/07/2012
	Subalpine dry heath	Favourable Declining	24/05/2013
	Tall herb ledge	Favourable Maintained	31/07/2012
Glen Fender Meadows	Lowland calcareous grassland	Favourable Maintained	02/08/2002
	Lowland dry heath	Unfavourable Declining	02/06/2014
	Springs (including flushes)	Unfavourable Declining	02/09/2004
	Vascular plant assemblage	Favourable Declining	09/08/2014
Glen Garry	Dalradian	Favourable Maintained	29/01/2001



Glen Tanar	Capercaillie (<i>Tetrao urogallus</i>), breeding	Unfavourable Declining	30/04/2014
	Fungi assemblage	Favourable Maintained	22/10/2015
	Invertebrate assemblage	Favourable Maintained	26/06/2013
	Native pinewood	Favourable Maintained	08/04/2010
	Scottish crossbill (<i>Loxia scotica</i>), breeding	Favourable Maintained	23/03/2012
	Subalpine dry heath	Favourable Maintained	17/11/2009
Glen Tilt Woods	Upland mixed ash woodland	Favourable Maintained	15/08/2000
Glenmore Forest	Capercaillie (<i>Tetrao urogallus</i>), breeding	Favourable Maintained	30/04/2009
	Narrow-headed ant (<i>Formica exsecta</i>)	Favourable Maintained	30/08/2013
	Native pinewood	Unfavourable Recovering	16/06/2008
	Quaternary of Scotland	Favourable Maintained	19/03/2015
	Scottish crossbill (<i>Loxia scotica</i>), breeding	Favourable Maintained	07/03/2012
	Vascular plant assemblage	Favourable Maintained	23/07/2007
Green Hill of Strathdon	Calaminarian grassland and serpentine heath	Favourable Maintained	02/08/2002
	Moorland juniper	Favourable Maintained	29/07/2011
	Subalpine dry heath	Favourable Maintained	12/08/2016
	Subalpine flushes	Favourable Declining	11/08/2016
Inchrory	Mountain whorl snail (<i>Vertigo alpestris</i>)	Favourable Maintained	17/07/2013
	Northern brown argus butterfly (<i>Aricia artaxerxes</i>)	Favourable Maintained	06/08/2013
	Quaternary of Scotland	Favourable Maintained	31/10/1999
	Upland assemblage	Unfavourable No change	24/10/2012
	Vascular plant assemblage	Favourable Recovered	06/09/2008
Kinlochlaggan Boulder Beds	Dalradian	Favourable Maintained	08/01/2014
Kinveachy Forest	Breeding bird assemblage	Favourable Maintained	08/06/2007
	Native pinewood	Unfavourable Recovering	24/06/2008
Ladder Hills	Alpine heath	Favourable Maintained	04/07/2013
	Blanket bog	Favourable Maintained	03/09/1999
	Mineralogy of Scotland	Favourable Maintained	31/03/2006
	Subalpine dry heath	Unfavourable Declining	09/04/2007
	Upland assemblage	Unfavourable No change	04/07/2013



Loch Brandy	Bryophyte assemblage	Favourable Maintained	31/10/2010
	Oligotrophic loch	Favourable Maintained	01/07/2004
Loch Etteridge	Quaternary of Scotland	Favourable Maintained	28/03/2000
Loch Moraig	Mesotrophic loch	Favourable Maintained	17/07/2017
	Springs (including flushes)	Favourable Maintained	23/07/2008
	Vascular plant assemblage	Favourable Maintained	29/07/2016
Loch Vaa	Beetles	Favourable Maintained	12/07/2010
	Goldeneye (<i>Bucephala clangula</i>), breeding	Unfavourable No change	30/06/2007
	Slavonian grebe (<i>Podiceps auritus</i>), breeding	Unfavourable No change	30/06/2007
Monadhliath	Black mountain moth (<i>Glacies coracina</i>)	Favourable Maintained	26/06/2014
	Blanket bog	Unfavourable No change	18/10/2020
	Breeding bird assemblage	Favourable Maintained	28/05/2022
	Dotterel (<i>Charadrius morinellus</i>), breeding	Unfavourable No change	01/07/2011
	Upland assemblage	Favourable Maintained	03/11/2004
	Vascular plant assemblage	Favourable Declining	06/08/2015
Morrone Birkwood	Alpine heath	Favourable Maintained	03/06/2014
	Basin fen	Favourable Maintained	02/08/2013
	Bryophyte assemblage	Favourable Maintained	06/09/2013
	Fungi assemblage	Favourable Maintained	18/10/2012
	Invertebrate assemblage	Favourable Declining	25/06/2013
	Juniper scrub	Favourable Recovered	07/07/2014
	Quaternary of Scotland	Favourable Maintained	04/06/2014
	Rocky slopes (includes inland cliff, rocky outcrops, chasmophytic vegetation)	Favourable Maintained	31/08/2015
	Spring-head, rill and flush	Favourable Maintained	03/06/2014
	Subalpine calcareous grassland	Favourable Maintained	03/06/2014
	Subalpine flushes	Favourable Declining	03/06/2014
	Upland birch woodland	Unfavourable No change	12/11/2009
	Vascular plant assemblage	Favourable Recovered	10/10/2014
Morven and Mullachdubh	Alpine heath	Favourable Maintained	16/08/2000
	Blanket bog	Favourable Maintained	11/11/2012
	Breeding bird assemblage	Favourable Declining	13/06/2013
	Moorland juniper	Favourable Maintained	04/09/2008



	Upland assemblage	Unfavourable No change	23/06/2017
	Vascular plant assemblage	Favourable Maintained	04/08/2015
Muir of Dinnnet	Breeding bird assemblage	Favourable Maintained	31/07/2018
	Dragonfly assemblage	Favourable Maintained	31/10/2012
	Greylag goose (<i>Anser anser</i>), non-breeding	Unfavourable No change	10/12/2012
	Hydromorphological mire range	Favourable Maintained	11/04/2014
	Invertebrate assemblage	Favourable Maintained	31/10/2012
	Lowland dry heath	Unfavourable Recovering	30/07/2013
	Lowland wet heath	Unfavourable Declining	24/07/2015
	Oligo-mesotrophic loch	Favourable Maintained	25/06/2004
	Quaternary of Scotland	Favourable Maintained	30/06/2000
	North Rothiemurchus Pinewood	Breeding bird assemblage	Favourable Maintained
Capercaillie (<i>Tetrao urogallus</i>), breeding		Favourable Maintained	30/04/2010
Crested tit (<i>Lophophanes cristatus</i>), breeding		Favourable Maintained	17/03/2005
Fungi assemblage		Favourable Maintained	02/10/2014
Invertebrate assemblage		Favourable Maintained	20/08/2013
Lichen assemblage		Favourable Declining	21/08/2010
Native pinewood		Unfavourable Recovering	22/05/2008
Osprey (<i>Pandion haliaetus</i>), breeding		Unfavourable No change	20/06/2010
Quaternary of Scotland		Favourable Maintained	11/06/2003
Scottish crossbill (<i>Loxia scotica</i>), breeding		Favourable Maintained	21/02/2012
Vascular plant assemblage		Favourable Maintained	23/07/2010
Northern Corries, Cairngorms	Breeding bird assemblage	Favourable Maintained	11/07/2013
	Native pinewood	-	-
	Quaternary of Scotland	Favourable Maintained	16/08/2022
	Upland assemblage	Unfavourable Recovering	28/09/2021
	Vascular plant assemblage	Favourable Maintained	05/10/2006
Pass of Killiecrankie	Fly assemblage	Favourable Maintained	28/06/2015
	Upland oak woodland	Unfavourable No change	28/09/2006
Red Craig	Caledonian Igneous	Favourable Maintained	20/07/2001
River Feshie	Fluvial Geomorphology of Scotland	Favourable Maintained	07/08/2015
	Quaternary of Scotland	Favourable Maintained	20/03/2015
River Spey	Atlantic salmon (<i>Salmo salar</i>)	Unfavourable Recovering	20/10/2004



	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	07/11/2011
River Spey - Insh Marshes	Arctic charr (<i>Salvelinus alpinus</i>)	Unfavourable Declining	14/07/2017
	Breeding bird assemblage	Favourable Maintained	31/07/2001
	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
	Vascular plant assemblage	Favourable Maintained	10/08/2014
	Whooper swan (<i>Cygnus cygnus</i>), non-breeding	Favourable Maintained	28/03/2010

There are 55 SSSIs within or overlapping the Cairngorms National Park. Of these, 47 have biological notifiable features, covering an area of around 1,120 km² (or 25% of the National Park's area). Of these, 34 have at least one notified feature that is in unfavourable condition. Four SSSIs have no features in favourable condition.

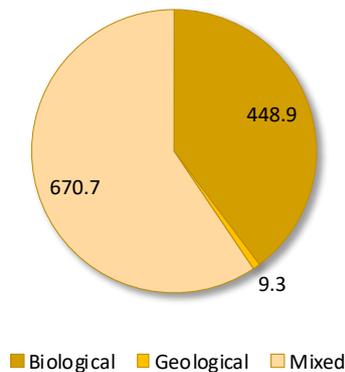


Figure 56 Area (km²) covered by the three types of SSSI within the Cairngorms National Park.

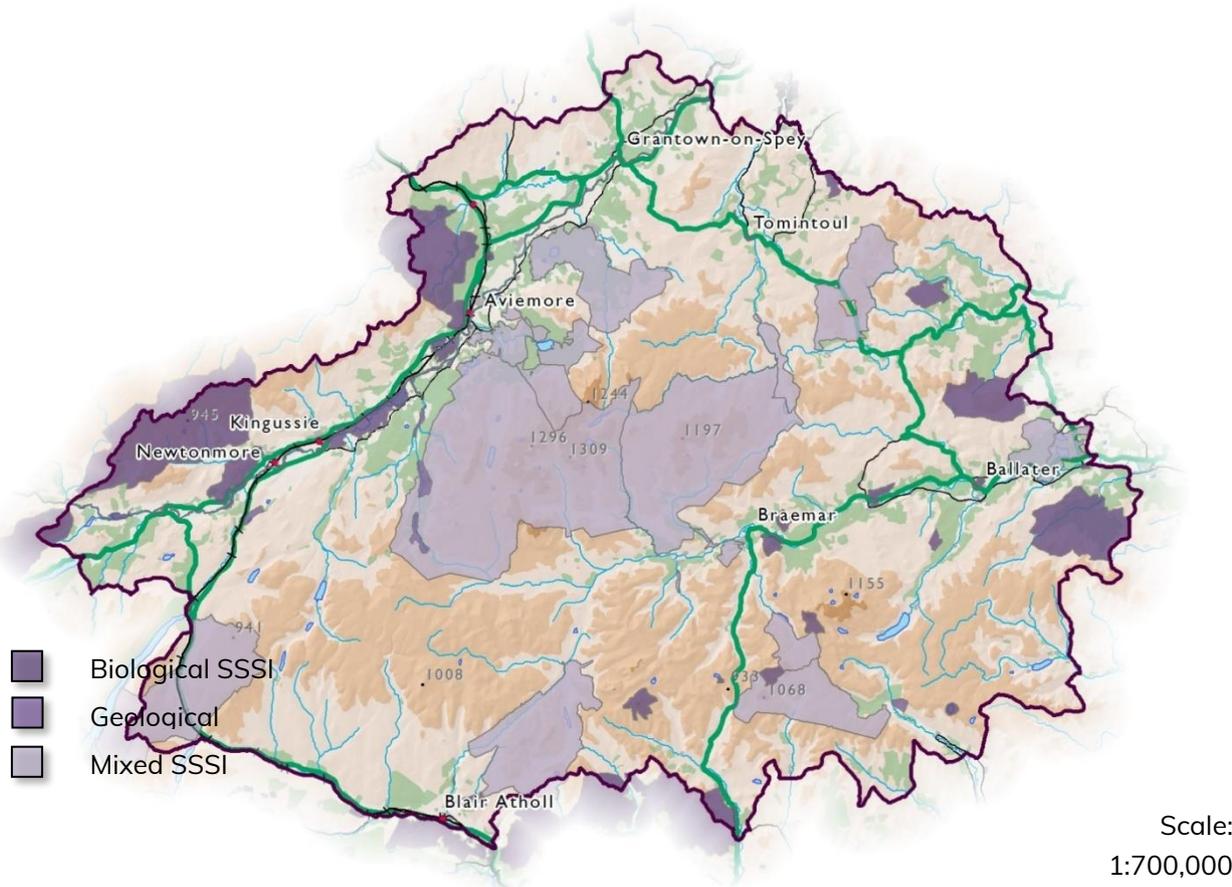


Figure 57 Sites of Special Scientific Interest by type within and overlapping the Cairngorms National Park Authority.

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International Designations

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 Cairngorms National Park: Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

Table 11 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.



A simple colour scheme has been used to highlight the condition of qualifying interests, the key to which is provided below:

Features in favourable maintained condition.
Features that are unfavourable but recovering or favourable but declining condition.
Features that are unfavourable no change or declining condition.
Features that have not been monitored.

Table 11 Condition of Special Areas of Conservation and Special Protection Areas within the Cairngorms National Park (Data checked against NatureScot data, 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 (<i>Lutra lutra</i>)	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



SAC/SPA	Site Name	Feature Name	Assessed Condition	Assessed Visit Date
		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	17/10/2018



SAC/SPA	Site Name	Feature Name	Assessed Condition	Assessed Visit Date
		Base-rich fens	Unfavourable No change	04/10/2018
		Base-rich scree	Favourable Maintained	16/07/2006
		Blanket bog	Unfavourable No change	17/10/2018
		Dry heaths	Unfavourable, declining	17/10/2018
		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, declining	05/05/2023
		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



SAC/SPA	Site Name	Feature Name	Assessed Condition	Assessed Visit Date
		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 (<i>Lutra lutra</i>)	Unfavourable Declining	22/09/2011
		Plants in crevices on acid rocks	Favourable Maintained	03/09/2021



SAC/SPA	Site Name	Feature Name	Assessed Condition	Assessed Visit Date
		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



SAC/SPA	Site Name	Feature Name	Assessed Condition	Assessed Visit Date
		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



SAC/SPA	Site Name	Feature Name	Assessed Condition	Assessed Visit Date
		Dry heaths	Favourable Maintained	23/10/2003
		Otter (<i>Lutra lutra</i>)	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 (<i>Lutra lutra</i>)	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/SPA	Site Name	Feature Name	Assessed Condition	Assessed Visit Date
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 (<i>Vertigo geyeri</i>)	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



SAC/SPA	Site Name	Feature Name	Assessed Condition	Assessed Visit Date
		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	Favourable Maintained	12/08/2009



SAC/SPA	Site Name	Feature Name	Assessed Condition	Assessed Visit Date
		moderate nutrient levels		
		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 (<i>Vertigo genesii</i>)	Favourable Maintained	10/06/2017
SPA	Abernethy Forest	Capercaillie (<i>Tetrao urogallus</i>), breeding	Favourable Maintained	28/04/2009
		Osprey (<i>Pandion haliaetus</i>), breeding	Favourable Maintained	31/05/2007



SAC/SPA	Site Name	Feature Name	Assessed Condition	Assessed Visit Date
		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



SAC/SPA	Site Name	Feature Name	Assessed Condition	Assessed Visit Date
		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



SAC/SPA	Site Name	Feature Name	Assessed Condition	Assessed Visit Date
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



SAC/SPA	Site Name	Feature Name	Assessed Condition	Assessed Visit Date
		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

There are over 20 SACs within or overlapping the Cairngorms National Park (**Figure 58**) covering an area of around 1,063 km² (or 24% of the National Park's area). Of these, 2 SACs, and 7 SPAs have no qualifying interests in favourable condition.

Around 53% of the land area protected as an SAC falls within the Cairngorms SAC, which is the third largest in Scotland.

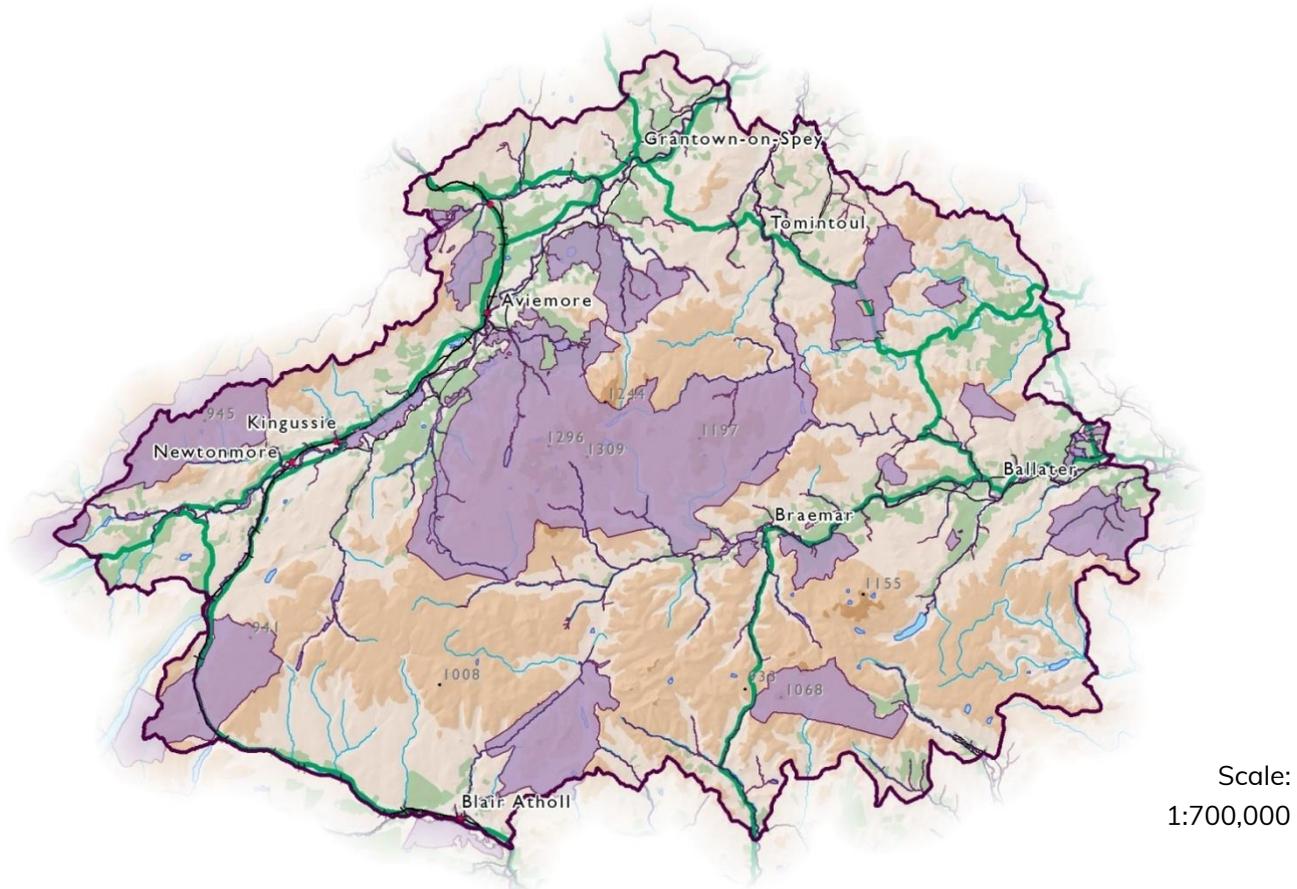


Figure 58 Special Areas of Conservation within the Cairngorms National Park.

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There are 16 SPAs within or overlapping the Cairngorms National Park (**Figure 59**), 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 Cairngorms 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.

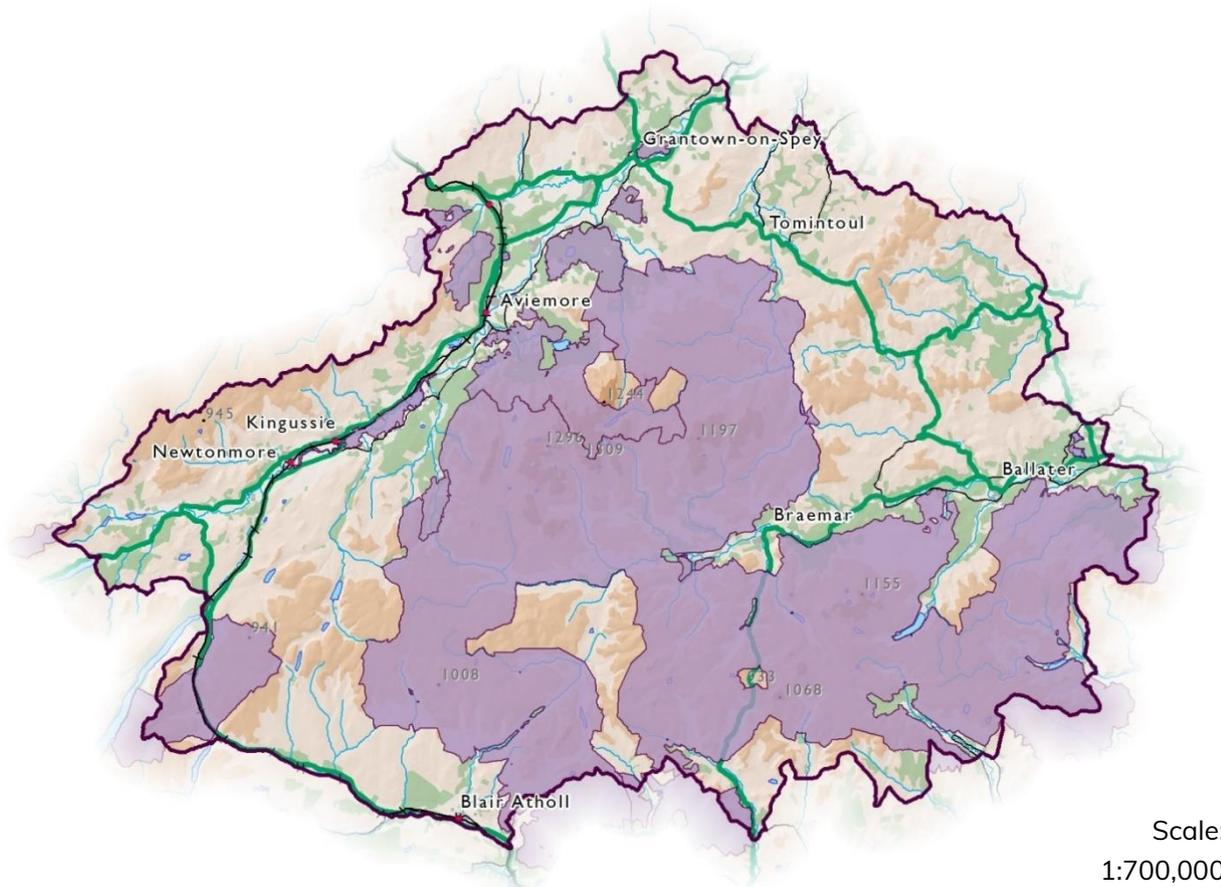


Figure 59 Special Protection Areas within the Cairngorms National Park.

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Ramsar Convention

The National Park is also home to three wetlands of international importance that have been designated under the Ramsar Convention (**Table 12** and **Figure 60**), all wholly located within the Cairngorms National Park. 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.



Table 12 Condition of Ramsar Convention Sites within the Cairngorms National Park (NatureScot, March 2023)

Site Name	Feature Name	Assessed Condition	Assessed Visit Date
Cairngorm Lochs	Oligotrophic loch	Favourable Maintained	23/06/2010
Muir of Dinnet	Greylag goose (Anser anser), 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 (Pandion haliaetus), breeding	Favourable Maintained	07/09/2009
	Otter (Lutra lutra)	Favourable Declining	17/08/2011
	Spotted crake (Porzana prozana), breeding	-	-
	Vascular plant assemblage	Favourable Maintained	10/08/2014
	Wet woodland	-	-
	Whooper swan (Cygnus cygnus), non-breeding	Favourable Maintained	28/03/2010
	Wigeon (Anas penelope) breeding	-	-



Site Name	Feature Name	Assessed Condition	Assessed Visit Date
	Wood sandpiper (Tringa glareola) breeding	-	-

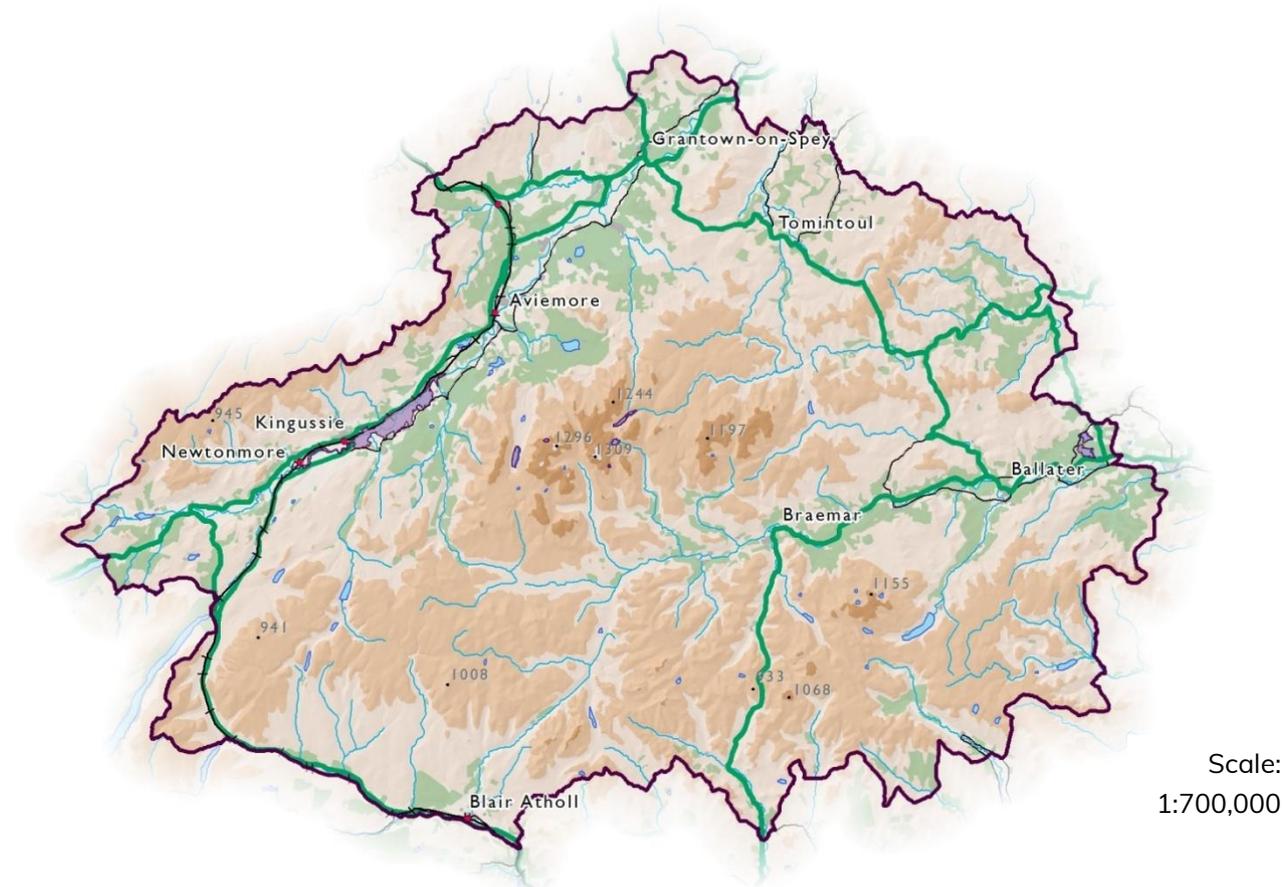


Figure 60 Ramsar Sites within the Cairngorms National Park.

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Non-Statutory Designations

The Cairngorms National Park contains a number of non-statutory designations (**Figure 61**). The RSPB runs 2 Nature Reserves within the National Park namely, Loch Garten



and Insh Marshes. Both encompass areas of statutory designation, with the former covering most of Abernethy NNR and SPA and the latter, Inch Marshes NNR and SPA.

Loch Garten is best known for its osprey, but is also an important site for capercaillie, crested tit, goldeneye and Scottish crossbill. Insh Marshes is home to an important assemblage of wetland birds, including curlew, lapwing, redshank, snipe and whooper swan.

The Cairngorms National Park contains one Biogenetic Reserve at Muir of Dinnet. This is part of a European network of 'living laboratories' representative of various types of natural environment found in Europe. The purpose of Biogenetic Reserves has now been overtaken by that of Scotland's national nature reserve network and so the designation is rarely referred to.

- Biogenetic Reserves
- RSPB Reserves

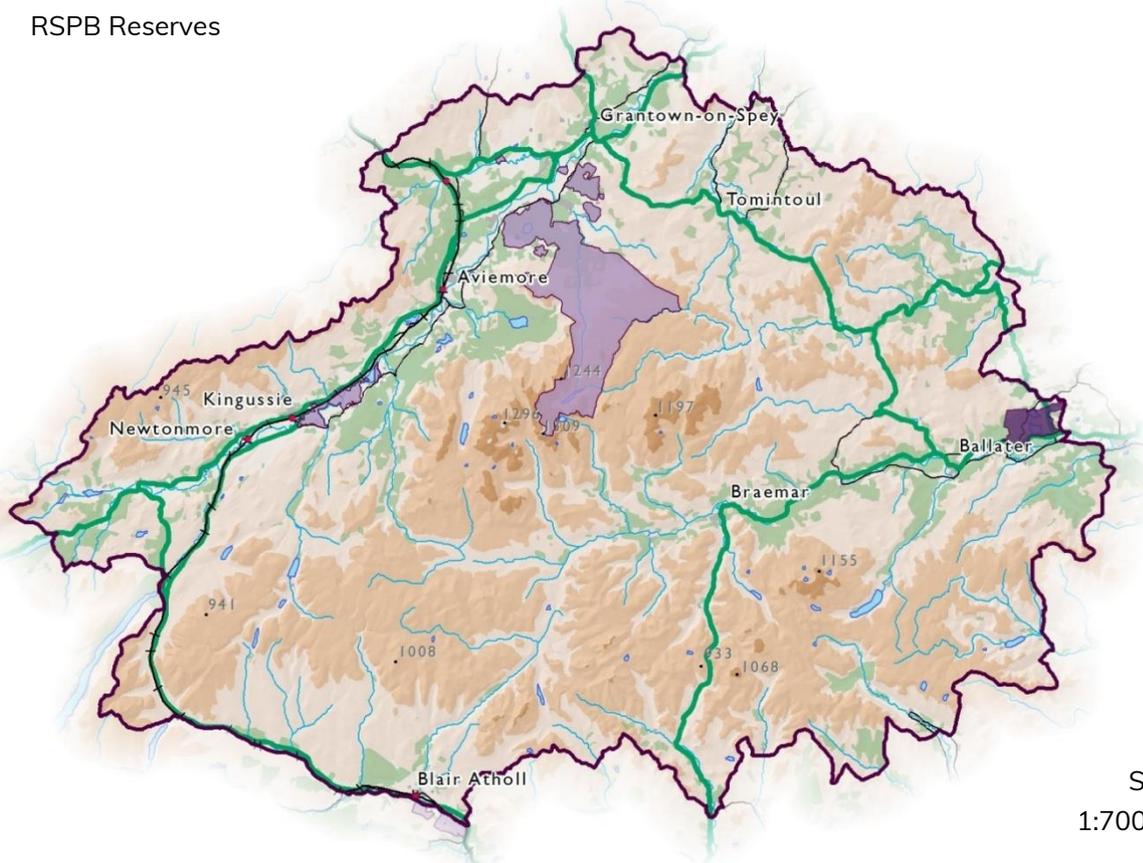


Figure 61 RSBP and Biogenetic Reserves in the Cairngorms National Park.



Important Species and Habitats

There are around 1,200 species considered to be important for nature conservation within the National Park. 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 Cairngorms Nature Action Plan (CNAP).

The habitats and species identified in the CNAP are listed in **Table 13**, with the CNAP targets for landscape scale conservation presented in **Table 11**. These give an indication of where environmental issues lie and so where the LDP may be able to contribute, where appropriate. (Other habitat types not specified in the CNAP are nonetheless important for the species it identifies, so are also included in the environmental baseline).

Table 13 Habitats and species identified for action in the CNAP 2019 – 2024, and the habitat type(s) that they are predominantly associated with (CNPA, 2019).

Habitats	native woodlands (particularly Caledonian pine forest supporting capercaillie), moorland and peatlands, freshwater and wetlands (particularly for natural flood management)
Mammals	Scottish wildcat (found in woodland habitat); mountain hare (found in upland habitat)
Birds	capercaillie (found in woodland habitat); curlew (found in wetland and grassland habitat); golden eagle, peregrine falcon, (found in upland habitats); hen harrier (found in upland and grassland habitats)
Invertebrates	Kentish glory, dark bordered beauty, pine hoverfly, wood ants, pinewood mason bee, aspen hoverfly, shining guest ant (reliant on woodland habitats); scabious mining bee (reliant on grassland habitats); Northern silver stiletto fly, Northern February red stonefly, Northern damselfly (reliant on water/wetland habitats)
Molluscs	freshwater pearl mussel (found in freshwater)
Trees, shrubs, plants	aspen, woolly willow, twinflower, one-flowered wintergreen, small cow wheat (found in woodland habitat); marsh saxifrage, alpine blue sow thistle, oblong woodsia (found in upland habitat)



Fungi and lichen

waxcaps (fungi, found in grassland habitat); *Alectoria ochroleuca* (lichen, found in upland habitat); *Hertelidea botryose* (lichen, found in woodland habitat)

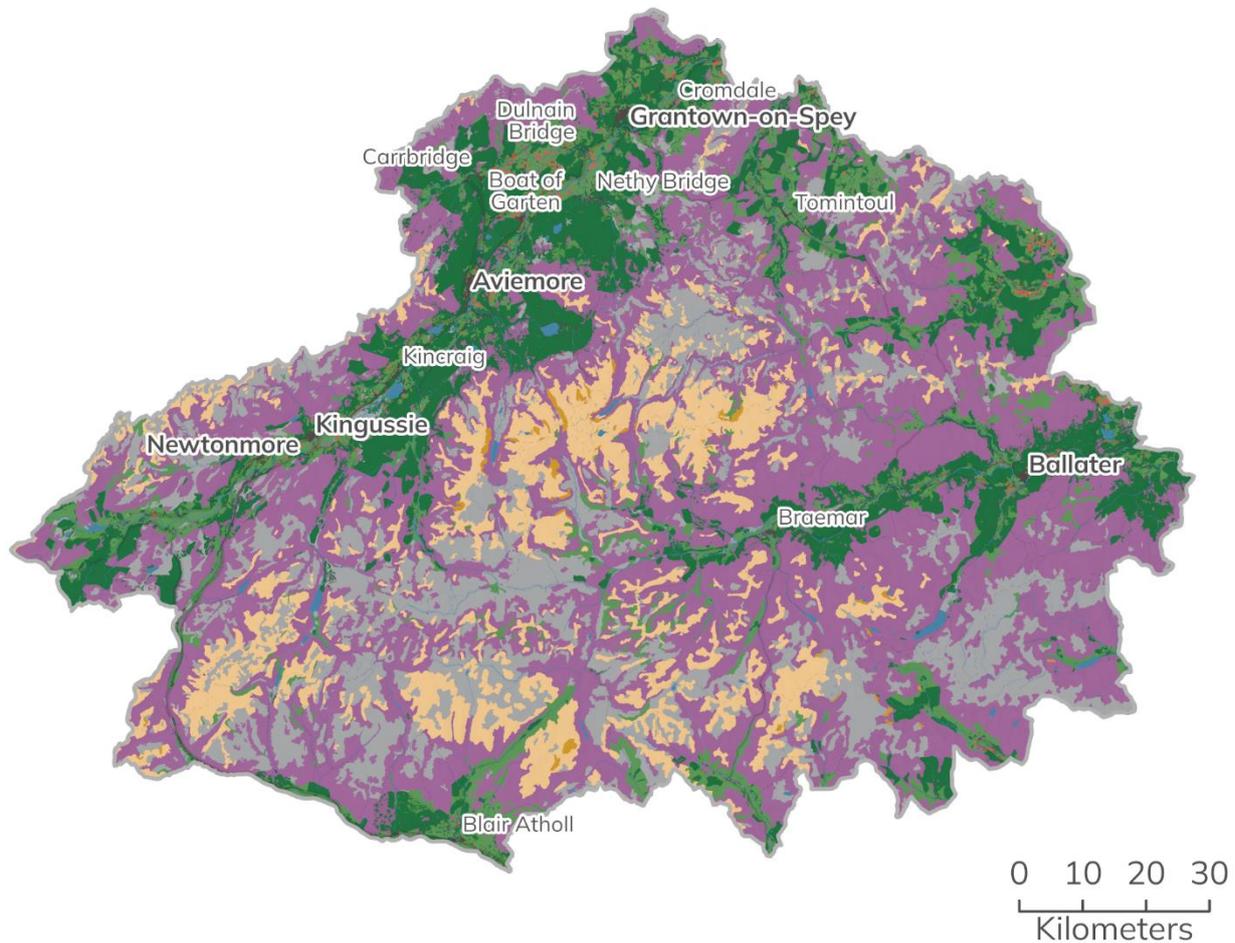
Table 14 CNAP targets for landscape scale restoration/enhancement

Targets

- 5,000 Ha new woodland (including regeneration and montane).
- 70% of new woodland to be native species.
- 750 Ha plantations on ancient woodland sites (PAWS) and native woodlands under active restoration.
- 20 farms in woodland & grassland projects.
- 5,000 Ha peatland restoration.
- 150 km river and riparian restoration.
- 50 ponds created or restored, including SuDS ponds.
- Increase in farmland wader populations from the existing 2015 baseline.

Given the strategic, broad scale nature of the LDP, it is not felt appropriate to include baseline data on invertebrates, individual plant species, fungi or lichen. Instead, the environmental assessment will focus on ensuring that the LDP avoids significant negative effects on their supporting habitats.

The following sections therefore provide baseline information on woodland, upland (incorporating heathland and peatland habitats), lowland, freshwater and wetland habitats along with wildcat, mountain hare, capercaillie, curlew, raptors and freshwater pearl mussel. As wild deer, pests and diseases also influence biodiversity, they are considered as part of the baseline as well.



Broad habitat types

-  Woodland, forest and other wooded land
-  Grasslands and lands dominated by forbs, mosses or lichens
-  Regularly or recently cultivated agricultural, horticultural and domestic habitats
-  Habitat complexes
-  Heathland, scrub and tundra
-  Inland unvegetated or sparsely vegetated habitats
-  Montane habitats
-  Inland surface waters
-  Mires, bogs and fens
-  Constructed, industrial and other artificial habitats

Figure 62 European Nature Information Systems (EUNIS) broad habitat types found in the Cairngorms National Park



Woodland habitats

The woodlands of the Cairngorms National 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 (even commercial woodlands are predominantly Scots pine).

In the Cairngorms National Park, forest and woodland cover is just over 16% while in Scotland as a whole it is 18%. Nevertheless, the Cairngorms forests and woodlands are disproportionately significant for rare flora and fauna. Almost all the Caledonian forest resource of the National Park is internationally significant and protected through Special Areas of Conservation (SAC) designation. National

Strathspey, Strath Avon, Glenlivet, Donside, Deeside and the Angus Glens combined contain an extensive, varied and predominantly native network of forest habitats. This is one of the most valuable ecological networks in Britain.

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 National Park.

The Native Woodland Survey of Scotland (<https://forestry.gov.scot/forests-environment/biodiversity/native-woodlands/native-woodland-survey-of-scotland-nwss>) indicates that while the average proportion of native woodland across all Scottish local authority areas is around 22%, in the Cairngorms National Park the figure is 79%, making it the only area in Scotland where native woodlands form the majority of the woodland resource. As part of this, the Park contains the most extensive tracts of Caledonian forest in Britain, as well as some of the best examples in Scotland of bog woodland, montane willow scrub and stands of aspen. The proportions of the different types of tree cover in the National Park are shown in **Table 15**.

Table 15 National Forest Inventory 2015, provisional estimates of forest cover in the Cairngorms National Park (<https://www.forestresearch.gov.uk/tools-and-resources/national-forest-inventory/>)

	Total area (ha)	Total area (%)
Scots pine	36,900	60%
Sitka spruce	5,600	9%



Lodgepole pine	3,000	5%
Larches	2,600	4%
Other conifers	1,600	3%
All conifers	49,800	81%
Birch	10,200	16%
Other broadleaves	1,900	3%
All broadleaves	12,100	19%
All species	62,300	100%

Around 340 square km of the Cairngorms National Park's woodlands are identified as being ancient according to the Ancient Woodland Inventory (<https://www.nature.scot/professional-advice/land-and-sea-management/managing-land/forests-and-woodlands/history-scotlands-woodlands>). Although not definitive due to historical mapping issues, the Ancient Woodland Inventory provides an indication of where ancient woodlands can be found in the National Park (**Figure 63**).

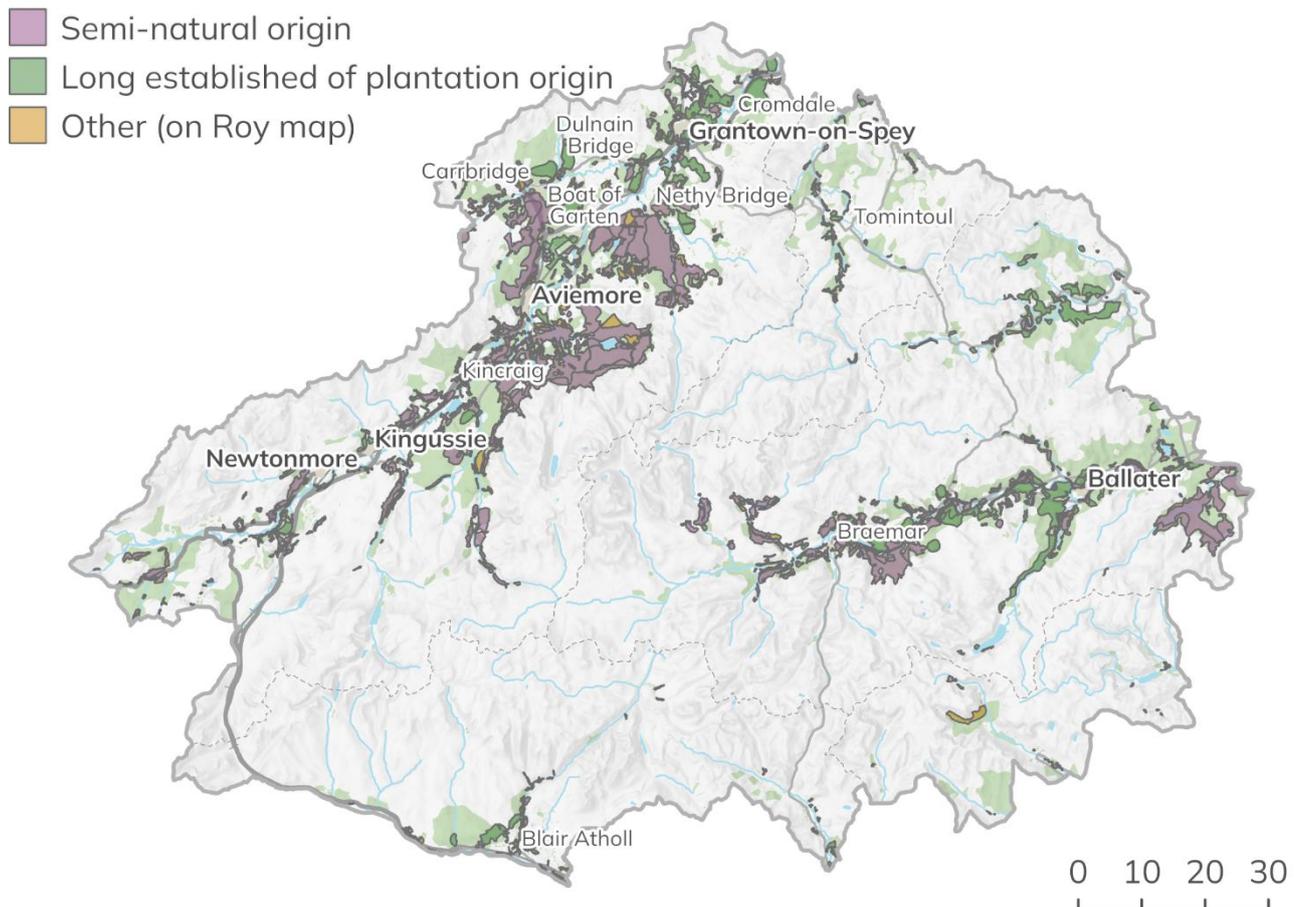


Figure 63 Ancient Woodland Inventory woodlands in the Park



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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 importance for biodiversity, due to its antiquity and lack of significant disturbance to the soil structure. Once destroyed, it cannot be recreated.

Over the last 25 years there has been an increased awareness of the multiple benefits that native woodland can deliver and action to restore and expand native woods. Between 2013 and 2015, 890 ha of new native woodland was created in the Cairngorms National Park. Of the newly created woodland, around 704ha is adjacent to the existing resource, enhancing biodiversity (and other) value. However, lack of regeneration, poor structural diversity and grazing pressure has resulted in some woodlands suffering from reduced biodiversity value.

Improved connectivity through woodland expansion combined with good management is crucial to enhance habitat that supports species of high conservation value. The Cairngorms Forest Strategy 2018 (<https://cairngorms.co.uk/working-together/authority/national-park-strategies/forest-strategy/>) identifies significant potential for woodland expansion in the National Park. The Strategy seeks to guide expansion to appropriate locations that complement other land uses and ecological requirements.

Table 16 Issues affecting woodlands in the Cairngorms National Park.

Habitat	Issue	Action Required
Caledonian Pinewood	At threat from habitat loss, lack of regeneration, limited deadwood and poor structural diversity. Past management has reduced species diversity in many of the remaining woods.	<ul style="list-style-type: none"> Improving the existing resource and encouraging expansion into areas for habitat connectivity and resilience which will mitigate against further loss and also enhance the habitat to halt the decline and encourage growth.
Conifer Plantations	Mixture of Scots Pine, Sitka and Norwegian Spruce, Lodgepole pine and Douglas fir and larch.	<ul style="list-style-type: none"> Promote the restoration of Plantations on Ancient Woodland Sites.



Habitat	Issue	Action Required
	Many are of single species and single age and are of limited value for biodiversity. Conifer plantations make up 50% of the woodland resource and a third of these are on Ancient Woodland Sites.	<ul style="list-style-type: none"> • Encourage and provide advice and guidance on continuous forest cover via workshops, demonstration projects and events. • Promote stand restructuring and thinning to create a mosaic of different densities and structures.
Birch & Aspen Woodland	Aspen dominated woodland is unique to the Cairngorms National Park, the stands are small and total less than 350ha concentrated in Strathspey and Deeside.	<ul style="list-style-type: none"> • Encourage and advise land managers to manage birch woodlands for aspen enhancement. • Review grazing management in high nature value areas to encourage vigorous birch and aspen regeneration and a diverse field layer.
Wet & riparian woodland	Fragments of ancient floodplain woodlands are rare in the UK, the Cairngorms National Park has some of the best, especially in Strathspey and Deeside.	<ul style="list-style-type: none"> • Identify sites for creating and expanding bog and wet woodland. • Block drains, re-wet areas and remove non-native conifers.
Upland oak	Lack of regeneration, poor structural diversity and grazing pressure has reduced their biodiversity value. Most of the oak woodlands are found in Deeside	<ul style="list-style-type: none"> • Encourage better land management and reduce grazing pressures.

Upland habitats

The Cairngorms are considered to be one of the most spectacular mountain areas in Britain and support a rich arctic montane flora, including upland heathland, peatland and montane scrub habitats (**Figure 64**).



Upland heathland habitat is dominated by stands of dwarf shrubs with a sparse mixture of other species such as grasses, sedges and herbs. The habitat is widespread and tends to be found on land that was previously woodland. In the Cairngorms, it is the most extensive habitat. This is mainly due to human activities such as drainage (for grouse and red deer hunting), and/or due to felling, burning and grazing, which prevents natural tree regeneration.

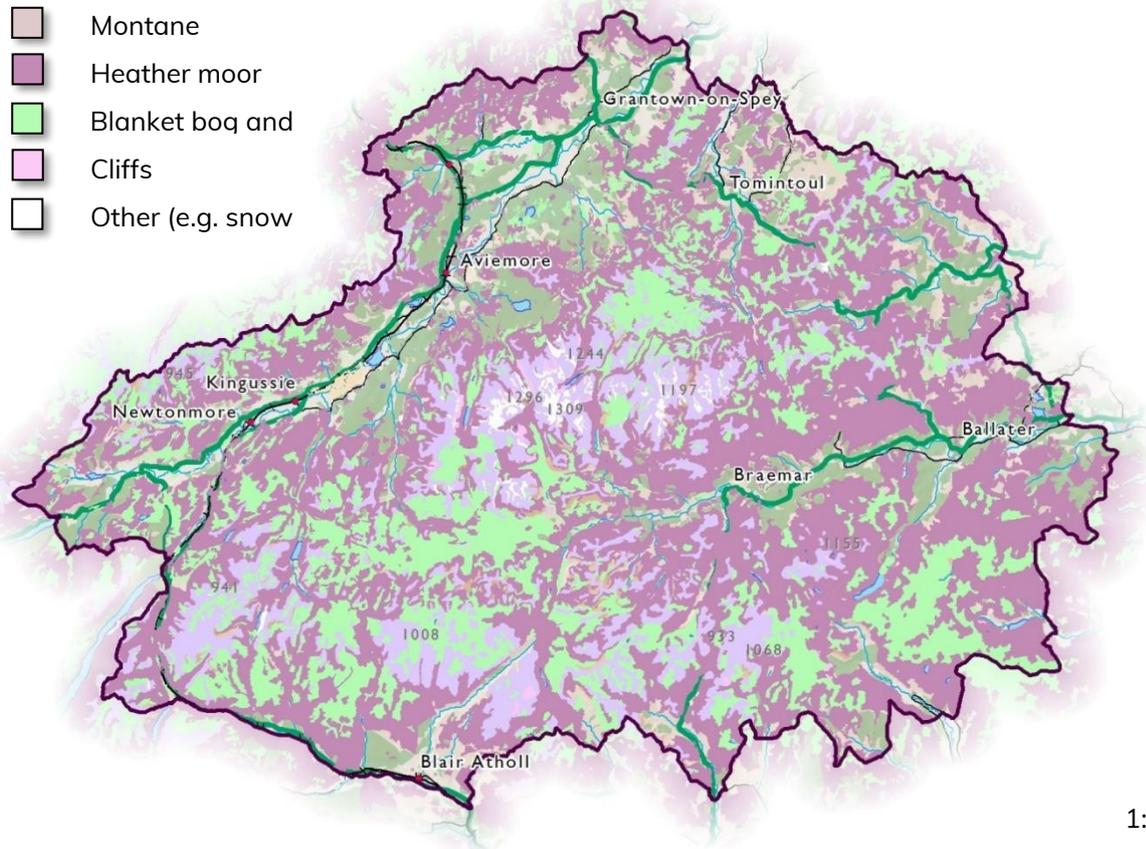
Blanket bog is the second most extensive habitat. Over time blanket bog form peat soils, which are important carbon stores. However, they are susceptible to erosion from human activity (such as tracks and ATV use) and trampling by deer.

Montane scrub is found above the natural tree line. Dwarf willows, birches and juniper grow in a low twisted, wind-pruned form together with a variety of flowering plants, fungi and lichen. The best example is at Creag Fhialach above Inshriach, where a complex of juniper and birch scrub grows at 550- 650m. High altitude birches, willows and junipers would have been more common in the past. Centuries of burning and heavy grazing by livestock and deer have taken their toll on trees and shrubs. These pressures continue today.

A number of rare species grow here including alpine saxifrage (*Micranthes nivalis*), Highland saxifrage (*Saxifraga rivularis*), hare's-foot sedge (*Carex lachenalii*), curved wood-rush (*Luzula arcuata*) and green shield-moss (*Buxbaumia viridis*) above the treeline in Creag Fhiaclach is one of the best areas for montane scrub in Britain.



- Montane
- Heather moor
- Blanket bog and
- Cliffs
- Other (e.g. snow)



Scale:
1:700,000

Figure 64 Upland land cover types within the Cairngorms National Park (Soil Survey of Scotland Staff, 1981).

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Table 17 Issues affecting uplands in the Cairngorms National Park.

Habitat	Issue	Action Required
Montane & moorland	Climate change, trampling, erosion and disturbance.	Reduced grazing pressure and sympathetic disturbance.
Upland heathland	Drainage.	Restoration and blockage of drainage channels.
Blanket bog	Erosion, which is likely to be a significant cause of carbon emissions.	Sustainable deer management and following the Muirburn Code.



Montane scrub	Overgrazing and burning.	Deer Management to prevent overgrazing.
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Lowland habitats

The lowland farmland and grassland within the Park (**Figure 65Error! Reference source not found.**) have been traditionally managed less intensively than the rest of the UK.

There are small, fragmented areas of lowland and upland hay meadows that are locally important for biodiversity (including waxcap fungi). Changes in land use and agricultural practices present a threat to these habitats.

- Arable
- Recently improved
- Scrub
- Improved
- Bracken
- Low scrub

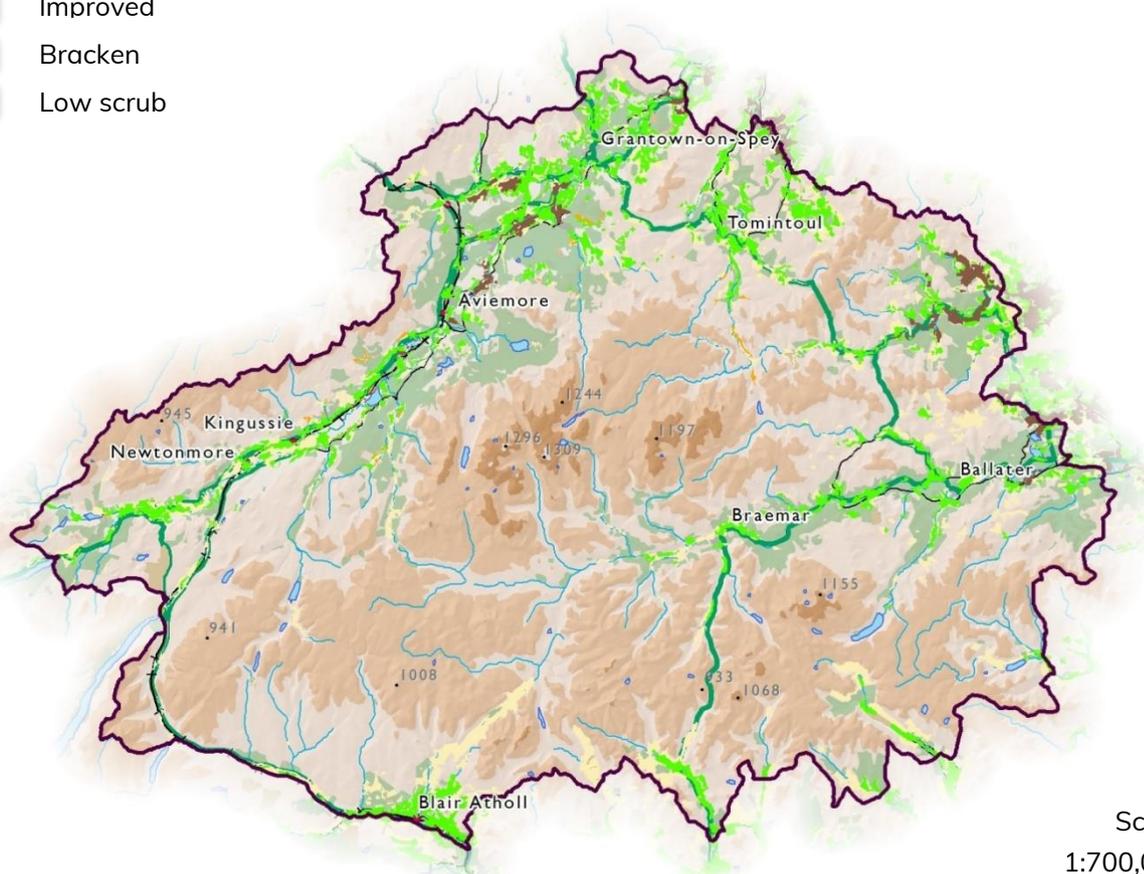


Figure 65 Lowland land cover types within the Cairngorms National Park (Soil Survey of Scotland Staff, 1981).

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Freshwater and wetland habitats

Many of the rivers and lochs within the Cairngorms National Park are internationally recognised as areas protected for nature conservation for the species they host, such as Atlantic salmon and freshwater pearl mussel, as well as the riparian habitats and variety of species they support. The National Park contains part of eight river catchments, although two have only a very small portion within the National Park (**Figure 66**). The largest catchment is for the River Spey.

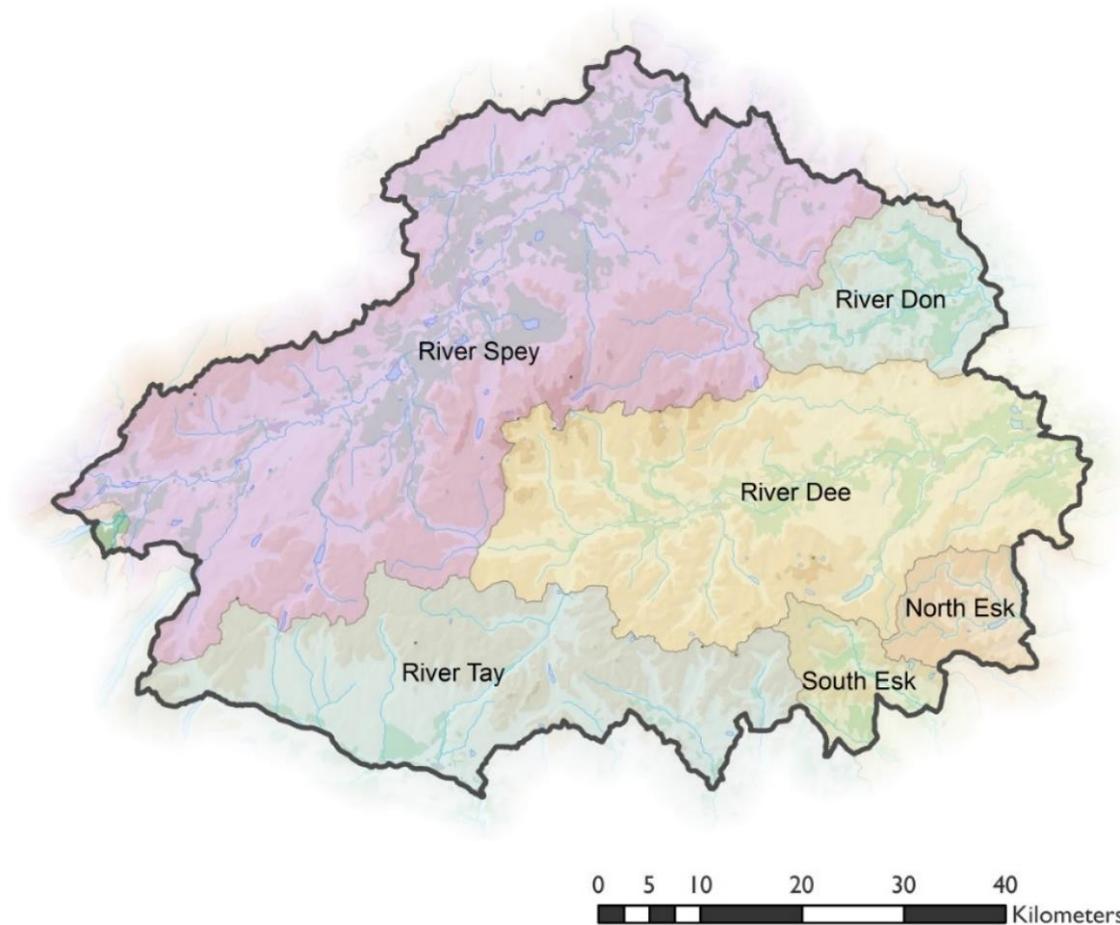


Figure 66 River catchments in the Cairngorms National Park.

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The latest data available from SEPA provides information on the ecological status of the 154 waterbodies analysed by SEPA in the Cairngorms National Park. This shows that, since the environmental baseline assessment was carried out for the previous 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 18**).

Table 18 Waterbody status figures for waterbodies in the Cairngorms National Park.

Status	2015, number of waterbodies	2017, number of waterbodies	Percentage 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%

A variety of pressures are affecting waterbodies within the Cairngorms National Park. River basin management plans seek to set measures to address pressures. The main river catchments within the National Park with catchment management plans are for the Spey and the Dee:

- The River Spey Catchment Management Plan 2016 (<https://www.speyfisheryboard.com/wp-content/uploads/2016/12/SCI-2016-Catchment-Management-Plan.pdf>) identifies barriers to fish migration as the biggest contributor to downgrading of ecological status, followed by flow and levels, water quality and unspecified ecological issues resulting in poor fish condition that are under investigation. Some natural flood management works have taken place on a tributary of the Spey near Carrbridge (<https://www.nfm.scot/case-studies/allt-lorgy-river-dulnain-spey-catchment>), which sought to re-establish natural processes and river form, while also enhancing habitats.
- The River Dee Catchment Management Plan 2007 (<https://www.deepartnership.org/dee-cmp.asp>) identifies a number of pressures similar to the Spey. Severe weather since 2007 has affected the river and surrounding land, through flooding and erosion. In some locations, natural flood management measures have been implemented (e.g. on the Braemar floodplain <https://www.nfm.scot/case-studies/braemar-floodplain-restoration-river-dee>) to try and counteract flooding, while also enhancing habitats.



- The South Esk Catchment Management Plan 2009 (<http://theriversouthesk.org/>) identifies pollution, morphological changes and abstraction as the main pressures. Work has taken place on various initiatives to address these issues, including restoring natural processes and river form, while also enhancing habitat (e.g. Rottal Burn restoration <http://theriversouthesk.org/projects/rottal-burn-restoration/>).

Alongside many of the watercourses and lochs within the Cairngorms National Park are wetland habitats. A mosaic of wetland habitats with fens, bogs, woods, wet grassland and open water provides a home to a rich array of wildlife (**Figure 67**).

Wetlands would have once been an extensive habitat within the Cairngorms National Park, but like wetlands across the UK, have suffered declines – RSPB report that wetlands have declined by 90% in the UK since Roman times (<http://ww2.rspb.org.uk/our-work/rspb-news/news/283477-wetland-loss-threatens-wildlife-and-people->). Pollution, changes in land use and drainage affect both freshwater and wetland habitats.

In the National Park, the most extensive wetland habitats are found around Insh Marshes between Kingussie and Kincaig. The marshes are internationally important for wet woodland and fen habitats as well as the birds, fish, plants and invertebrates that they support. The marshes also function as an important flood plain.

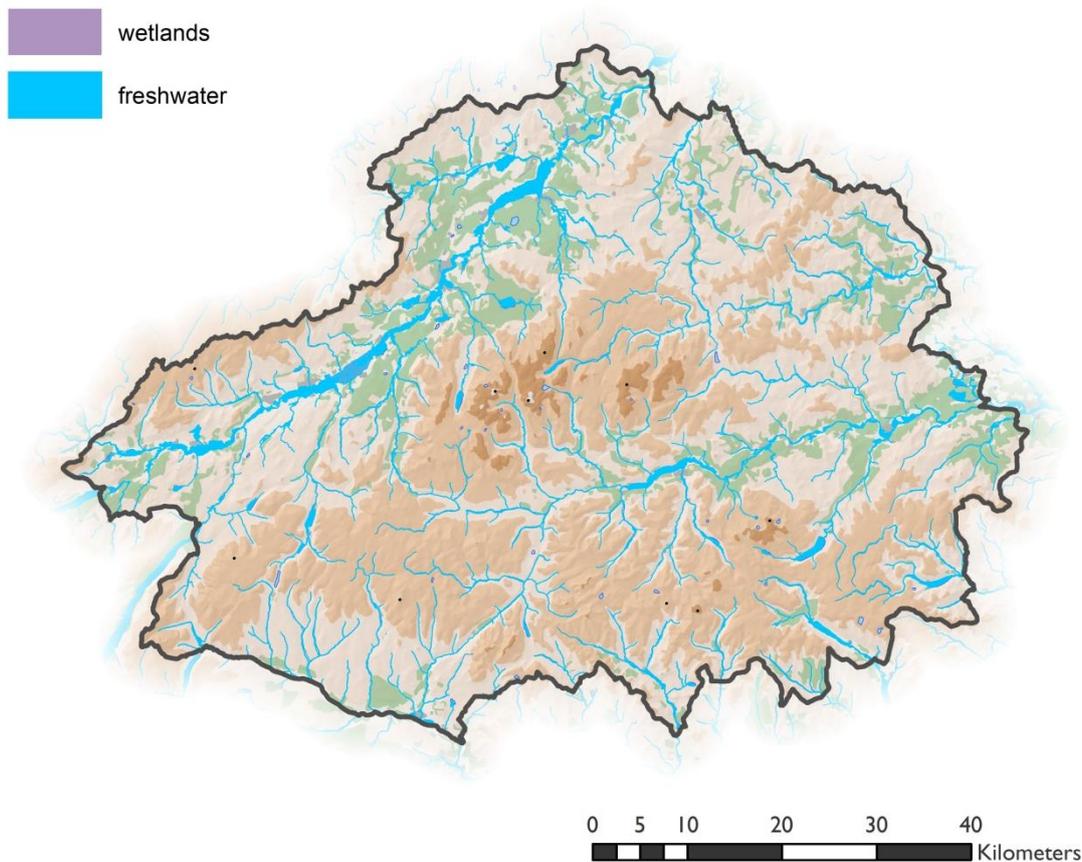


Figure 67 Lochs, rivers and wetland habitats within the Cairngorms national Park (SEPA, 2023).

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Key Wetland Sites

Muir of Dinnet NNR

At the heart of the Reserve are Lochs Davan and Kinord, with their near pure water and associated bogs and fens providing ideal habitat for a wide mix of species; from rare water beetles to mammals like otter, feeding and breeding on the Reserve. During winter, the lochs are an important roost site, attracting migrating geese and other wildfowl. Their international importance is recognised by their designation as a SAC, SPA and Ramsar site.

Muir of Dinnet has two areas of raised bog, one at Parkin's Moss to the south-west of Loch Kinord and the other at Black Moss to the north-east of the Reserve. Together they cover approximately 32 ha. Sphagnum mosses, the most important plants of a raised bog, are found at both locations, growing in the wet, acid and nutrient poor conditions. Both bogs support other specialist bog plants including bog cotton, cranberry and the



carnivorous plants, butterwort and sundew. The bogs are also home to a wide variety of insects, including at least eight species of dragonfly or damselfly.

Insh Marshes NNR

One of the most designated wetlands sites in Scotland, the Insh Marshes is owned and managed by the RSPB and is renowned for its birdlife throughout the year. The marshes are also home to rare invertebrates such as the newly discovered in Scotland caddisfly (*Molanna angustata*) and hoverfly (*Cheilosia psilophthalma*) and a population of Dark Bordered Beauty moth (*Epione vespertaria*). Mammals include water vole and otter. Wetland vegetation includes String Sedge (*Carex chordorrhiza*), which is only found at one other location in Scotland. Its international importance is recognised by its designation as a SAC, SPA and Ramsar site.

Wet Grasslands

Wet grasslands also occur in the Cairngorms National Park. They are often found in agricultural land, in low-lying areas of fields where crop yield and productivity is low. They are nonetheless important for invertebrates that provide a food source for wading birds, such as curlew.

Scottish wildcat

NatureScot (2017⁵) consider that the current range for wildcat consists of areas in mainland Scotland north of the Highland Boundary Fault. 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. Camera trap surveys from 2010 to 2013 estimated a population of only 115 to 314 individuals left in the wild.

Scottish wildcats prefer to live on the woodland edge, in the margins of mountains and moorlands, with rough grazing. They generally avoid high mountain areas, exposed coasts and intensively farmed lowlands. The main threat to Scottish wildcats is genetic extinction due to hybridisation with feral cats, domestic cats and existing hybrids.

⁵ <https://www.nature.scot/sites/default/files/2017-07/AI697327%20-%20The%20Cairngorms%20Wildcat%20Project%20-%20final%20report.pdf>



Other factors affecting wildcat include incidental harm from predator control activities, feline disease, road collisions and fragmentation or disturbance to habitats through development or changes in land management.

One area wholly within and one partially within the Cairngorms National Park have been identified as priority areas (**Figure 68**) for Scottish Wildcat Action, where wildcat have been recorded along with suitable habitat. Safeguarding this contributes to efforts to save the species from extinction in the wild.

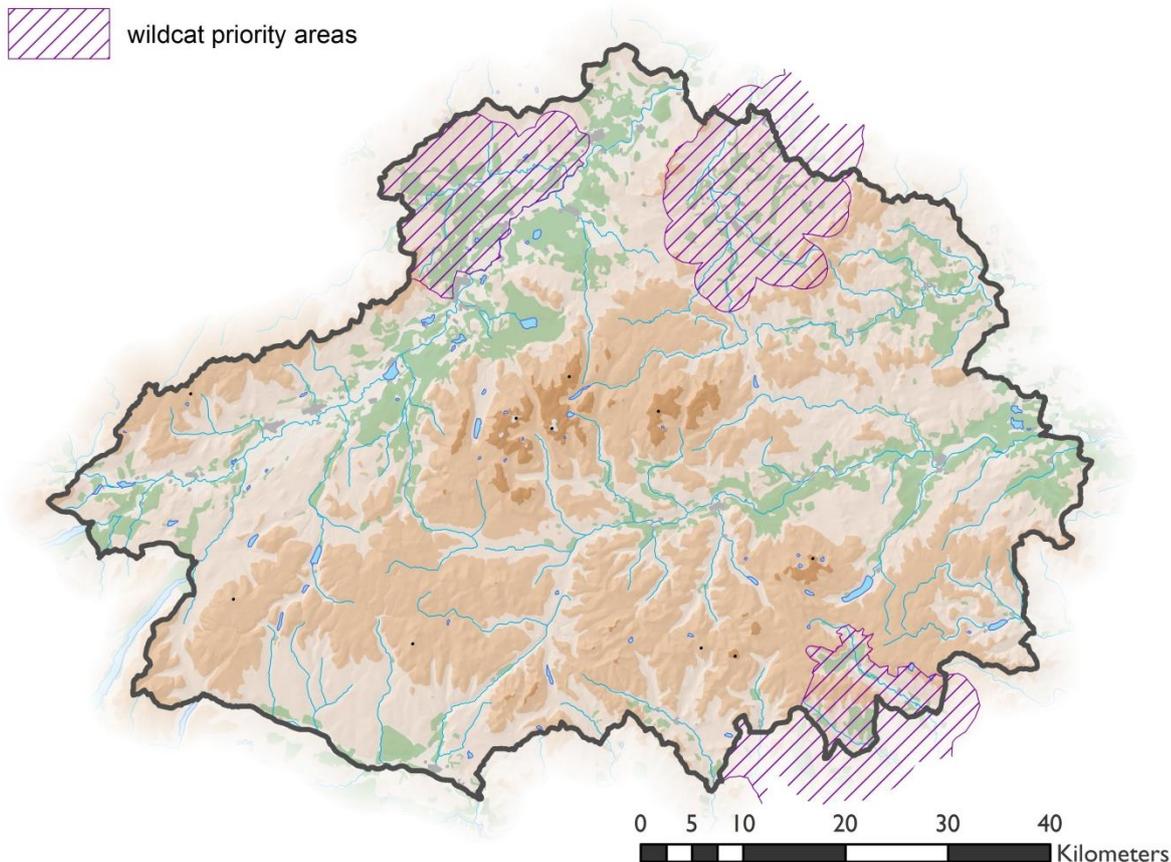


Figure 68 Wildcat priority areas in the Cairngorms National Park.

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Mountain hare

The mountain hare is native to the Highlands, where they are found on heather moorland managed for grouse and montane uplands. Although some studies have found significant declines, population data is inconclusive. This is in part because standardised methodologies for population counts have only recently been published



(NatureScot, 2018 <https://www.nature.scot/snh-research-report-1022-developing-counting-methodology-mountain-hares-lepus-timidus-scotland>).

However, the factors affecting mountain hare numbers are better known. They include habitat damage/loss, legal hunting and culling, and climate change causing a shift in distribution of brown hare bringing them into competition with mountain hare. Being a prey species, mountain hare is important for biodiversity, for example for wildcat and raptors.

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, down to 542 in 2021/22. The Cairngorms National 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 (as well as several areas outwith the National Park), but this population (and the others in Scotland) is more fragmented, numbers are lower and breeding success poorer. The Strathspey capercaillie population is crucial to the long-term survival of the species in the UK.

In addition to being a species identified for action in the CNAP, capercaillie are the focus of the Cairngorms Capercaillie Project (<https://www.cairngormscapercaillie.scot/>), which is delivering the recommendations of the Capercaillie Framework. (The Framework pulled together all the information relating to capercaillie distribution, the pressures they face and management measures.) Key recommendations to improve conservation for capercaillie include the introduction of landscape scale measures to target the main causes of disturbance, predation, collision with deer fences, unsympathetic woodland management, habitat loss and fragmentation.

Curlew

The Cairngorms 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 (NatureScot, 2018 <https://www.nature.scot/sites/default/files/2018-11/Official%20Statistics%20-%20Terrestrial%20Breeding%20Birds%202018.pdf>).



The Strathspey Wetlands and Waders Initiative (SWWI) was set up in 2009 to work with farmers and other landowners to safeguard wetland habitats and the future of the nationally important wader population in Badenoch and Strathspey - the largest of its kind in mainland Britain. It seeks to support farmers in delivering land management-based conservation projects on agricultural land in Strathspey for the benefit of waders on a landscape conservation scale. Results from 2015 showed the previous wader decline had halted, with the survey effort due to be repeated in 2023.

The River Spey Catchment Management Plan 2016 includes objectives and actions to enhance riparian and wetland habitats that should also benefit curlew.

Raptors: golden eagle, peregrine falcon and hen harrier

The most recently published report into wildlife crime in Scotland (Scottish Government, 2018. <https://www.gov.scot/publications/wildlife-crime-scotland-annual-report-2017/pages/6/#Sect4.7>) included population information on the three raptor species identified as priorities in the CNAP. The report does not break down figures to regional level, but provides a national overview with some regional commentary:

- For golden eagle, the most recent national survey was done in 2015 and found 508 territorial pairs. Of relevance to the Cairngorms National Park, eagles were found across the Highlands and Islands, primarily in upland habitats. The population had increased since the previous 2003 survey, however there was little change in central and eastern parts of the Highlands. Factors affecting the national population were identified as collisions with powerlines, winter starvation, disease, long term changes in land management (increased afforestation and intensive grazing) and illegal persecution.
- For hen harrier, the population in 2016 was estimated at 460 pairs, spread across Scotland. The breeding population was concentrated in Orkney, some west coast islands and Argyll mainland, but scarcer elsewhere. The population had decreased since the previous survey in 2010, with declines identified in the central and eastern Highlands. Factors affecting the national population were identified as winter starvation and disease, land use changes degrading habitat, predation by fox and illegal persecution.
- For peregrine falcon, the 2014 survey estimated there to be 516-538 pairs, spread across Scotland. Of relevance to the Cairngorms National Park, the species was found to be rare



or scarce in parts of the north and west Highlands. The population had decreased since the previous 2002 survey, with the north and some upland areas. Factors affecting the national population were identified as collisions with power lines, winter starvation, disease, changes in prey availability, accumulation of contaminants from consumption of seabirds, potential interactions with increasing golden eagle populations and illegal persecution.

Freshwater pearl mussel

Freshwater pearl mussel are long-lived and have an unusual life cycle, with the initial stages reliant on fixing to the gills of salmonids, before detaching to become sedentary on the riverbed. Because of this, they are particularly susceptible to changes in water quality and quantity, habitat damage/loss, as well as changes in their host species population.

Scotland represents a stronghold for freshwater pearl mussels in Europe. However, populations in Scotland are in serious decline. In 2015 a national survey found mussels in 115 watercourses, the majority being in the Highlands and Western Isles. Only 71 of these showed successful recruitment (breeding and settling of juvenile mussels in the riverbed). In the remainder, only adult mussels were found.

Lack of recruitment is of concern, as populations will go extinct - since the previous national survey in 1999, freshwater pearl mussels became extinct in 11 rivers. Factors affecting the survival of freshwater pearl mussel include illegal pearl fishing, water pollution and habitat damage/loss (natural and man-made).

Other issues affecting biodiversity

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 National Park, although they can also be found in woodlands. Red deer influence habitats through grazing, for example by providing a source of dung and carrion that benefits other species and creating areas for



seedlings to take hold. However too much grazing and trampling by red deer can have negative impacts on important habitats and associated species. Upland habitats are particularly sensitive to over-grazing and trampling, which can lead to erosion.

- Roe deer, another native species, are also numerous in the National Park. They are more commonly seen on lower ground in and around woodlands. They can cause damage to young trees and crops.
- 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 National Park. Sika deer are able to mate with red deer, producing fertile hybrid offspring. This threatens the genetic distinctiveness of the red deer, so is of concern.
- Reindeer are found in the National 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. They are important mainly as a tourist attraction. Their numbers are controlled through selective breeding. In order to ensure effects of grazing by reindeer on fragile upland habitats is managed at a sustainable level, a research project is currently underway (<https://www.inverness.uhi.ac.uk/news/cairngorm-reindeer-research-programme-enters-its-next-phase.html>). In partnership with Cairngorm Reindeer Herd, the Cairngorms National Park Authority, the Royal Botanic Garden Edinburgh, Highlands and Islands Enterprise, the Royal Society for the Protection of Birds, Scottish Natural Heritage and Scottish Forestry, Inverness College UHI is leading on the Cairngorms Reindeer Research Programme. One aspect of the research is investigating the ecological role reindeer play in the Cairngorms, focussing on their movements, behaviour and diet.
- Fallow deer were introduced to Britain in the 11th century. There is a small population in the southern section of the National 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.

Voluntary deer management groups bring together those managing the land, seeking to create a coordinated approach to managing deer numbers for conservation and



economic interests across different land holdings. There are five deer management groups either partially or wholly within the Cairngorms National Park (**Figure 69**).

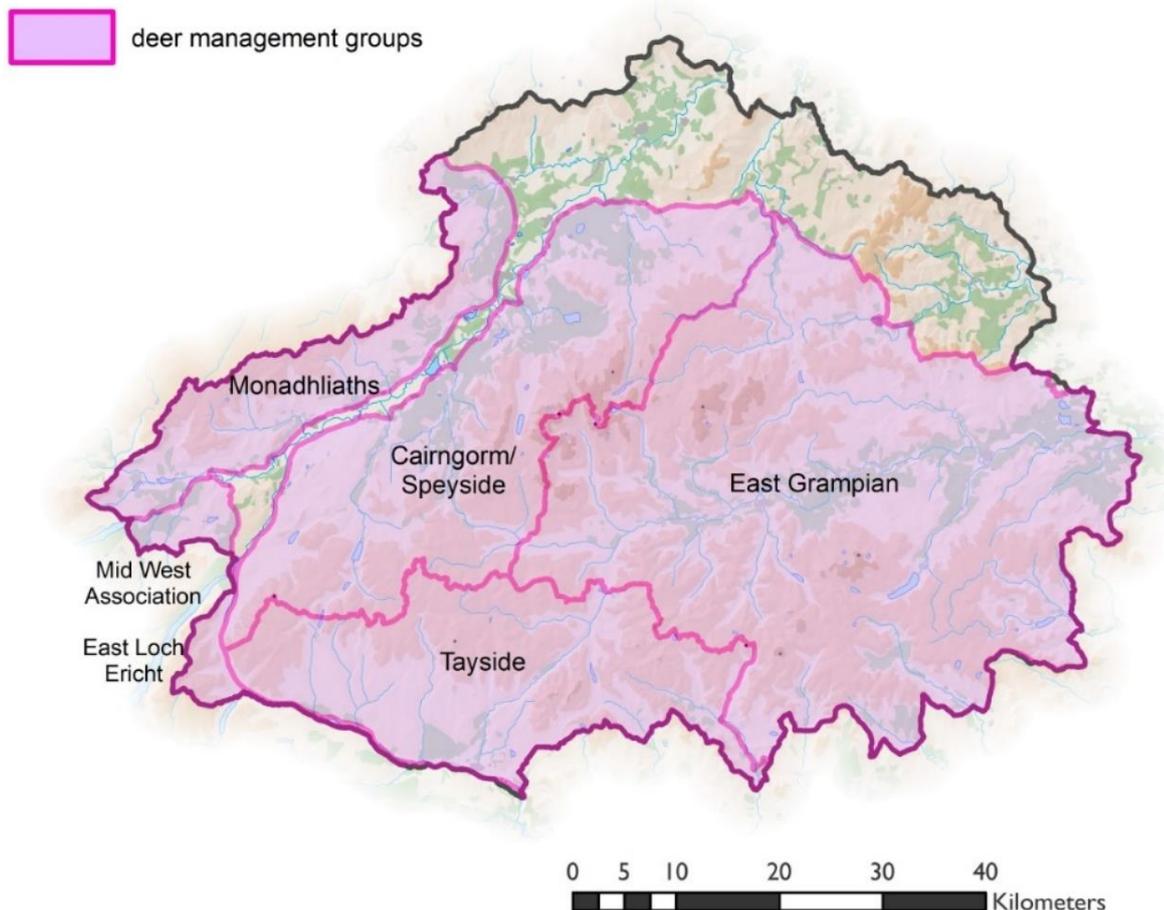


Figure 69 Deer management group boundaries (boundaries from NatureScot).

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However, as deer are mobile species, work with neighbouring deer management groups is also important. The Cairngorms Deer Advisory Group provides a means of contact and communication between members from deer management groups and other parties involved in land management within and neighbouring the Cairngorms National Park, to promote sustainable deer management within the National Park.

Diseases and non-native species.

Non-native species can kill, harbour disease, and/or compete with native species. A number have been recorded in the Cairngorms National Park.



These include the plants Japanese knotweed (*Fallopia japonica*), giant hogweed (*Heracleum mantegazzianum*), Himalayan balsam (*Impatiens glandulifera*) and American Skunk Cabbage (*Lysichiton americanus*); mammals American mink (*Mustela vison*) and grey squirrel (*Sciurus carolinensis*); and fish, rudd (*Scardinius erythrophthalmus*), roach (*Rutilus rutilus*), tench (*Tinca tinca*), golden orfe (*Leuciscus idus*) and bream (*Abramis brama*).

Pathogens can cause death or reduce viability of populations of host species, which has implications ecosystems and biodiversity. In the Cairngorms National 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. The Cairngorms Forest Strategy promotes the removal of lodgepole pine stands from within Caledonian pine woods to reduce the threat of dothistroma,
- Ash die back or Chalara (*Hymenocyphus fraxineus*) is a fungus causing dieback and mortality in ash trees. In 2016 it had been confirmed in the eastern and southern edges of the National Park.
- *Ramorum Phytophthora ramorum* is a fungal disease of larch. The highest incidence is in the southwest of Scotland, but it has been recorded on the southern and eastern fringes of the National Park since 2015.
- *Phytophthora austrocedraeon* is a fungus that causes dieback and mortality in juniper where it attacks the roots and stems. It is thought to initially be transmitted to new areas through movement of sheep from infected areas, and is then spread through movement of infected soil and water. It has been found within the National Park since 2014.

Several management plans also identify the threat that non-native species, pests and diseases pose to the biodiversity of the Cairngorms National Park. The River Spey Catchment Management Plan 2016 includes objectives and actions on non-native invasive species affecting freshwater and wetland habitats. The Cairngorms Forest Strategy also recognises the threat that pests, diseases, and non-native species pose for the forests and woodlands in the National Park.



Farm Advisory

Most of the farms in the Cairngorms National Park are livestock farms. Farmers and crofters keep beef cows, sheep and grow small areas of crops. Most of the crops are for feeding to livestock - grass for hay and silage, turnips for sheep in winter - however some crops such as barley are grown for whisky distilleries. Many of the farmers and crofters in the park are in 'agri-environment' schemes, this means that they take extra care of the environment by careful grazing, growing special crops for birds, and growing wildflower meadows. The National Park Authority provides advice, support, various projects and special learning events such as the Land Management Training which included a deer stalking course for women working within the Cairngorms National Park.

Key Messages

The Cairngorms National Park is one of the richest and biodiverse places in the UK, being home to 25% of the UK's rare animal, insect, lichen, fungi and insect species. Consequently, large areas have been protected by various types of national and international nature designations, including NNRs, SSSIs, SACs and SPAs. A number of these designations are however in unfavourable condition.

Increasingly several of the National Park's valued species and habitats are under threat from habitat loss, fragmentation, disturbance and unsustainable land management practices. Some important species, such as Capercaillie and Freshwater Pearl Mussel have been under particular pressure and have seen significant drops in their population.

The Cairngorms National Park Authority already has several PPS in place to help prevent, mitigate and compensate the loss of biodiversity, including the Cairngorms Nature Action Plan, Cairngorms National Park Forest Strategy and Deer Framework for the Cairngorms National Park. The implementation of the LDP may therefore result in several cumulative, synergistic and in-combination with these. Together they should work towards a cohesive approach addressing issues, linking the needs of people with the natural environment.

Data discussed in topic one has inter-relationships with the following topics:

Topic 1: Climatic Factors

Topic 2: Air

Topic 3: Water

Topic 5: Material Assets



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National Park Authority

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Topic 7: Landscape

Topic 8: Historic and Cultural Heritage

Topic 9: Population and Human Health



Topic 7: Landscape

Context

“Landscapes [are]... an essential component of people’s surroundings, an expression of the diversity of their shared cultural and natural heritage, and a foundation of their identity.”

European Landscape Convention (2000).

Landscape is the physical manifestation of space, the tangible elements that give shape and diversity to our surroundings. It is the product of thousands of years of interaction between man and nature, encompassing the environmental and cultural, physical and symbolic. It is also the environment perceived, predominantly visually but additionally through our senses of smell, touch and hearing. Our appreciation of landscape is also affected, by our cultural backgrounds, and by personal and professional interests.

Landscape is important, not just as scenery but because it links culture with nature, and the past with the present. Well-looked after and highly valued landscapes are essential to social well-being and an economically healthy society. Landscapes are valued because of their inherent interest, their contribution to both national identity and local distinctiveness. The protection of high quality and highly valued landscapes therefore is important both for its own sake and for the health, social and economic wellbeing of individuals and communities.

At 4,528 square kilometres, and comprising 6% of Scotland’s land area, the Cairngorms National Park is the UK’s largest protected landscape.

The Cairngorms are best known as an upland massif of expansive proportions and a sub-arctic environment. There are no other mountains like them in Britain. Massive granite domes with corries and passes scooped out; broad rolling plateau more like Scandinavia than the UK. Nowhere else is consistently higher, colder or wilder. The mountains domination the National Park and have an effect on the way people live and the landscapes they live in.

But the landscape of the Cairngorms National Park is far more than that. It encompasses strath and glen, village and farm, woodland, moorland, river and loch. Landscapes that provide a home and a livelihood, engage the imagination, excite the mind, challenge our endurance and strength and give us a sense of the past and memories for the future.



Landscapes change daily, seasonally and year by year as the light changes, as crops are harvested, as trees grow, as houses are built, and others fall into ruin and as rocks weather and erode. In the coming years and decades, the landscapes of the National Park will change as we address issues such as climate change, the decline of fossil fuels and changing population dynamics.

Special landscape qualities of the National Park

The key characteristics of the whole of the Cairngorms National Park have been identified and described within discrete landscape character areas. These areas are all different but within each one there is a consistency of character influenced by different factors such as the topography, land use, settlement, and the way the landscape is experienced. Within the glens and straths there tends to be more diversity of landscapes in a smaller area, whereas in the uplands the landscape tends to be similar over much larger areas.

In 2010 work was conducted to identify the Special Landscape Qualities of the Cairngorms National Park landscape, carried out by NatureScot and the National Park Authority. The special qualities identified reflect distinct landscape characteristics and visual amenity and how these are experienced and valued within the National Park. While most landscape qualities are appreciated in daylight, the Tomintoul and Glenlivet Dark Sky Park⁶ is an example of how landscape qualities can enhance peoples experience at night.

Table 19 provides a summary of the special landscape qualities identified. Full details can be found in the Special Landscape Qualities of the Cairngorms National Park via <https://www.nature.scot/snh-commissioned-report-375-special-landscape-qualities-cairngorms-national-park>.

Table 19 Summary of the special qualities of the Cairngorms National Park

General Qualities
<ul style="list-style-type: none">• Magnificent mountains towering over moorland, forest, and strath.• Vastness of space, scale, and height.

⁶ More information on the Dark Sky Park can be found via <https://darkskies.glenlivet-cairngorms.co.uk/>



- 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.

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.
- Snowscapes.

Trees, Woods and Forests

- Dark and venerable pine forest.
- Light and airy birch woods.
- Parkland and policy woodlands.
- Long association with forestry.

Moorlands

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

Wildlife and Nature

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

Glens and Straths

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

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.

Culture and History

Recreation



- | | |
|--|---|
| <ul style="list-style-type: none">• Distinctive planned towns.• Vernacular stone buildings.• Dramatic, historical routes.• The wistfulness of abandoned settlements.• Focal cultural landmarks of castles, distilleries and bridges.• The Royal connection. | <ul style="list-style-type: none">• A landscape of opportunities.• Spirituality. |
|--|---|

National Scenic Areas

The landscapes of the Cairngorms National Park have long been regarded as worthy of protection, with three National Scenic Areas (NSAs) being designated in 1980/1981 (NatureScot, 2010). Two, namely the Cairngorm Mountains NSA and Deeside and Lochnagar NSA, are located entirely within the National Park boundary and are largely centred on the highest mountain plateau at its core (**Figure 70**), but also include lower hills and areas of moorland, woodland and inhabited strath (NatureScot and Cairngorms National Park Authority, 2010). Combined, the two NSAs cover an area of around 1,072 square kilometres, which equates to just under 25% of the National Park's land area. The third designation is the Loch Tummel NSA which very slightly overlaps the National Park's boundary at Killiecrankie, near Blair Atholl. The area of this NSA within the National Park is insignificant when considering its full dimensions.

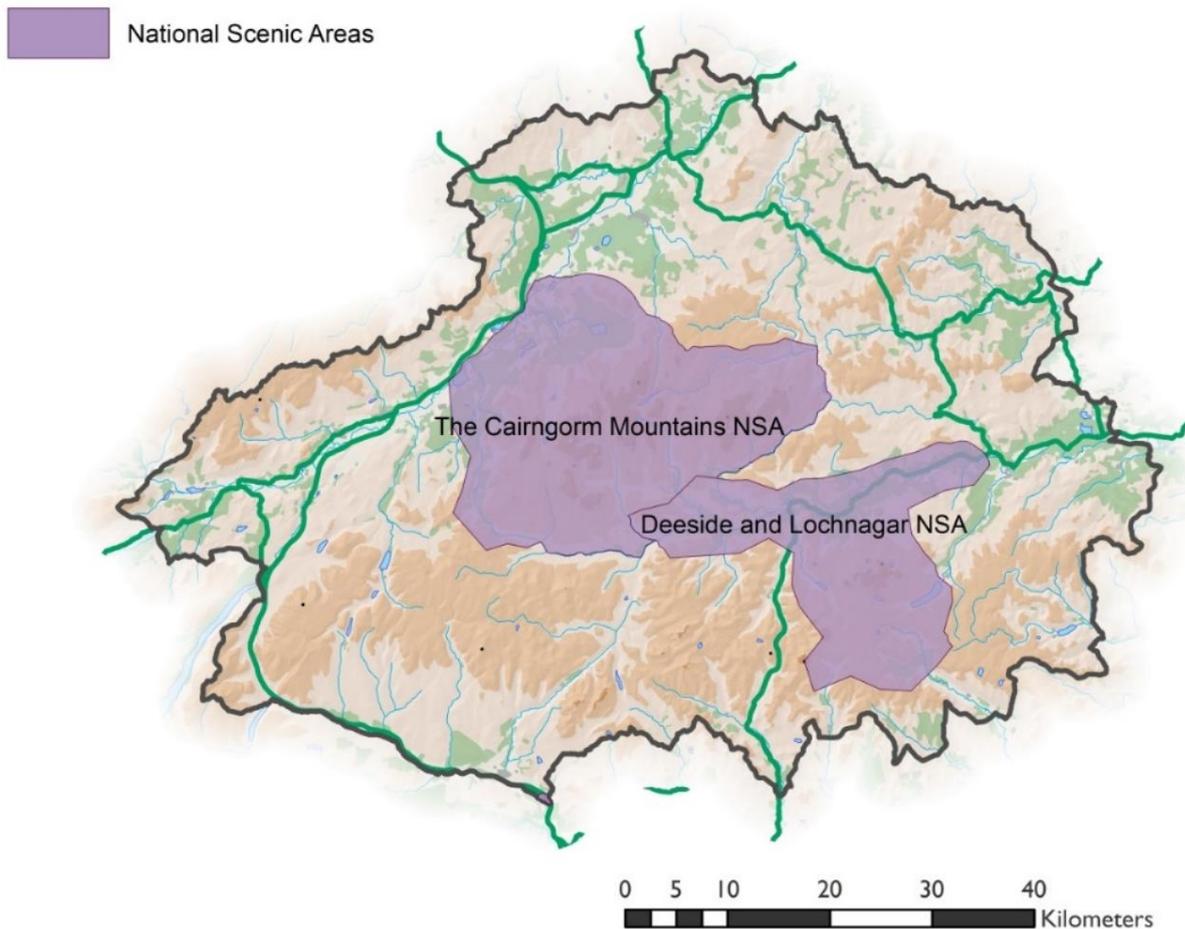


Figure 70 National Scenic Areas within the Cairngorms National Park (NatureScot, 2023).

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NSAs are designated under Section 263A of the Town and Country Planning (Scotland) Act 1997 and are defined as “of outstanding scenic value in a national context”. The legislation also states that within an NSA “special attention is to be paid to the desirability of safeguarding or enhancing its character or appearance” (NatureScot, 2010). Most new developments within NSAs need to be accompanied by a design statement, and there are restrictions on certain permitted development rights.

The original descriptions given in the 1978 report Scotland’s Scenic Heritage (Countryside Commission for Scotland, 1978), which lead to the designation of NSAs, may be found in the appendices of The Special Landscape Qualities of the Cairngorms National Park (NatureScot and Cairngorms National Park Authority, 2010):

<https://www.nature.scot/naturescot-commissioned-report-375-special-landscape-qualities-cairngorms-national-park>.



Landscape character areas

The whole of the Cairngorms National Park is divided into landscape character areas, which can be categorised as belonging to either its Uplands or Glens and Straths (**Figure 71**). These areas are all different but within each one there is a consistency of character formed by the topography, land use, history, settlement and development and the way the landscape is experienced. Within the glens and straths there is more diversity of landscapes in a smaller area, whereas in the uplands the landscape tends to be similar over much larger areas (Grant et al. 2009).

The character areas provide a spatial framework for the delivery of the Cairngorms National Park's responsibilities, duties and policies. A description of their landscape characteristics, experience and sensitivity of each area, along with a succinct summary of what makes the areas distinctive from elsewhere in the National Park, is provided on the Park Authority's website:

www.cairngorms.co.uk/landscape-toolkit.

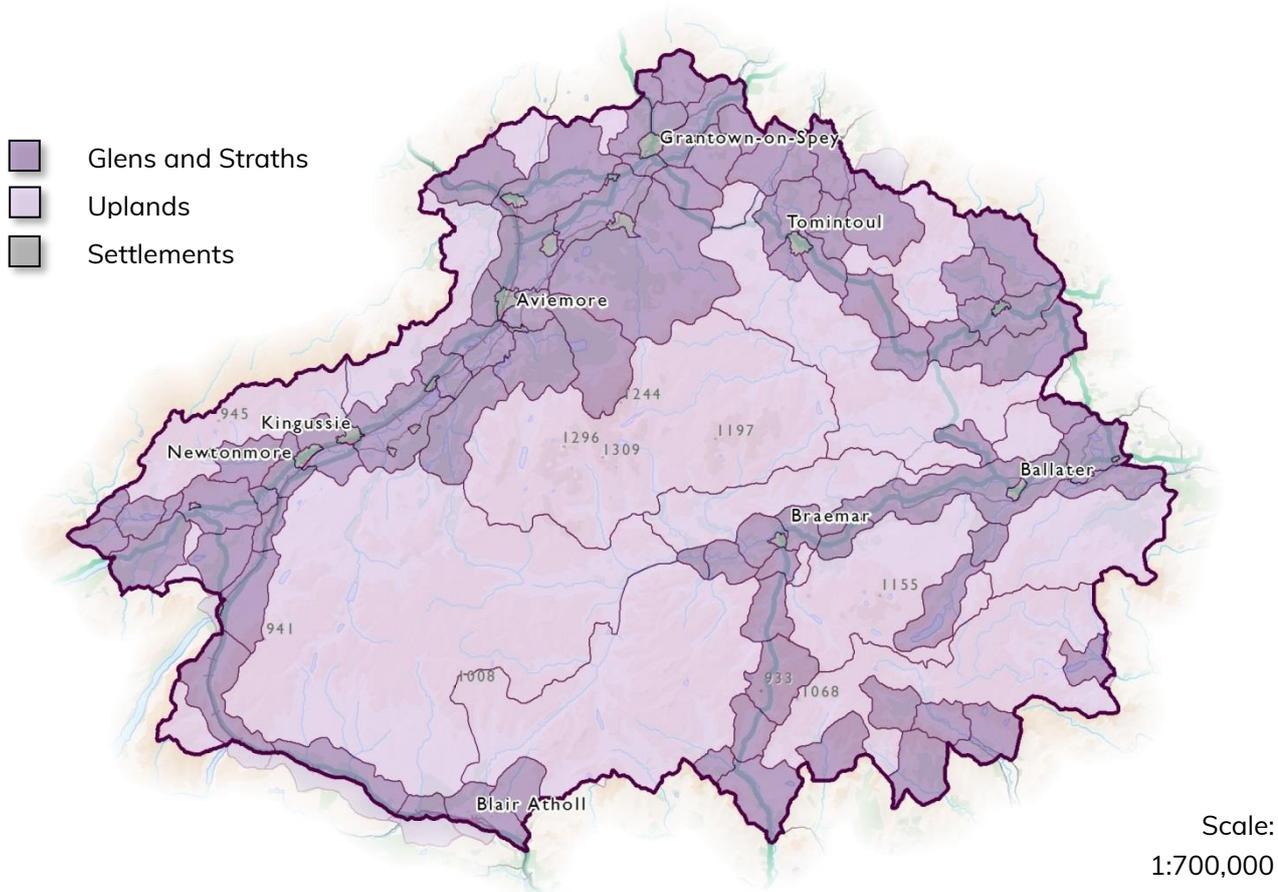


Figure 71 Broad categories of landscape character areas in the National Park

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Within each area, although there may be variation, there is a consistency of character formed by the topography, land use, history, settlement and development as well as the way the landscape is experienced. Within the glens and straths there is more diversity of landscapes in a smaller area, whereas in the uplands the landscape tends to be similar over much larger areas.

Wildness

Wildness is a quality experienced by people when visiting places of a certain character. Measuring wildness is inherently difficult, as people respond differently according to their personal experience and their expectations of a place. However, an exercise carried out by NatureScot considered wildness through four physical attributes being present, which they measured and mapped. These attributes were:



- The perceived naturalness of the land cover (**Figure 73**).
- The ruggedness of the terrain which is therefore challenging to cross (**Figure 74**).
- Remoteness from public roads, ferries or railway stations (**Figure 75**).
- The visible lack of buildings, roads, pylons and other modern artefacts (**Figure 76**).

These four attributes were then combined to produce a map of relative wildness of the whole of Scotland (**Figure 72**).

Wildness is a quality experienced by people when visiting places of a certain character. Measuring wildness is inherently difficult, as people respond differently according to their personal experience and their expectations of a place.

However, NatureScot devised a methodology to objectively consider wildness through four physical attributes being present. The attributes were the 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. These attributes were measured and mapped before being combined to provide a measure of relative wildness (**Figure 72**).

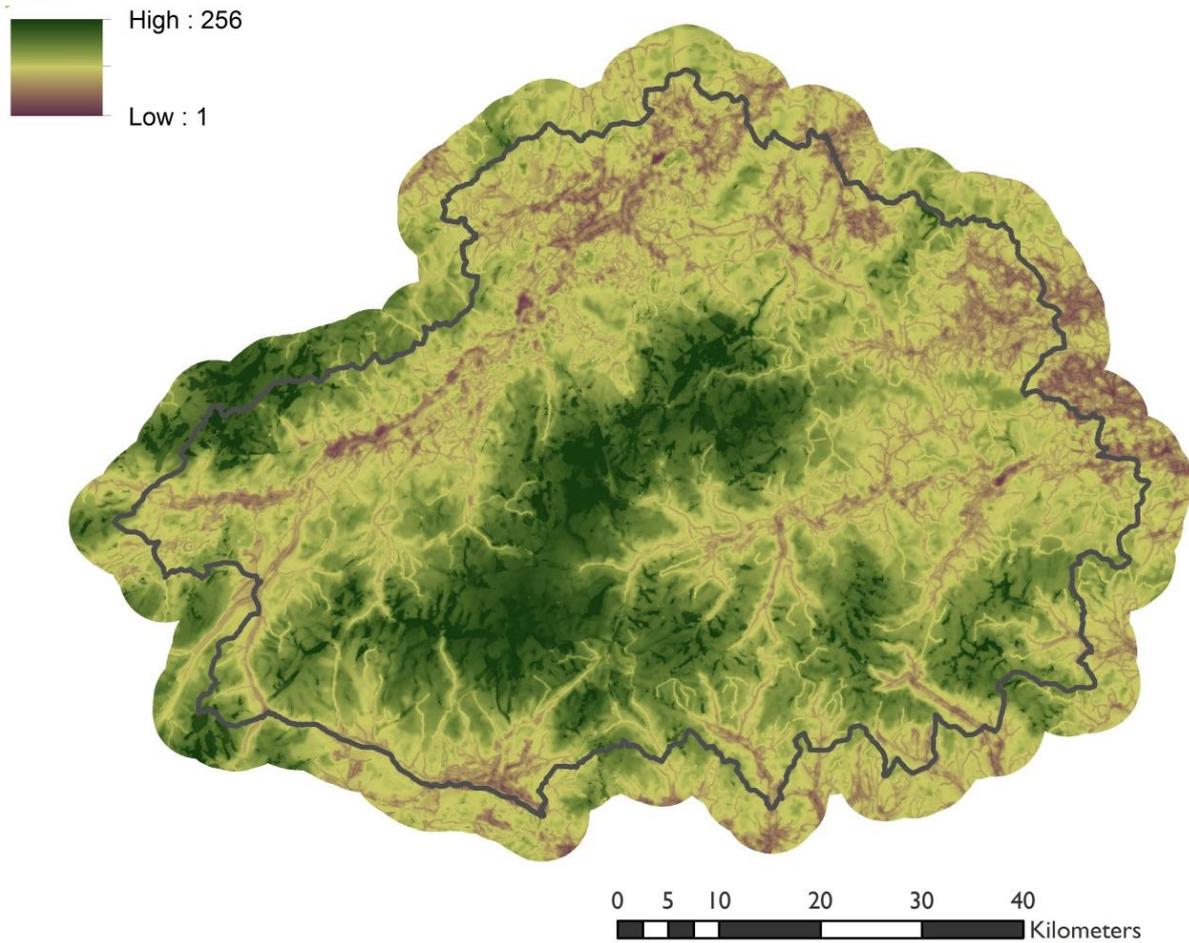


Figure 72 NatureScot relative wildness mapping for the Cairngorms National Park (composite of figures 93, 94, 95 and 96).

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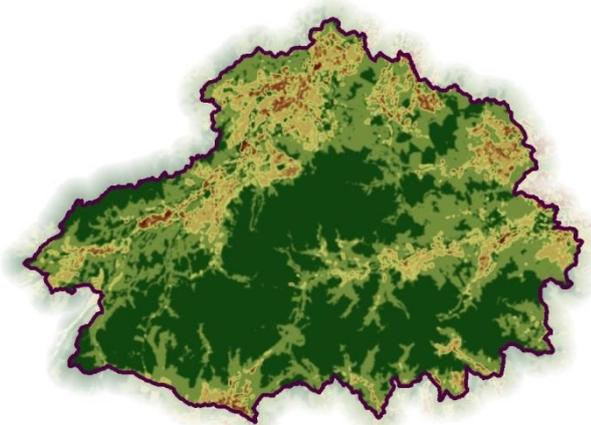


Figure 73 Perceived naturalness of land cover

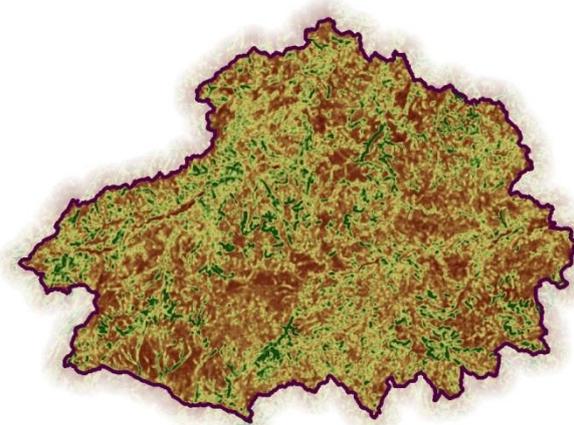


Figure 74 Ruggedness of terrain

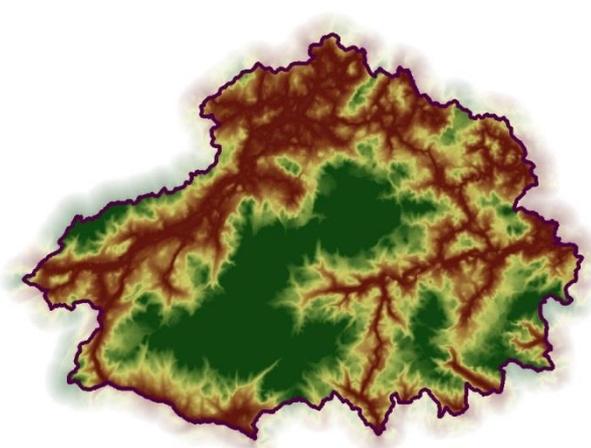


Figure 75 Remoteness from public roads, ferries or railway stations

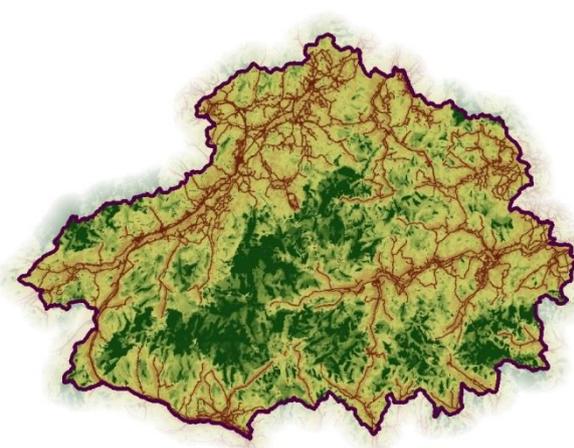
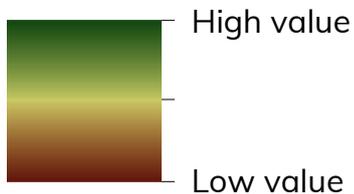


Figure 76 Lack of built modern artefacts

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Wild Land

Based on the work carried out to measure relative wildness, NatureScot published a new map of wild land areas, which represent the most extensive areas of high wildness in Scotland.

Around 2,100 km², or 46%, of the Cairngorms National Park has been identified as 'wild land' as defined by its perceived naturalness, rugged or challenging terrain, remoteness from public mechanised access and lack of built modern artefacts (NatureScot, 2014).

Five areas have been identified within the Cairngorms National Park (**Figure 77**) namely:

- Rannoch - Nevis - Mamores - Alder
- Cairngorms
- Lochnagar – Mount Keen
- Braeroy - Glenshirra - Creag Meagaidh
- Monadhliath

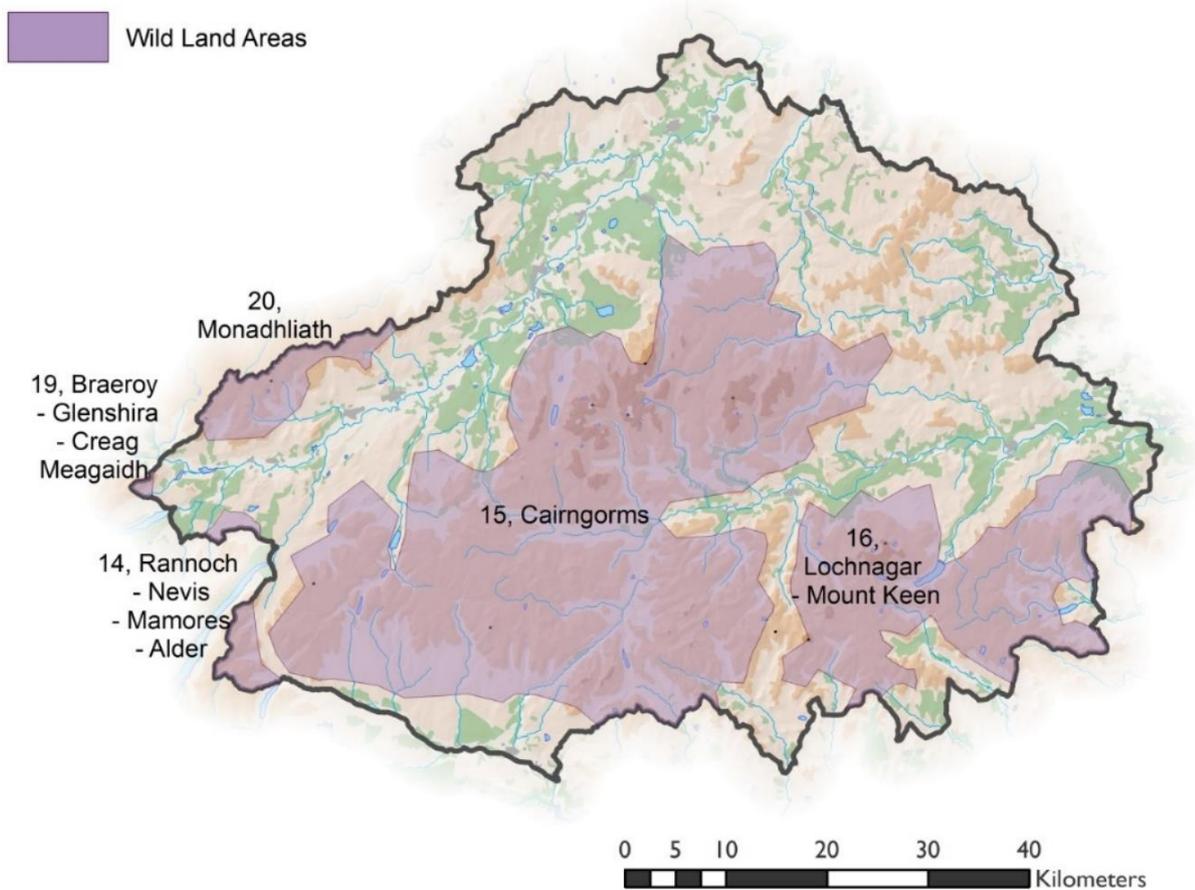


Figure 77 Wild Land Areas within or overlapping the Cairngorms National Park (NatureScot, 2023).

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Areas 15 and 16 are almost entirely located within the Cairngorms National Park, while the other three only just overlap its boundary.

These wild and remote areas have a distinct and special character, which is increasingly rare to find. A key component of Scotland's identity, they bring significant economic benefits, attracting visitors and tourists. Many people derive psychological and spiritual benefit from their existence, and they provide increasingly important havens for Scotland's wildlife (NatureScot, 2014).

Key Messages

At 4,528 square kilometres, and comprising 6% of Scotland's land area, the Cairngorms National Park is the UK's largest protected landscape. It is without doubt one of the UK's finest environments and possess a range of special qualities, often unique to the area.



Furthermore, nearly half of the National Park's land area is classified as being 'wild land'.

Data discussed in topic one has inter-relationships with the following topics:

- Topic 1: Climatic Factors
- Topic 3: Water
- Topic 4: Soil
- Topic 5: Material Assets
- Topic 6: Biodiversity, Fauna and Flora
- Topic 8: Historic and Cultural Heritage
- Topic 9: Population and Human Health



Topic 8: Historic and Cultural Heritage

“The context or setting in which specific historic features sit and the patterns of past use are part of our historic environment. The historical, artistic, literary, linguistic, and scenic associations of places and landscapes are some of the less tangible elements of the historic environment. These elements make a fundamental contribution to our sense of place and cultural identity.”

(Historic Scotland, 2011)

There is very little remaining evidence across the Cairngorms National Park for settlement pre-dating the 18th or perhaps the 17th century. Indeed, beyond the few castles, towers and churches for which medieval dates can be suggested, evidence for medieval settlement is almost non-existent. It is likely that the pattern of medieval settlement largely followed that of the present day and therefore, much is likely to have been lost due to development and intrusive agricultural practices, such as ploughing (Royal Commission on the Ancient and Historical Monuments of Scotland & Historic Scotland, 2001) (Hall & Price, 2012). This does not mean however that further evidence does not exist, and appropriate measures should be taken to investigate sites prior to the commencement of future land-use changes.

The distribution of prehistoric monuments largely lies in a zone of survival beyond the fringes of the improvement and pre-improvement remains. The episodes of settlement are difficult to differentiate within the National Park, and therefore the term ‘Prehistoric’ is often used to describe a period starting around 9,000 years ago in the Mesolithic to around AD 1000. Overall, there was a spread of human activity across the area during this period, though evidence suggests that the focus of settlement was in the main Glens and a cycle of expansion and contraction in the uplands as the prevailing climate



fluctuated (Royal Commission on the Ancient and Historical Monuments of Scotland & Historic Scotland, 2001).

Owing to the transitory nature of the Mesolithic populations, evidence of occupation during this period is scarce. It is not until the Neolithic, beginning around 4,000 BC, that people began to build the structures, such as chambered cairns and stone circles, that we still see today. Bronze Age burial monuments from after 2000 BC can also be found, and evidence of settlement from this period is more common. From around 1000 BC Bronze age patterns of settlement a burial and ritual monument cease and the primary evidence for occupation takes the form of settlement and land use. Fortified enclosures such as Dun-da-lamh near Laggan, date from this period (Royal Commission on the Ancient and Historical Monuments of Scotland & Historic Scotland, 2001) (Saville & Wickham-Jones, 2012).

Archaeological evidence from around AD 500 to AD 1000 is rare, although some buildings of a sub rectangular plan, cemeteries, cropmarks and earthworks thought to date from this period have been identified. Other more visible monuments of this period are the sculptured stones, in particular the cross-slabs, which illustrate the establishment of Christianity in the area (Royal Commission on the Ancient and Historical Monuments of Scotland & Historic Scotland, 2001) (Sheridan & Brophy, 2012) (Downes, 2012) (Hunter & Carruthers, 2012). This archaeological evidence is of great cultural significance because it relates to areas or periods for which there are no written records and is therefore of fundamental value in understanding the development of the current landscape. The historic environment makes a special contribution to the landscape of the National Park through the story it tells of past history, through providing a human scale to the dramatic natural environment and through vividly demonstrating the tenacity and strength of the human spirit in the face of difficult circumstances. This evidence of historic land use is consequently an important quality of the landscape of much of the National Park (NatureScot and Cairngorms National Park Authority, 2010).

The map uses simple annotations to show how the landscape has changed over time, giving the user a tool to decipher the broad elements of the historic environment.

HES also offer an interactive map of archaeological and architectural sites in Scotland, which acts as a portal to more detailed information held by various partners:

www.pastmap.org.uk

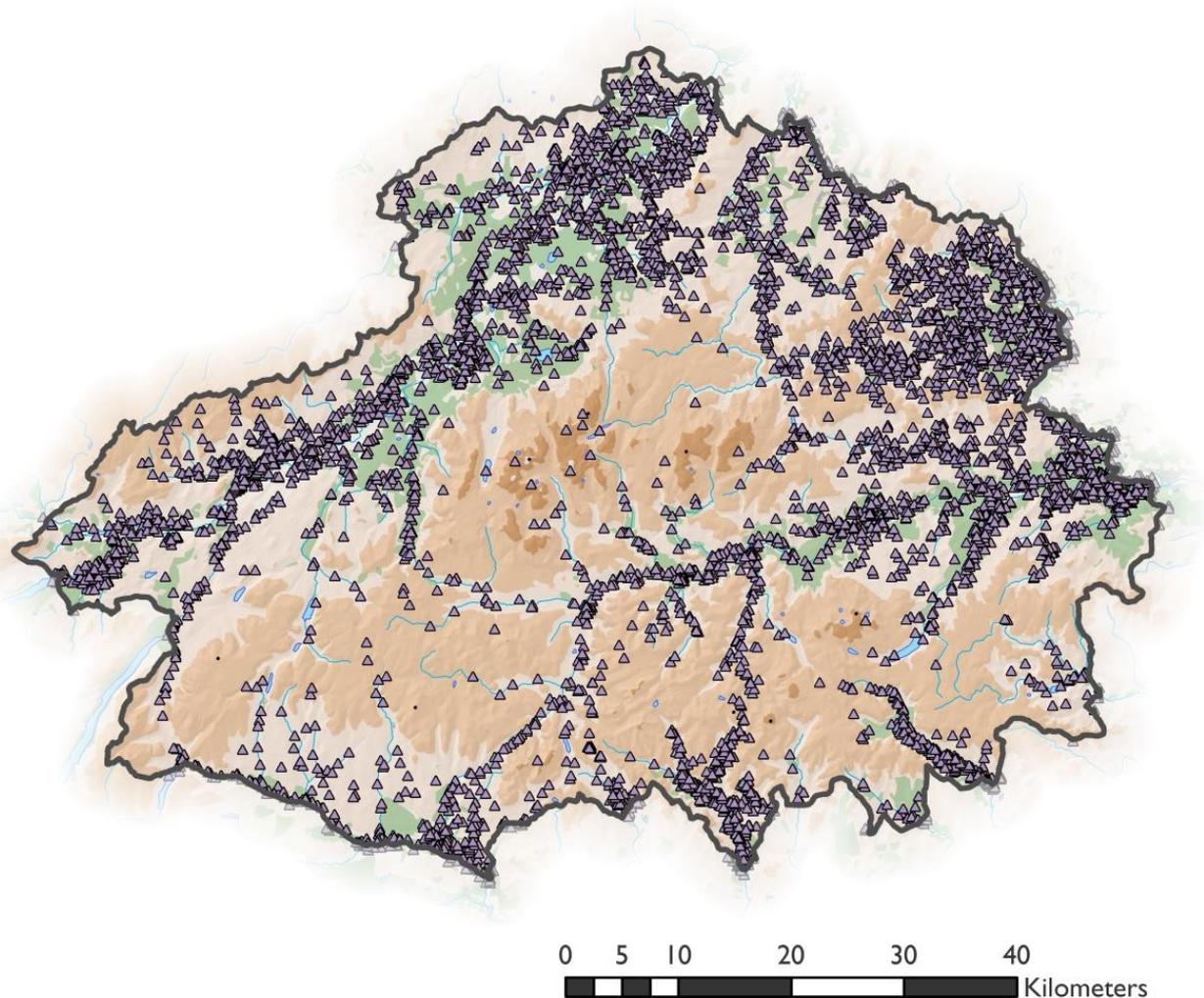


Figure 78 Distribution of National Monuments Record sites in the Cairngorms Park (Historic Environment Scotland, 2023)..

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Scheduled Monuments

Scheduled Monuments are nationally important sites, buildings and other features of artificial construction given legal protection under the Ancient Monuments and Archaeological Areas Act 1979 (Historic Environment Scotland, 2022). There are 110 scheduled monuments recorded within the National Park covering 6 of the 8 periods recorded. They include chambered burial cairns and associated stone circles of late Neolithic age; examples of Iron Age defensive remain such as the aforementioned Dun-da-lamh hill fort; Pictish remains such as the 8th century Loch Kinnord Cross Slab;



military structures such as the 18th century Hanoverian fort of Ruthven; and industrial remains such as the 18th / 19th century ironstone mine-crushing mill at the Well of Lecht (Cairngorms National Park Authority, 2006).

Further information on SMs may be found on Historic Environment Scotland (HES) (formerly Historic Scotland and the Royal Commission on the Ancient and Historical Monuments of Scotland) website:

www.historic-scotland.gov.uk/index/heritage/searchmonuments.htm



Gardens and designed landscapes

Designed gardens and landscapes form a relatively small part of the Cairngorms National Park's landscape, with the majority being country house gardens and policies. Components include woodlands, parklands, meadows, water features, glass houses, pinetums, kitchen gardens, formal gardens, avenues, drives and approaches, architectural features, statuary and vistas (Cairngorms National Park Authority, 2006).

'The Inventory of Gardens and Designed Landscapes in Scotland', which is maintained by HES, lists 11 gardens and designed landscapes within the National Park:

Aberdeenshire

- Balmoral Castle
- Candacraig House
- Glen Tanar
- Invercauld

Highland

- Aultmore
- Castle Grant
- Doune of
Rothiemurchus
- Inshriach Nursery
- Kinara

Perth and Kinross

- Blair Castle
- Falls of Bruar



With the exception of Inshriach Nursery, which is a specimen nursery, all other Inventory gardens and designed landscapes relate to country houses and estates. The effect of proposed development on a garden or designed landscape is a material consideration in the determination of planning applications.

The Inventory is a list of sites that meet the criteria for defining national importance. The effect of proposed development on a garden or designed landscape is a material consideration in the determination of planning applications. With the exception of Inshriach Nursery, which is a specimen nursery, all other Inventory gardens and designed landscapes relate to country houses and estates.

While the Inventory is concerned with historic landscapes of national importance, there are other historic landscapes that are of more local significance. The Cairngorms National Park Historic Designed Landscapes Project (Peter McGowan Associates, 2013) identifies 33 historic and designed landscapes within the National Park and provides information about the history and context of each (**Figure 79**). Although not statutory designations and localised in their impact, the designed landscapes in the National Park can be seen to make a significant contribution to landscape character through their buildings, policy woodlands, parkland, surrounding plantations and fields. While some are comparatively isolated and stand out in the landscape through their contrast with their mountainous setting, others benefit from their proximity to neighbouring landscapes, as Strathdon and around Kingussie, where they can be seen to have a group value. Although the landscapes can be categorised to some extent by their period, style or other characteristics, each one has a different story to tell, depending on the circumstances of its creation (Peter McGowan Associates, 2013).

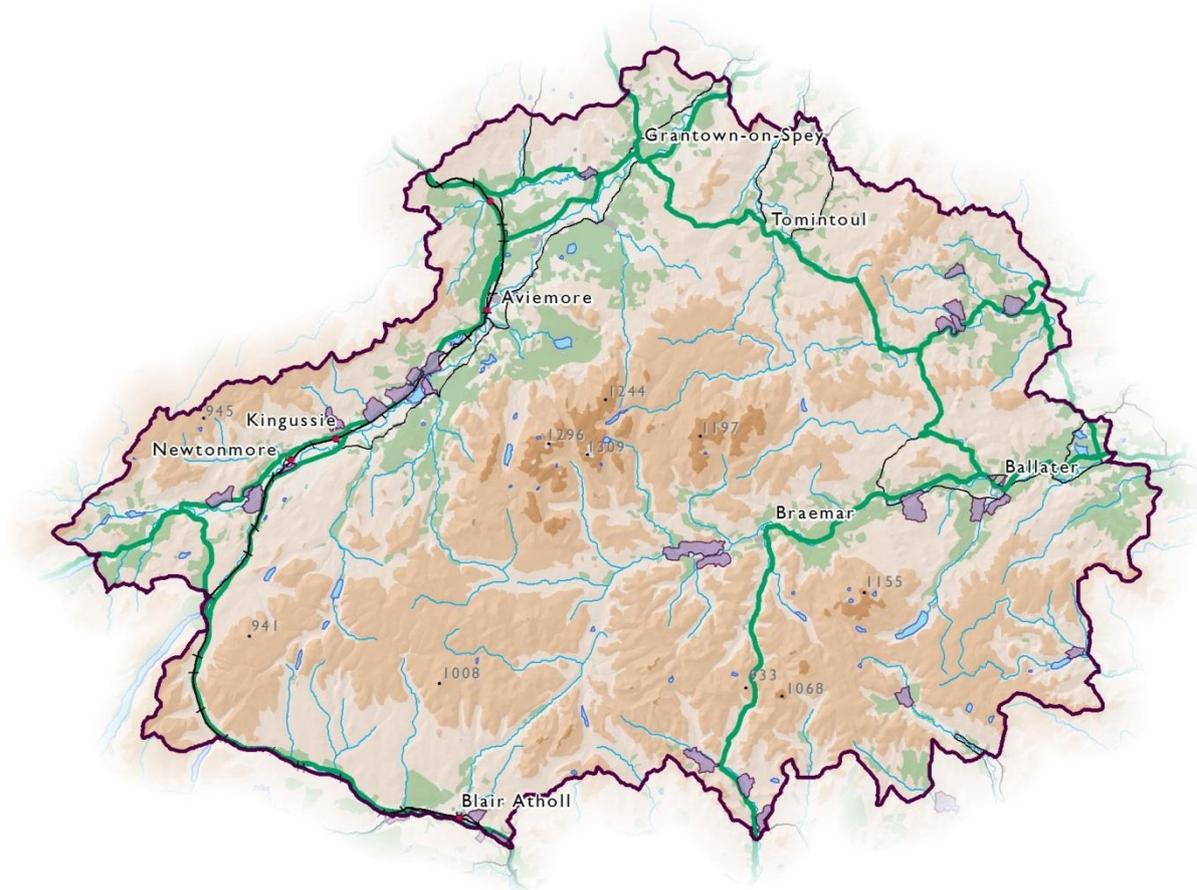


Figure 79 Historic and designed landscapes within the Cairngorms National Park (Peter McGowan Associates, 2013).

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Battlefields

Historic battlefields make a distinctive contribution to an area's sense of place and history, both locally and nationally. They are a superb resource for education, helping us understand why significant events in history unfolded as they did and providing a tangible link to some of the key figures of history. The ground on which the battles were fought has enormous potential for attracting tourists, as well as for general recreation, allowing visitors to experience the site of a dramatic historical event for themselves and imagine the past (Historic Scotland, 2011).



There are two battlefields identified on the Inventory of Historic Battlefields, maintained by Historic Environment Scotland, the site of the battle of Cromdale on 1st May 1690, and the site of the battle of Killiecrankie on 27th July 1689. The former battlefield is in Highland, while the latter falls within Perth and Kinross. The site of the Battle of Glenlivet (3rd October 1595) in Moray, falls just outside of the Park boundary. It should be noted that not all battlefields within the Park are listed in the Inventory, with the sites of the Battle of Invernavon (1370 or 1386) and Battle of Culblean (30th November 1335) being important examples.

The Inventory is a list of nationally important battlefields in Scotland that meet the criteria published in Scottish Historic Environment Policy (Historic Scotland, 2011, pp. 83-85). It provides information on the sites in it to raise awareness of their significance and assist in their protection and management for the future. It is a major resource for enhancing the understanding, appreciation and enjoyment of battlefields, for promoting education and stimulating further research, and for developing their potential as attractions for visitors. The effect of proposed development on an Inventory Battlefield is a material consideration in the determination of planning applications (Historic Scotland, 2011).

Built Heritage

Historic structures are a highly visible and accessible element of the Cairngorms National Park's rich heritage. The National Park is home to a wealth of historic buildings which cover a wide range of functions and periods and together chart the history of the nation. They cross all boundaries of life, from education to recreation, defence, industry, homes and worship. Much of the area's social and economic past and its present are expressed in these exceptional buildings (Historic Scotland, 2007).

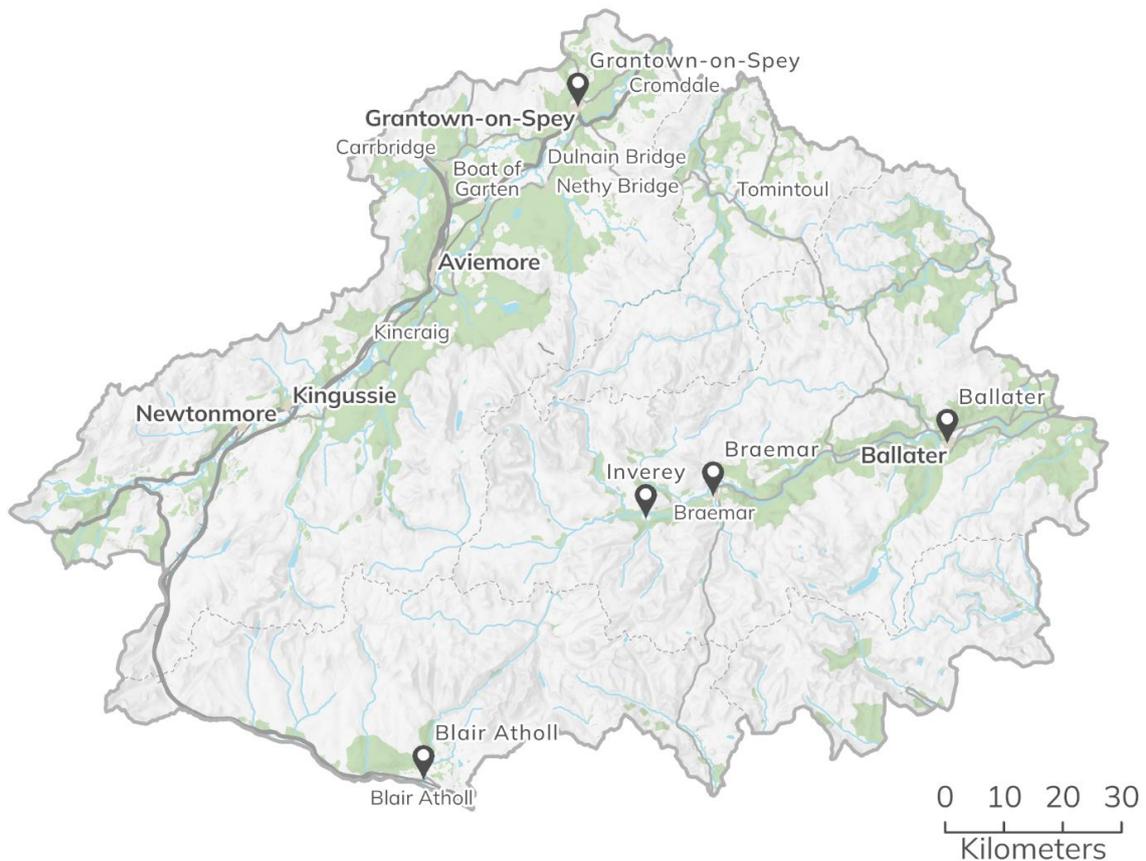
Planned towns and Conservation Areas

Planned towns are a feature of 18th and 19th century Scotland. The Park contains five of importance: Ballater, Blair Atholl, Tomintoul, Grantown-on-Spey and Kingussie. The latter three were created as market towns for the surplus food that resulted from higher productivity on the increasingly productive farms. Town



plans were drawn up and often specified the type of house that the landowner wished to encourage. Comparatively spacious permanent houses built of stone with slated roofs, glazed windows and usually comprising a single storey and attic with three or five rooms were often proposed, all placed within a rational and carefully thought-out street plan. This is in direct contrast to the ad hoc dark, single-storey, single-room dwellings made from turf or rubble with a thatched roof that would have been more typical in villages at this time.

Parts of the planned towns of Ballater, Granttown-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.



Location of Conservation Areas within the Cairngorms National Park. Reproduced by permission of Ordnance Survey on behalf of His Majesty's Stationery Office. © Crown copyright and



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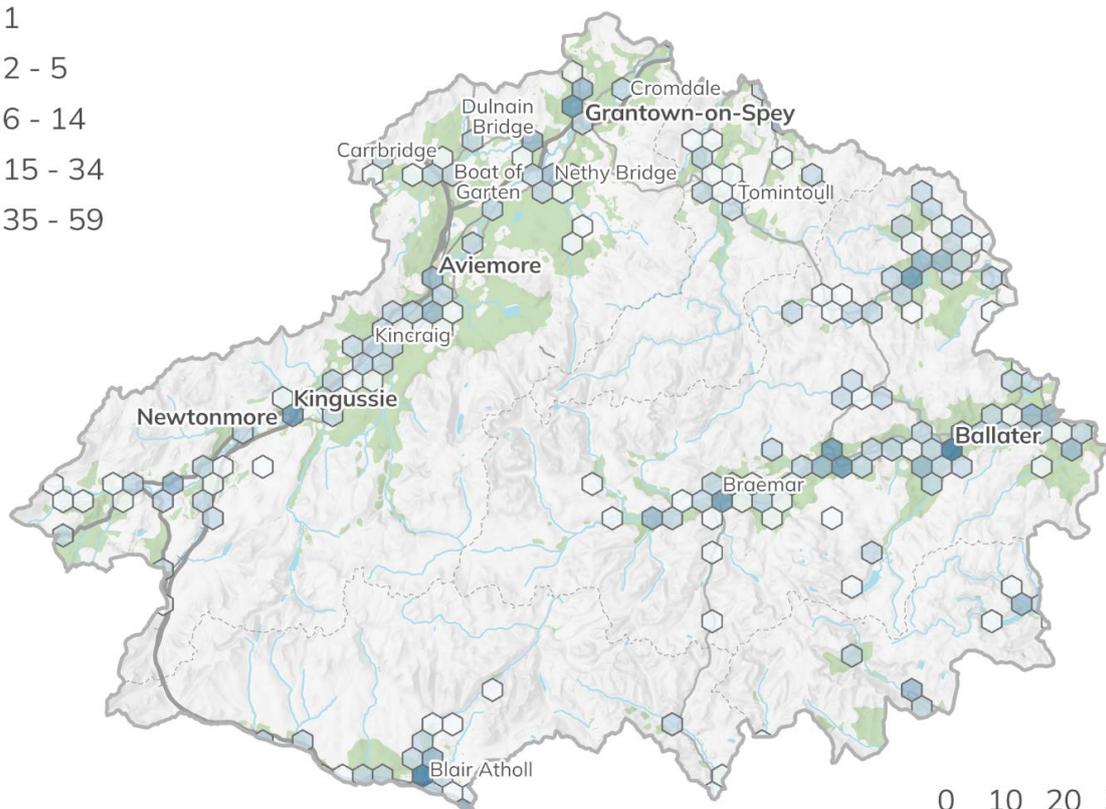
Listed Buildings

Listing buildings and structures recognises their historic importance and this in turn helps ensure that their potential is not only for the study of history but for wider issues such as sustainability, community identity, local distinctiveness and social and economic regeneration.

Listed buildings can include structures from great country houses to modest croft houses, tenements to toll houses, and post boxes to primary schools. They can date from the early medieval period up until the 1980s. They need not necessarily be 'buildings' but could be bridges, railings, mileposts or statues. Whether urban, rural, industrial, public or residential they all contribute to their particular area and to Scotland as a whole. They are integral to Scottish culture and provide a unique record of our economic and social history.

Listed Buildings

-  1
-  2 - 5
-  6 - 14
-  15 - 34
-  35 - 59



0 10 20 30
Kilometers



Figure 14 Concentration of Listed Buildings within the Cairngorms National Park. Reproduced by permission of Ordnance Survey on behalf of His Majesty's Stationery Office. © Crown copyright and database right 2024. All rights reserved. Ordnance Survey Licence number AC0000821810, Cairngorms National Park Authority. Contains data © Historic Environment Scotland 2024.

The National Park contains 595 buildings or structures of special historic or architectural interest, which are protected under the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 (Figure 13); 40 of these are within Category A (Figure 14), 258 in Category B and 297 in Category C. The size of the National Park means that it is home to several distinctive building traditions, which were frequently determined by local conditions of geology and land-use. While it is beyond the remit of this document to describe every local characteristic throughout the area, some overarching trends are apparent.

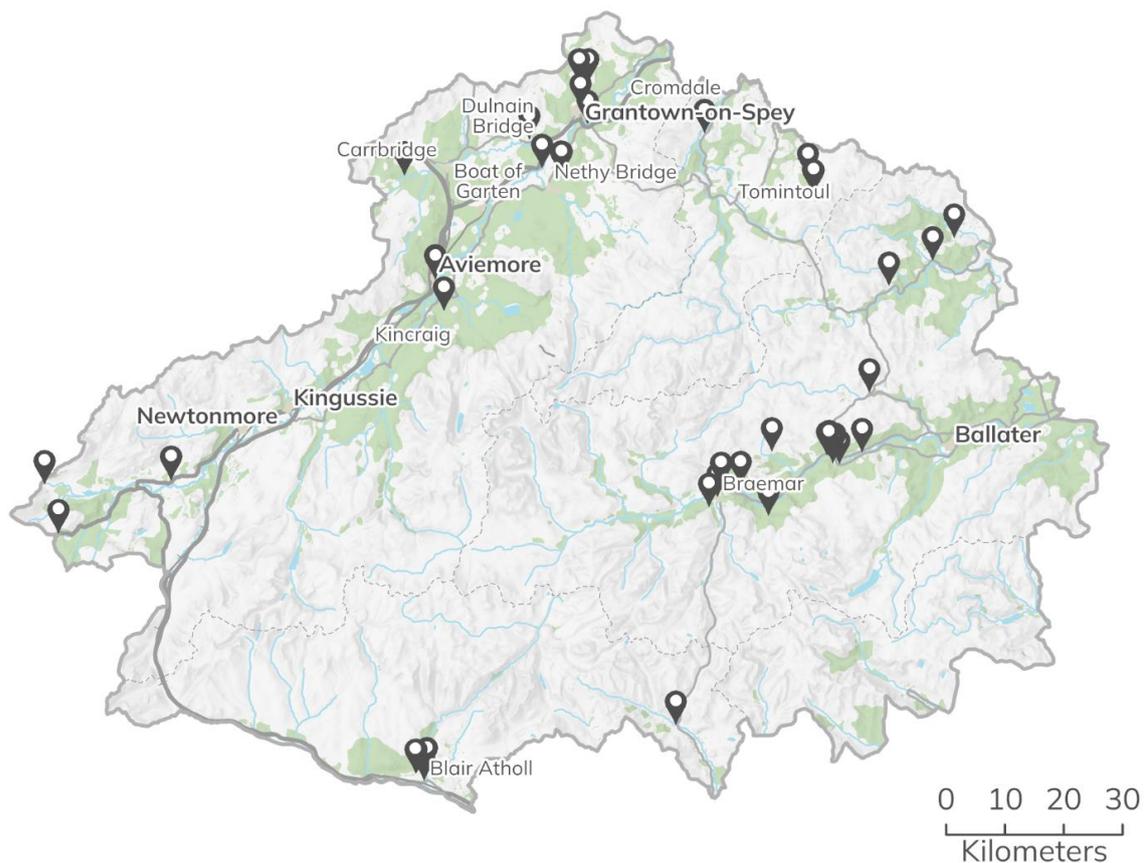


Figure 15 Location of Category A Listed Buildings within the Cairngorms National Park. Reproduced by permission of Ordnance Survey on behalf of His Majesty's Stationery Office. © Crown copyright and database right 2024. All rights reserved. Ordnance Survey Licence number AC0000821810, Cairngorms National Park Authority. Contains data © Historic Environment Scotland 2024.



A large proportion of structures relate to the agricultural revolution that took place during the Improvement of the 18th and 19th centuries. The period saw the establishment of the aforementioned planned towns, the creation of new more compact farmsteads, the enlargement or replacement of churches and the enlargement or replacement of old tower houses with new mansions. Such was the scale of change, that with the exception of a few of the major houses such as Muckrach, Braemar, Corgaff and Abergeldie Castles, few pre-Improvement buildings now survive (Cairngorms National Park Authority, 2006) (Historic Scotland, 2007).

Classical country houses on the Anglo-Dutch model of plain piend roofed boxes are rare within the National Park, although some notable examples exist in the 1753 north block at Castle Grant near Grantown on Spey and the 1790-96 Balavil House near Kingussie.

Until the late 19th century buildings were mostly constructed of locally available materials, such as earth, granite and quartz. Wood was also widely available and many structures, such as Mar Lodge and Ballater Station, were faced in timber. This has however led to issues over their preservation as both have been severely damaged by fires, the former in 1991 and the latter in 2015. Throughout the area, tree-trunks have been used as picturesque supports for porches, overhanging roofs, verandas and balconies. Following the construction of the prefabricated ballroom at Balmoral, corrugated iron also gained in popularity.

The purchase of the Balmoral Estate by Queen Victoria and Prince Albert in 1852, and the subsequent arrival of the railway, had a major impact on the area, particularly in the settlements along the River Dee. Balmoral Castle was rebuilt in the Baronial vernacular in 1856 and its influence spread throughout the area, with neighbouring estates such as Invercauld, where the old house was remodelled, imitating its style. Buildings in Braemar and Ballater also adopted Baronial characteristics, together with hotels, shooting lodges, entrance lodges, banks and police stations.

Properties in care

This dataset presents the collection of monuments within the National Park, brought into care for their long-term preservation and public benefit. The portfolio of monument, which define significant aspects of Scotland's history are managed by Historic Environment Scotland, on behalf of the Scottish Ministers. Within the National Park there are 5 such properties in care (Figure 15), all of which form prominent foci and impart a strong sense of place in the local landscape:



- Glenbuchat Castle, Strathdon
- Corgarff Castle, Upper Strathdon
- Ruthven Barracks, Strathspey
- Old Brig O' Dee, Deeside
- Knock Castle, Ballater, Deeside

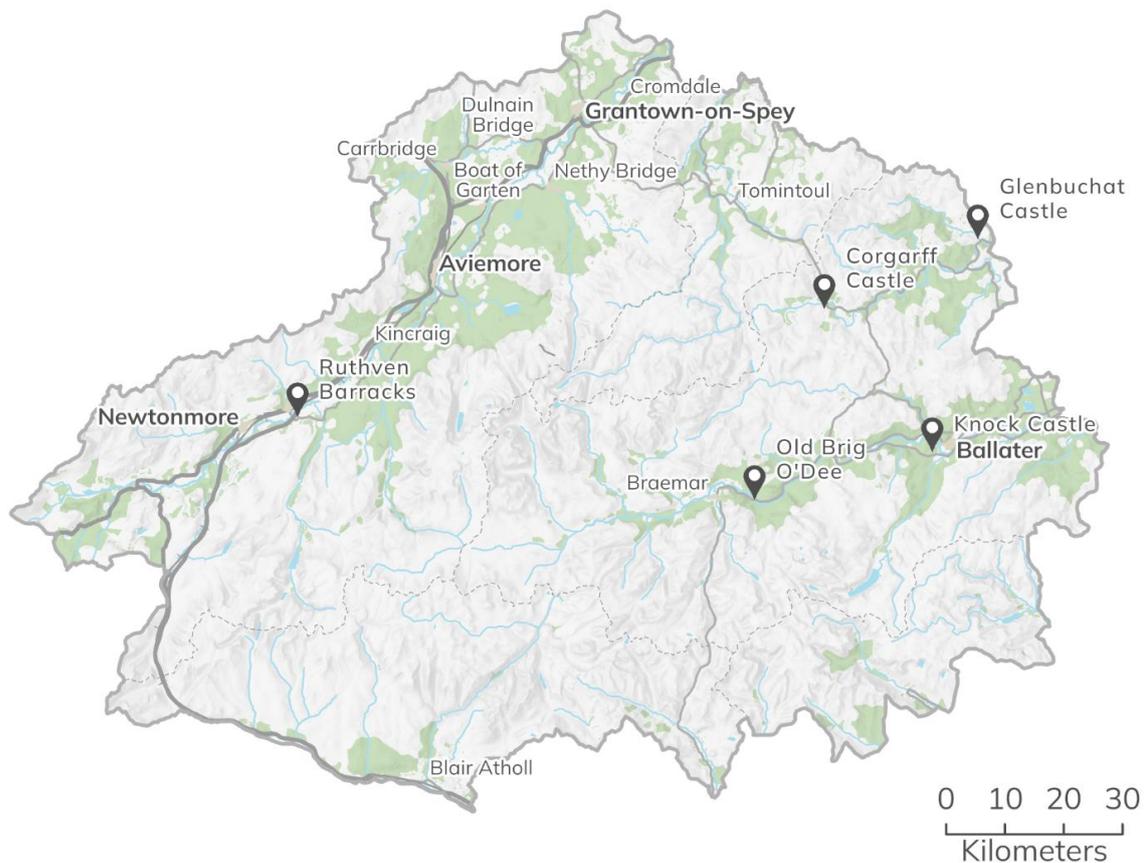


Figure 16 Properties in Care within the Cairngorms National Park. Reproduced by permission of Ordnance Survey on behalf of His Majesty's Stationery Office. © Crown copyright and database right 2024. All rights reserved. Ordnance Survey Licence number AC0000821810, Cairngorms National Park Authority. Contains data © Historic Environment Scotland 2024.

Buildings at risk

The Buildings at Risk Register for Scotland highlights properties of architectural or historic merit throughout the country that are at risk or under threat. A building at risk is usually a listed or unlisted building within a conservation area, which meets one or several of the following criteria:

- Vacant with no identified new use,
- Suffering from neglect and/or poor maintenance,



- Suffering from structural problems,
- Fire damaged,
- Unsecured,
- Open to the elements, and
- Threatened with demolition.

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, 27 buildings were recorded as being at risk in the Cairngorms National Park (Figure 8, Figure 14 and Table 1). Of these buildings, 15 are located within Aberdeenshire and the remaining 12 in Highland. The Old School, School Lane, Ballater has been removed from the list as construction is complete on its renovation.

Condition

- 📍 Fair
- 📍 Poor
- 📍 Very poor

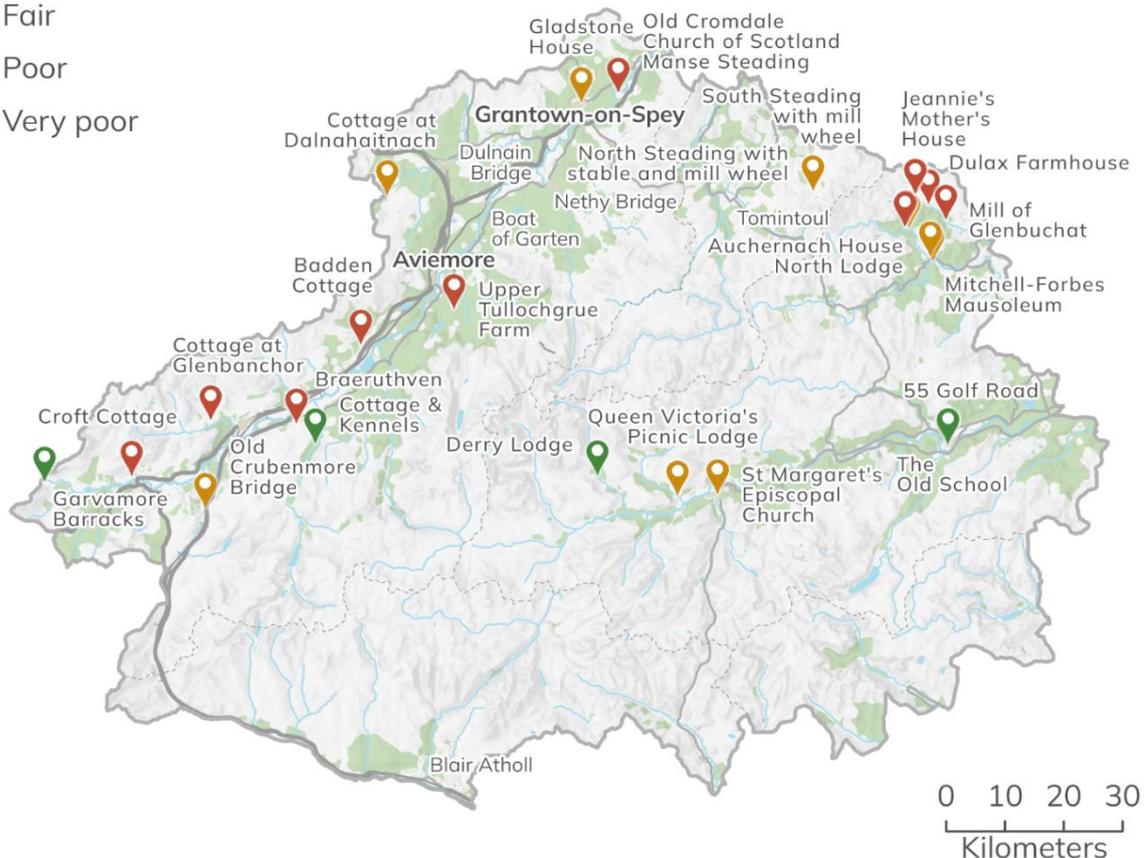


Figure 17 Buildings at Risk within the Cairngorms National Park. Reproduced by permission of Ordnance Survey on behalf of His Majesty's Stationery Office. © Crown copyright and database



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Two of the buildings on the register are in critical condition, which is the most serious category awarded by the register (Figure 15). Critical status is awarded to buildings that are either threatened with demolition and a real or perceived conservation deficit now makes rescue unlikely or are suffering from an acute structural problem that could lead to full or partial collapse. The status is also awarded to A-listed properties in poor or very poor condition or B-listed properties in very poor condition. However, it should be noted that the Buildings at Risk Register does not include all buildings at risk in the National Park, just those that have been reported to or identified by Historic Environment Scotland. Some buildings that may be of historical merit and would otherwise fall under the register's criteria, but have not been reported or recorded, are not included.

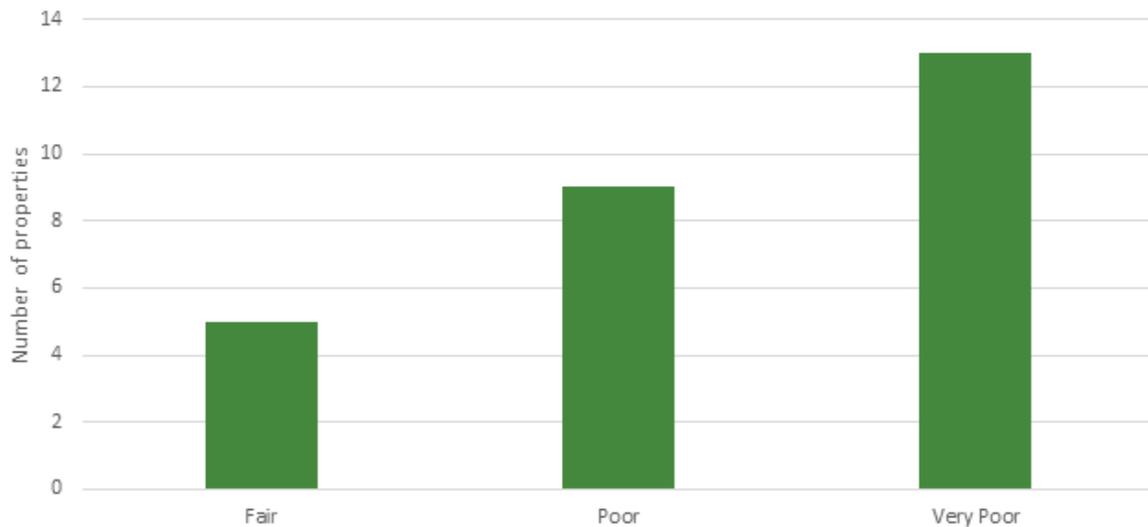


Figure 18 Condition of Buildings at Risk in the Cairngorms National Park in 2023 (Royal Commission on the Ancient and Historical Monuments of Scotland, 2023).

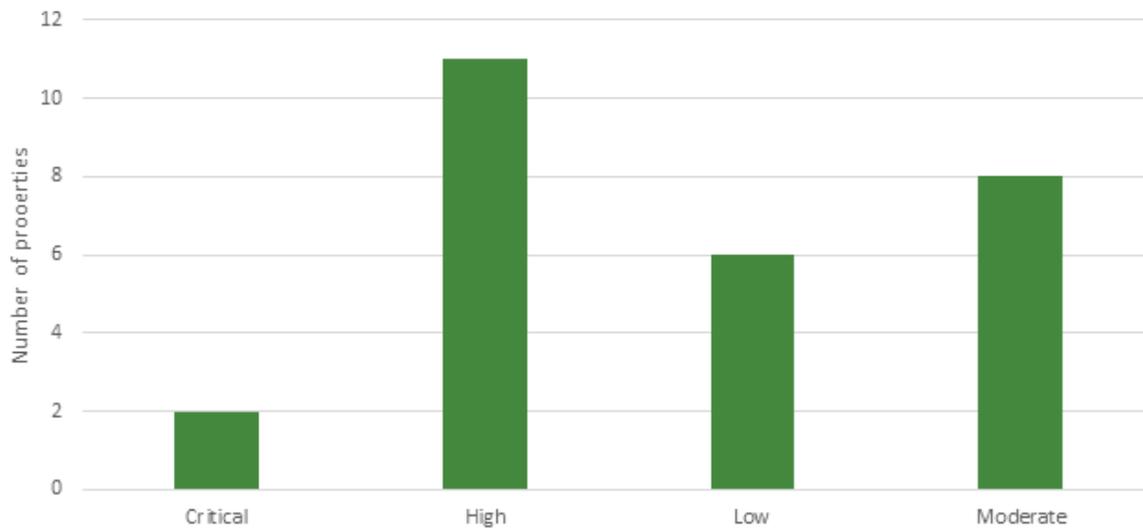


Figure 19 Category of risk of Buildings at Risk in the Cairngorms National Park in 2023 (Royal Commission on the Ancient and Historical Monuments of Scotland, 2023).

Linguistic heritage

Cultural heritage does not simply manifest itself in the physical remains of past actions or in the evolving morphology of the built form. It also exists as a shared consciousness, which is consumed and reproduced in the mundane interactions of everyday life. Language, be it spoken, or as an elemental feature of the cultural landscape, is a potent vessel in which this heritage is maintained and reproduced. Ultimately, it is a driving force in shaping the way we see the world and the way the world sees us.

Over the past few decades, concern about the global scale and speed of language loss has emerged as a strong theme in the work of a growing number of socio-linguists (Crystal, 2000; Romaine & Nettle, 2000; Skutnubb-Kangas, 2000). UNESCO estimates that there are currently around 3,000 endangered languages in the world (Moseley, 2010). Many of these are undergoing 'language shift', as speakers cease using a minority language and choose to use a majority language in its place (Fishman, 1991). While intergenerational transmission is typically seen as the most significant means of language transmission, there are many other factors that may play a part, including economic benefit, perceived status, educational provision and so on (Clyne, 2004; Grin, 2007). As such, the matter of language change has found its way into the policy streams of many tiers of many governments (Ager, 2001; Wright, 2004). Biological and ecological



metaphors abound within the field of socio-linguistics, so to say that the emphasis has moved from the *lassaiz-faire* stance of 'survival of the fittest' to the more interventionist stance position of 'preservation of the species' (Edwards & Newcombe, 2005) describes the evolving state of Scottish language policy and legislation well.

Scotland's linguistic history is complex (MacKinnon, 2000) with the current situation resulting from hundreds of years of population movement and cultural interaction. Located near the centre of the country and owing to the restrictive nature of its mountainous terrain, the Cairngorms National Park occupies a position where many of these linguistic and cultural differences intersect.

Within the Cairngorms National Park two minority languages, both of which have undergone significant language shift towards English, are still spoken, namely Scottish Gaelic and Scots (MacKinnon, 1991; Withers, 1984; Smith, 2000). The languages belong to contrasting linguistic families, the former being a member of the Goidelic branch of the Insular Celtic family (Price, 2000), the latter being a part of the same dialect continuum as English (Smith, 2000). Gaelic, which was brought to Scotland from Ireland in around AD 500, was once spoken throughout the area. Though the language is now spoken by but a minority around 370 or 2.2% (see **Figure 80** and **Figure 84** for an overview of Gaelic language skills) in the National Park, it is a visible and inseparable part of the area's identity, as it continues to dominate the names of places, both built and natural.

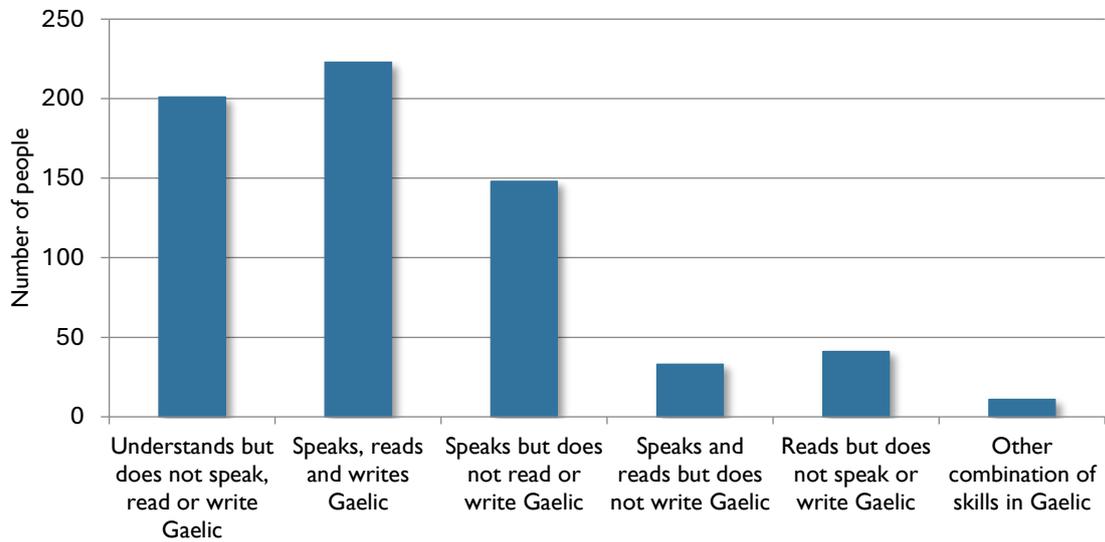


Figure 80 Gaelic language skills for all people aged 3 and over in the Cairngorms National Park (Census table QS211SC).

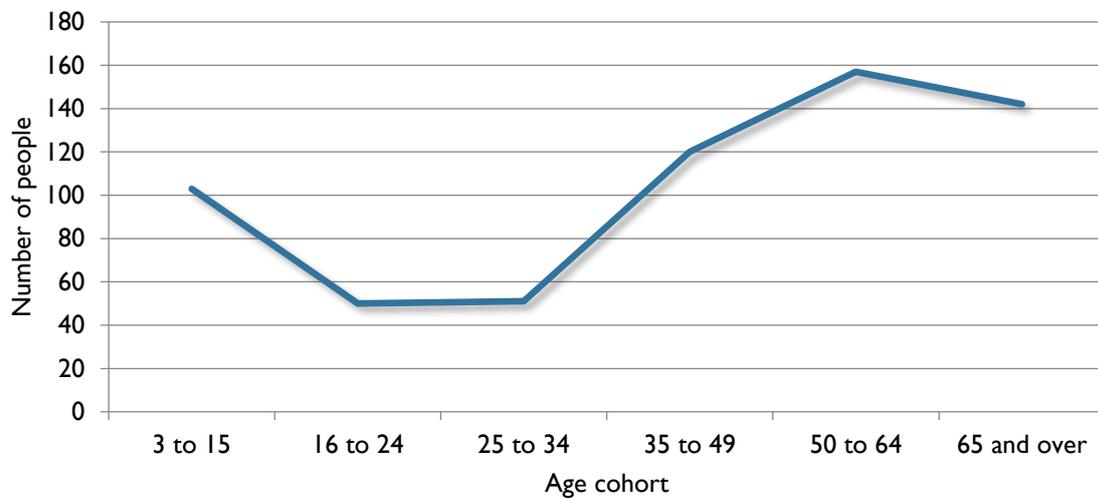


Figure 81 Age profile of the Cairngorms National Park population who can understand, speak, read or write Gaelic (Census table LC2120SCdz).

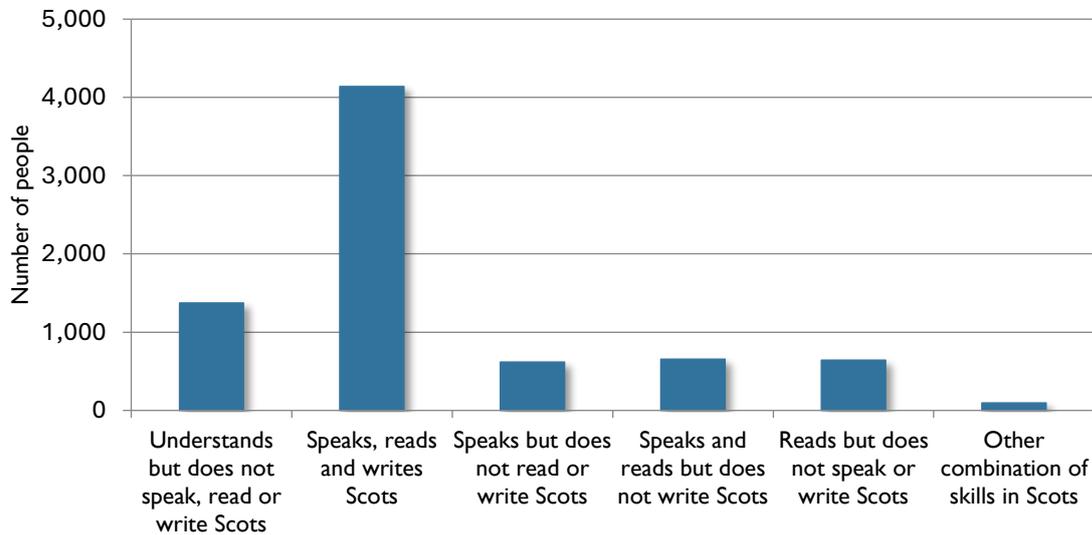


Figure 82 Scots language skills for all people aged 3 and over in the Cairngorms National Park (Census table QS212SC).

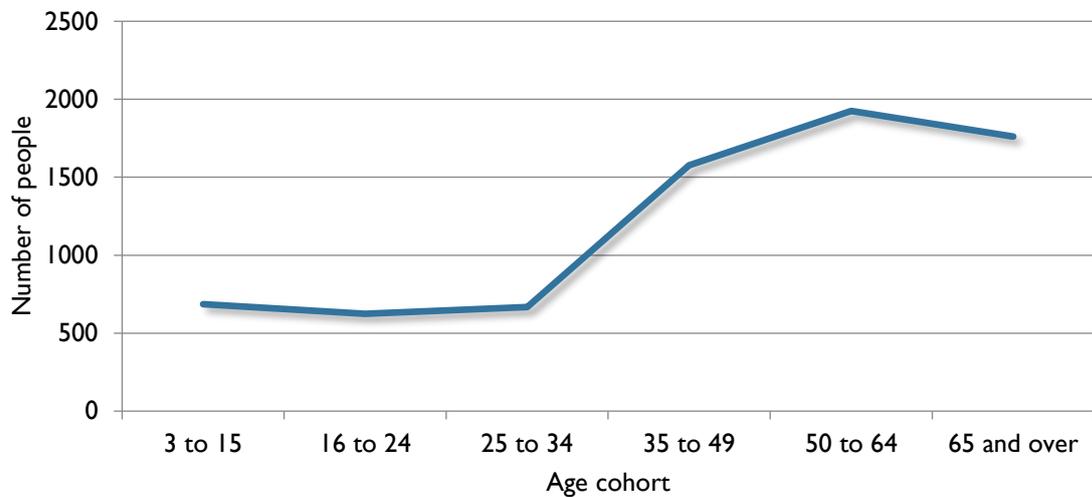


Figure 83 Age profile of the Cairngorms National Park population who can understand, speak, read or write Scots (Census table LC2121SC).

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Nevertheless, it is classified by UNESCO as being ‘Definitely endangered’⁷ (Moseley, 2010). Currently, the National Park Authority seeks to support the Gaelic language through its Gaelic Language Plan (Cairngorms National Park Authority, 2018). Scots, which takes the form of its Northern / North-eastern dialect, Doric (McColl Millar, 2007), is also spoken throughout the Cairngorms National Park, but is stronger in the east where the influence of the lowlands is greatest. The language has also seen a fall in use since its apex in the Medieval period (Smith, 2000), with around 5,400 (29.3%) of the National Park’s population claiming to be able to speak it in 2011 (**Figure 82, Figure 83, Figure 84 and Figure 86**) for an overview of Scots language skills). It is classified by UNESCO as being ‘Vulnerable’.

Despite apparently having a greater number of speakers than Gaelic, an analysis of the Scots language skills remains difficult. Firstly, the 2011 Census was the first to collect information on the Scots language and therefore no detailed information on trends is available. Secondly, research carried out prior to the census suggested that people vary considerably in their interpretation of what is meant by “Scots” and that it is therefore likely that the census statistics reflect a very broad definition of the language. The number and proportion of both Gaelic and Scots speakers is therefore low within the Cairngorms National Park and it should be recognised that the Park Authority is extremely limited in its ability to influence language use and acquisition. However, the LDP may play an indirect role in language maintenance through its ability to shape the National Park’s sense of place.

A sense of place may be defined at its simplest as the human interpretation of space (Tewdwr-Jones, 2002) and therefore the linguistic landscape, be it in the form of visible displays on advertisements or signage or interpreted through the names written on maps or in literature, may form a strong part of this interpretation (Coupland, 2012). Placenames, for example, can offer a strong

⁷ UNESCO has established six degrees of endangerment that ‘may be distinguished with regard to intergenerational transmission’, namely, ‘Safe’, ‘Stable yet threatened’, ‘Vulnerable’, ‘Definitely endangered’, ‘Severely endangered’, ‘Critically endangered’ and ‘Extinct’. In the case of Gaelic’s status as a ‘Definitely endangered’ language, this means it is predominantly no longer being learned as a mother tongue by children in the home. The youngest speakers are thus of the parental generation. At this stage, parents may still speak their language to their children, but children do not typically respond to the language. In the case of Scots as a ‘Vulnerable’ language, this means that most, but not all children of families of a particular community speak their parental language as a first language, but this may be restricted to specific social domains (UNESCO, 2003).



insight into the culture, history, environment and wildlife of an area. Public displays of language, which may be framed within the context of bilingualism, and which may form part of the broader cultural landscape, can play an important role in generating cultural norms such as the use of a minority language, effectively creating an environment in which the language is a prominent day to day feature of the environment (Adam, 1998; Urban, 2001; Shein, 1997; Kirshenblatt- Gimblett, 2004; Coupland & Garrett, 2010; Bauman & Briggs, 1990).

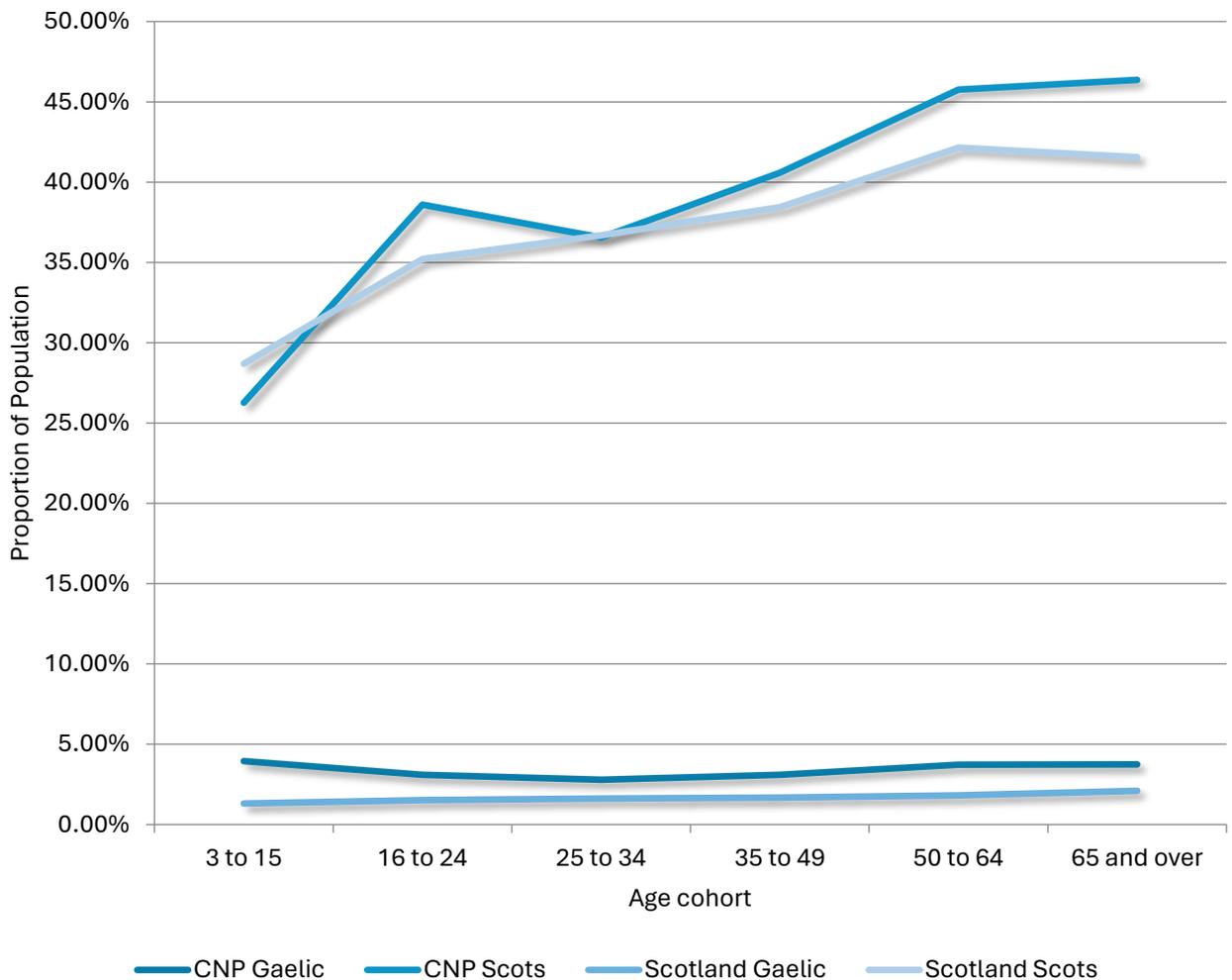


Figure 84 Proportionate age profiles of the Cairngorms National Park and Scottish populations who can understand, speak, read or write Gaelic or Scots (Census tables LD2120SCdz and LC2121SC).

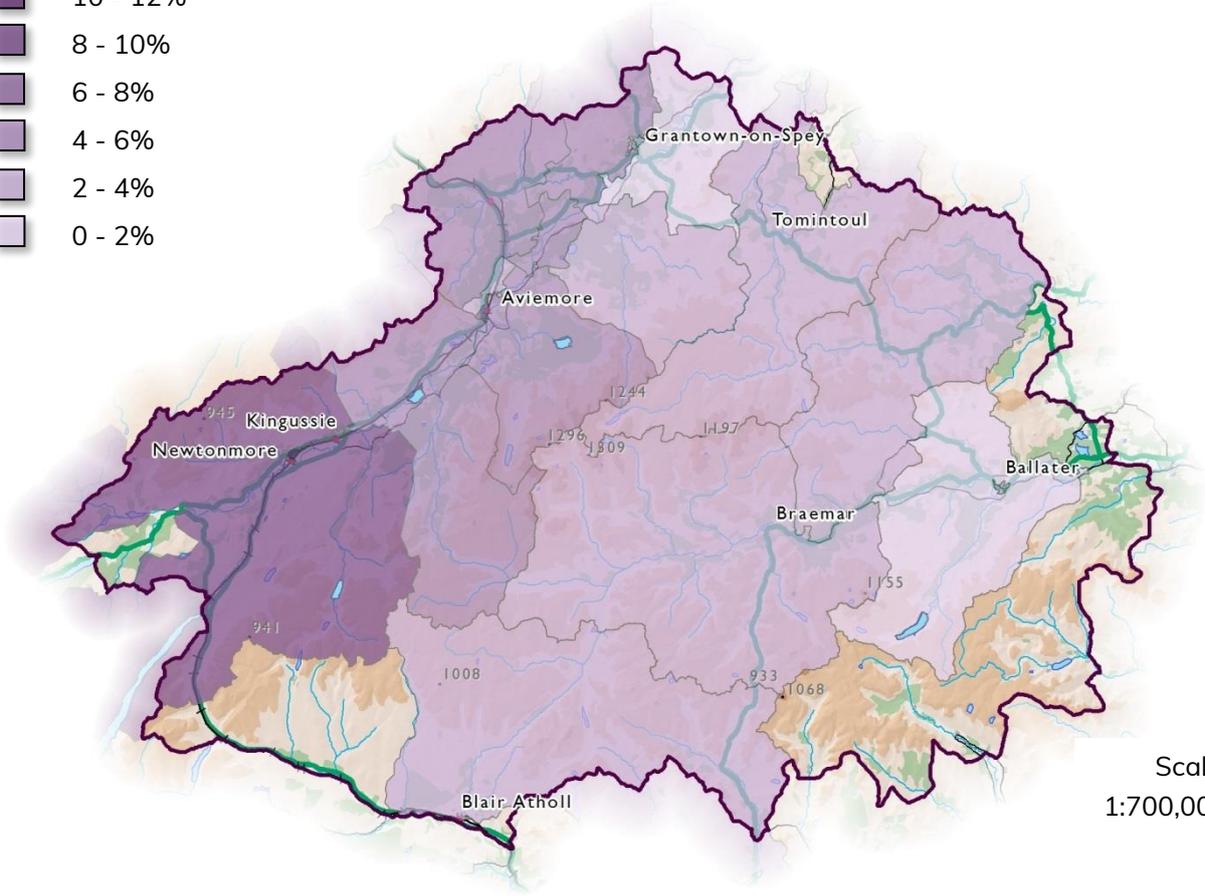
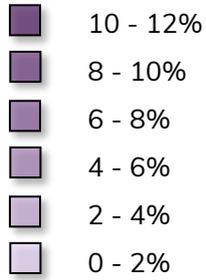


Figure 85 Proportion of people aged 3 and over with any combination of Gaelic language Skills (the sum of the skills outlined in Figure 104) (Census table QS211SC).

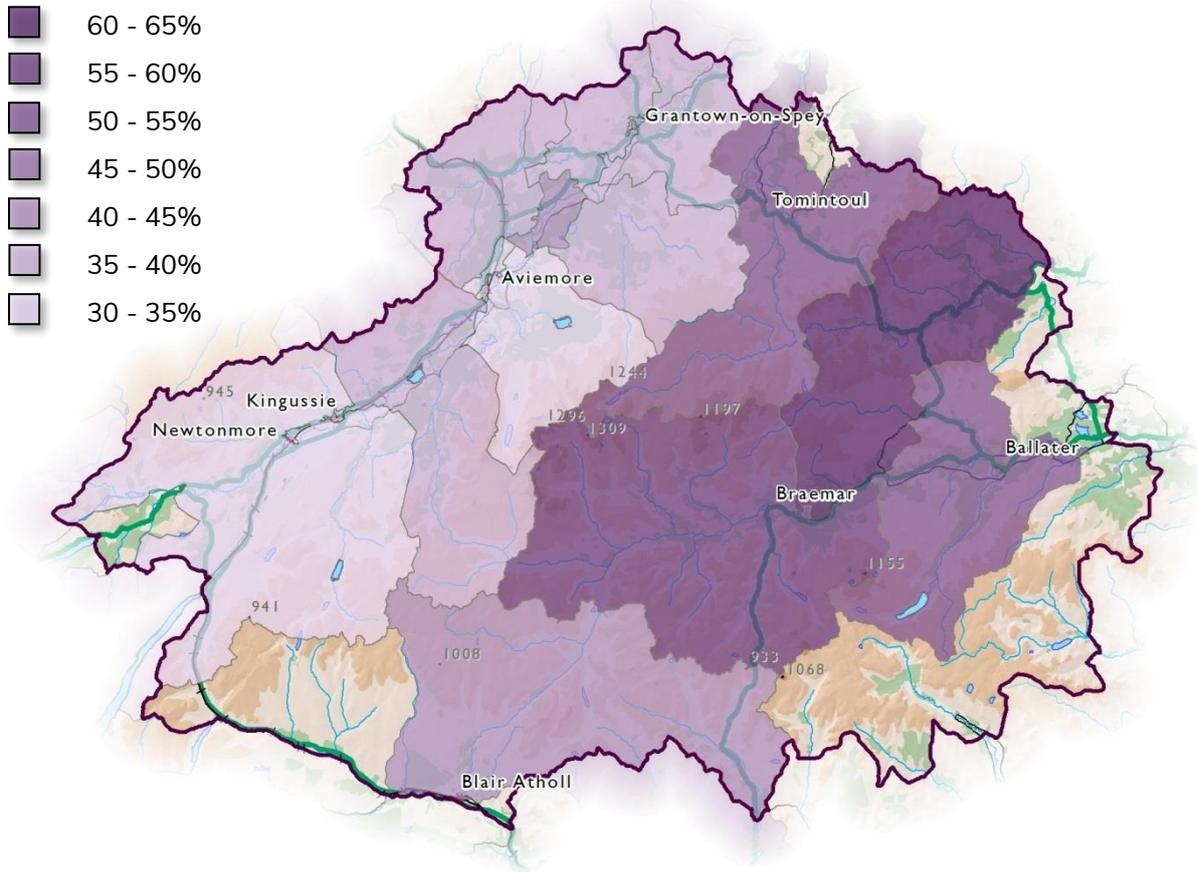
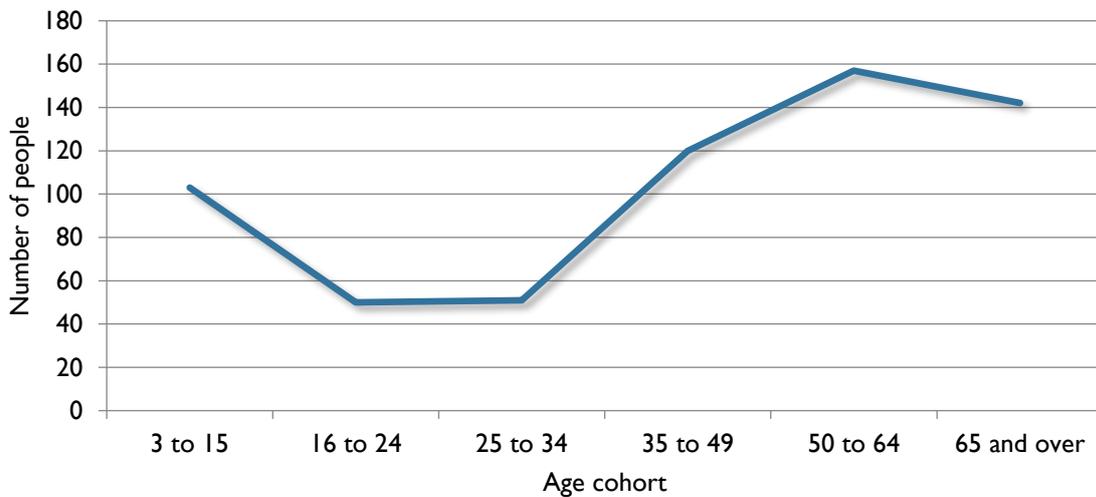


Figure 86 Proportion of people aged 3 and over with any combination of Scots language Skills (the skills outlined in figure 104)

Scale:
1:700,000



(Census table Q212SC).



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There is a perception that, in the case of Gaelic at least, there is an economic benefit in the public use and display of the language. It is estimated that the potential economic value of Gaelic to the Scottish economy is in the region of between £82 million and £149 million (DC Research, 2014). In the Highlands 70% of businesses recognise Gaelic as asset to their business. One third of businesses that saw the language as an asset could measure the value to their businesses. Of these 34 businesses, Gaelic contributed to turnover in the region of £4 million. (Highland Council – DC Research, 2014)

Under the Gaelic Language (Scotland) Act 2005, Scottish Government has released its third iteration of the Gaelic Language Plan which through policies and projects is aimed at securing the future of Gaelic in line with the aims of the National Performance Framework.

Key Messages

The cultural heritage of the Cairngorms National Park is also rich, being home to thousands of historic structures, buildings and archaeological remains. There are numerous areas protected by some form of historic designation, including Listed Buildings, Scheduled Monuments, Designated Landscapes and Gardens and Battlefield Inventory Sites.

The Cairngorms National Park also possesses less tangible cultural assets, such as the 370 Gaelic and 5,400 Scots speakers.

One of the Cairngorms National Park's aims is to “to conserve and enhance the natural and cultural heritage of the area” and therefore the LDP will have to carefully consider its potential effects on these assets.

Data discussed in topic one has inter-relationships with the following topics:

Topic 1: Climatic Factors

Topic 3: Water



Topic 4: Soil

Topic 5: Material Assets

Topic 6: Biodiversity, Fauna and Flora

Topic 7: Landscape

Topic 9: Population and Human Health



Topic 9: Population and Human Health

The Cairngorms National Park is the largest National Park in the UK covering 6% of Scotland, home to over 18,600 people many of whom work in the growing tourism sector that attracts about 2 million visitors each year. To ensure that we adhere to the National Parks vision of maintaining “an outstanding National Park, enjoyed and valued by everyone, where nature and people thrive together” it is necessary to maintain the most up-to-date information about the social-economic position of the park to inform future policies and strategies that support the delivery of the four aims set out in the National Parks (Scotland) Act 2000 in particular the fourth aim “to promote sustainable economic and social development of the area’s communities”.

Population

Population statistics within the Cairngorms National Park are calculated using an aggregate of data zones that roughly correspond with its boundary. For full details on how these data zones are collected, see Appendix Item 3. In 2021 the estimated population of the National Park was 18,711 (Scottish Government, 2023). This was comprised of 50.5% female (9452) and 49.5% male (9259), a more balanced distribution when compared to national figures for Scotland of 51.2% female and 48.8% male.

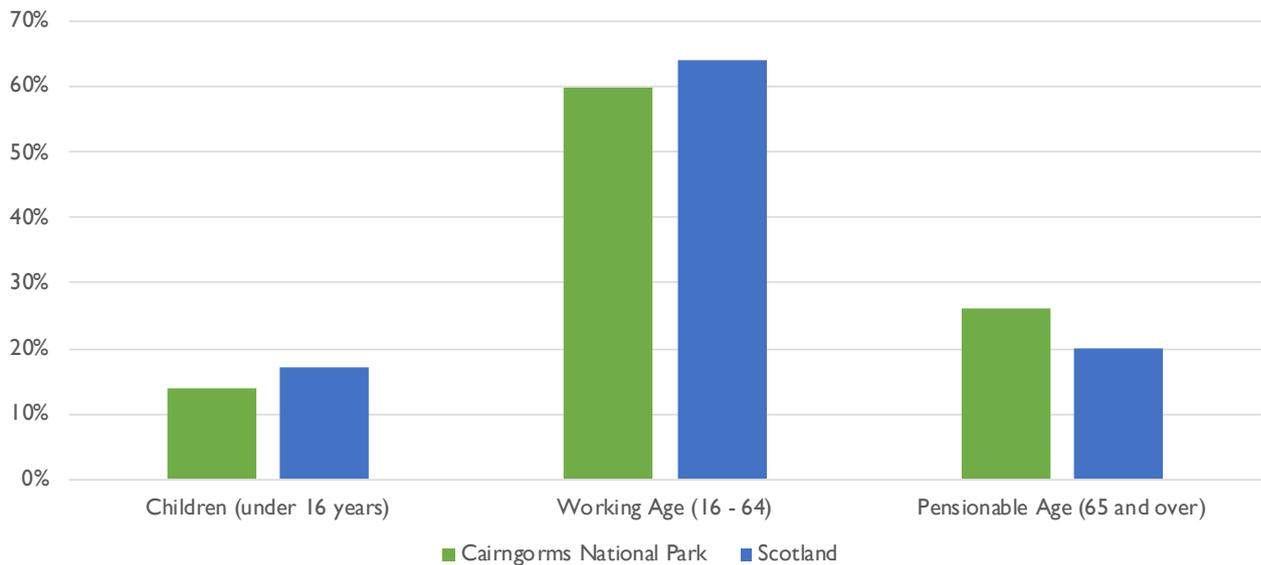


Figure 87 Proportion of the population by age group in Scotland compared to the Cairngorms National Park in 2021 (Scottish Government, 2023).

The proportion at pensionable age in 2021 in the Cairngorms National Park (65yrs +) is higher than the National average (**Figure 87**). Inhabitants of working age and children under 16 make up a lower proportion of the population compared to national averages.

In 2021 the Cairngorms National Park had a working age population of 11,307 people accounting for 60% of the total population, with 5693 males and 5614 females. Those of pensionable age (65years+) numbered 4,810 people accounting for 27% of the population (Scottish Government, 2023).

The Cairngorms National Park experienced significant growth year on year between 2001 to 2010 (with the exception of 2009) accounting for a 12.8% increase during the period. Between 2011 and 2021 growth has slowed but over the period showed modest growth of 1.5%. Although mid-year estimates suggest a slowdown in the rate of growth between 2011 and 2014, during the 21st century⁸, the National Park has experienced a significant net increase in its resident population, rising by approximately 2,365 persons (a growth of 14.5%)

⁸ Figures between 2001 and 2009 include people living in the area of Perth and Kinross which did not become part of the National Park until 2010.



(Figure 88). This growth is well above the overall Scottish rate, which saw a net increase of around 8.2% over the same period (Figure 89). The National Park experienced rapid growth in the first decade, but this has slowed in comparison to Scotland which has seen a continued growth in population numbers.

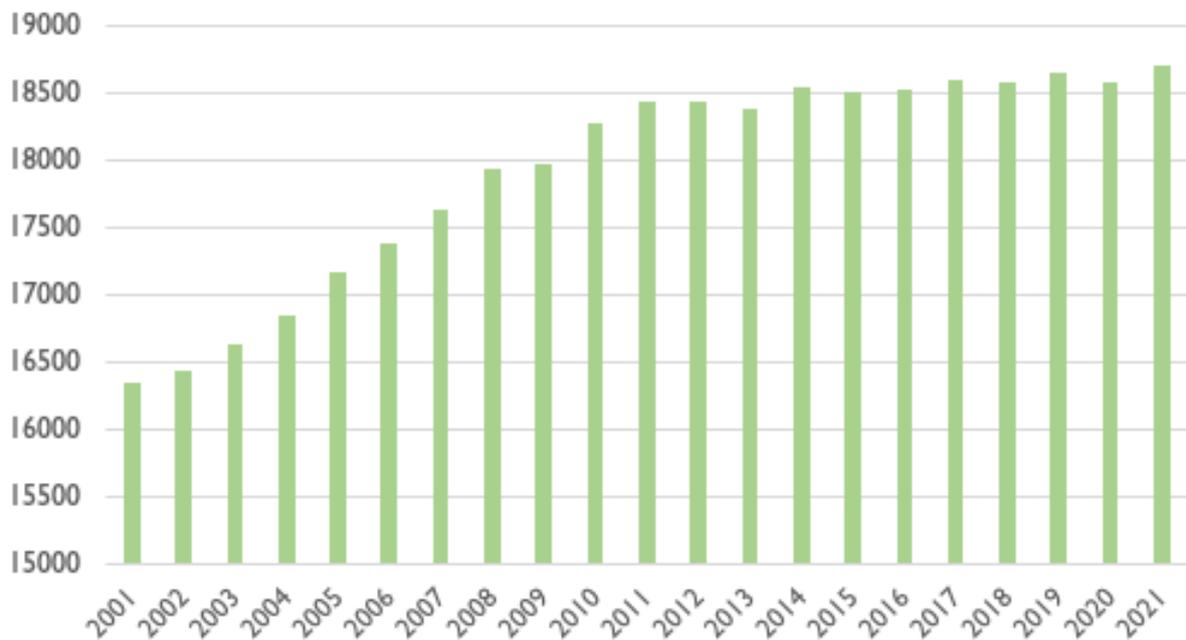


Figure 88 Population of the National Park 2001-2021 (Scottish Government, 2023)

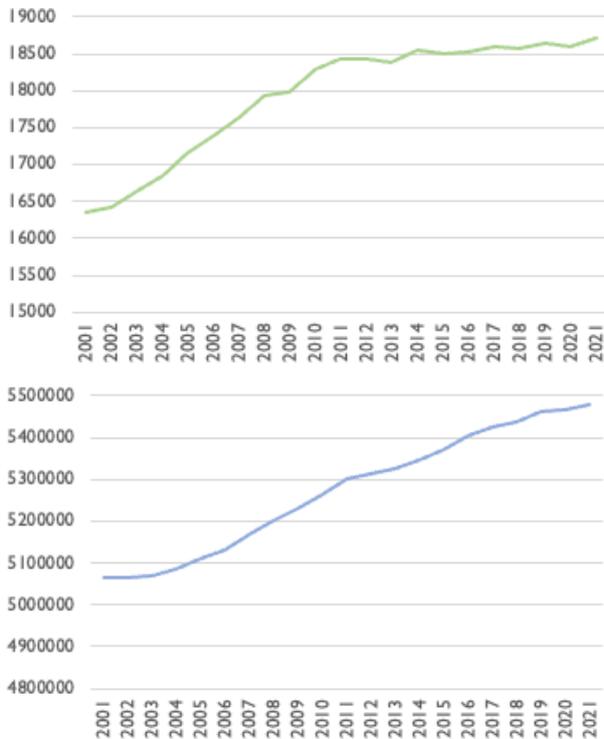


Figure 89 and Figure 90 Comparison in population growth in the National Park (left) and Scotland (right) between 2001-2021 (Scottish Government, 2023).

This growth has not been evenly distributed throughout the Cairngorms National Park (**Figure 91**). Indeed, the overall population in data zones within Aberdeenshire, Moray and Perth and Kinross has remained relatively stable. The Highland area of the National Park has seen the greatest increase from 11672 in 2001 to 14041 people in 2021 representing an increase of 20.3%.

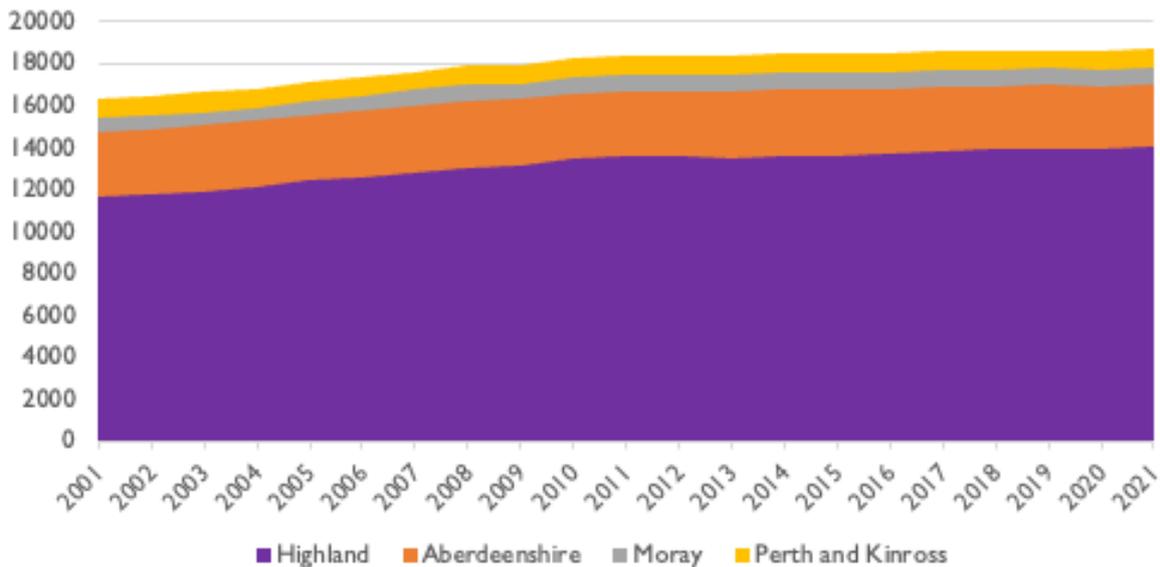


Figure 91 Mid-year estimates of the total population for the Cairngorms National Park distributed by Local Authority Area. (Scottish Government, 2023).

Although net population change within the Cairngorms National Park has been positive, certain areas experienced a reduction in the population. For example, the population of data zone S010006789 (East Cairngorms- 01), which represents part of Ballater, lost around 162 persons (-22.3%) between 2001 and 2021. Reporting in the last LDP SEA (up to 2017) saw a decrease of 14.5% suggesting the area is experiencing a declining population trend.

Population Projections

Population projections for the Cairngorms National Park are produced by National Records of Scotland (NRS), with the most recent data at the National Park level being 2018 based projections. NRS's (2018) principal projection is that between 2018 and 2043, the population of National Park will increase from 19,045 to 19,961 (an increase of 4.8%) (**Figure 92**). Population growth between 2011 and 2021 (based on the mid-year estimates) has fluctuated annually but over the period has modestly increased, supporting the projections for further continued growth during the next decade. The 2018 based projection contrasts with the last published projections for the previous LDP evidence base (NRS's 2016 based projections) which projected a 4% decrease for the period 2014-2039.

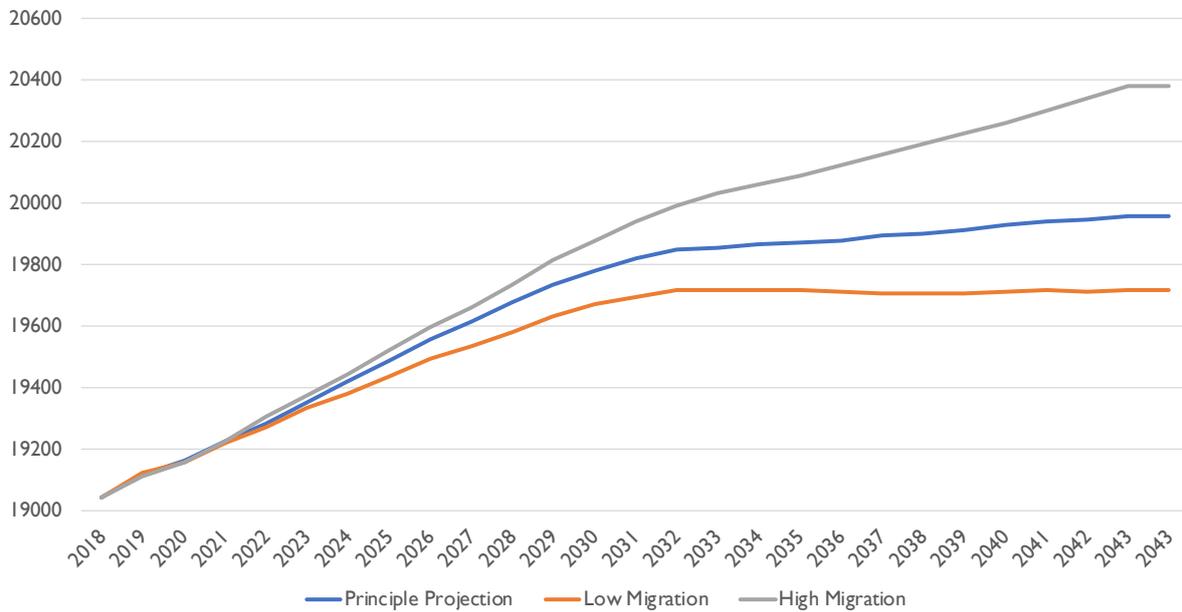


Figure 92 Estimated and projected total population of the National Park, 2018-2043 (NRS, 2019).

Population projections are calculations showing what happens under certain assumptions about future fertility, mortality and migration. Household projections also incorporate information on trends of household formation. They do not take into account future changes that may occur as a result of policy initiatives, social or economic change. They will reflect past policy changes and trends in house building, but they do not incorporate information on planned future policy changes or house building. For example, an area may have had a high level of house building over the last few years, which is now coming to an end, but the projections would show a continuation of the past trends. These projections are not, therefore, forecasts of what the government expects to happen.

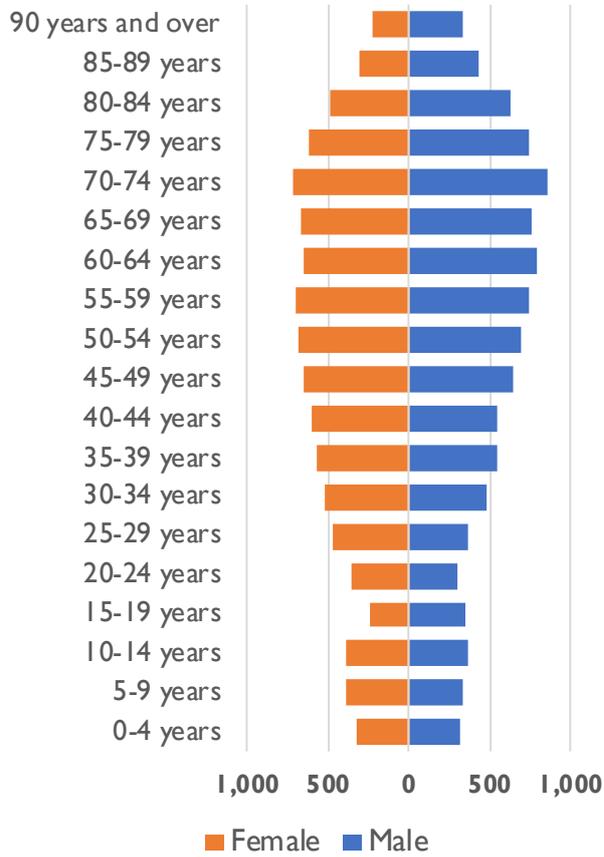


Figure 93 Estimated population profile by age and sex in the Cairngorms National Park in 2018 (NRS, 2019).

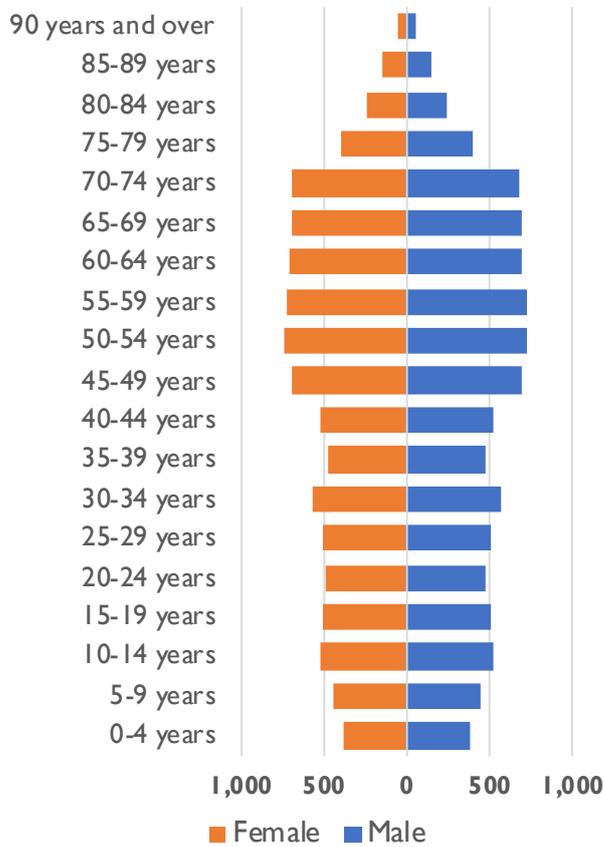


Figure 94 Projected population profile by age and sex in the Cairngorms National Park in 2043 (NRS, 2019).





Figure 95 Principle projected change in population by age group in the Cairngorms National Park (Source: NRS. Based on 2018 data, published in 2019).

NRS (2018 based projections) also give an indication of how the age structure of the population might change (**Figure 93** and **Figure 94**). According to the principal migration scenario, the number of children aged under 16 years is projected to decrease by 19.7% over the projection period from 2,828 in 2018 to 2,272 in 2043. The number of people of working age is projected to decrease from 11,588 in 2018 to 10,916 in 2043, representing a 5.8% reduction. The population of pensionable age is projected to rise by 46.3% from 4,629 in 2018 to 6773 in 2043. However, the number of people aged 80 and over is projected to rise from 1,074 in 2018 to 2,393 in 2043, an increase of 122.8%. By 2043 the population is projected to be more heavily distributed at older ages.

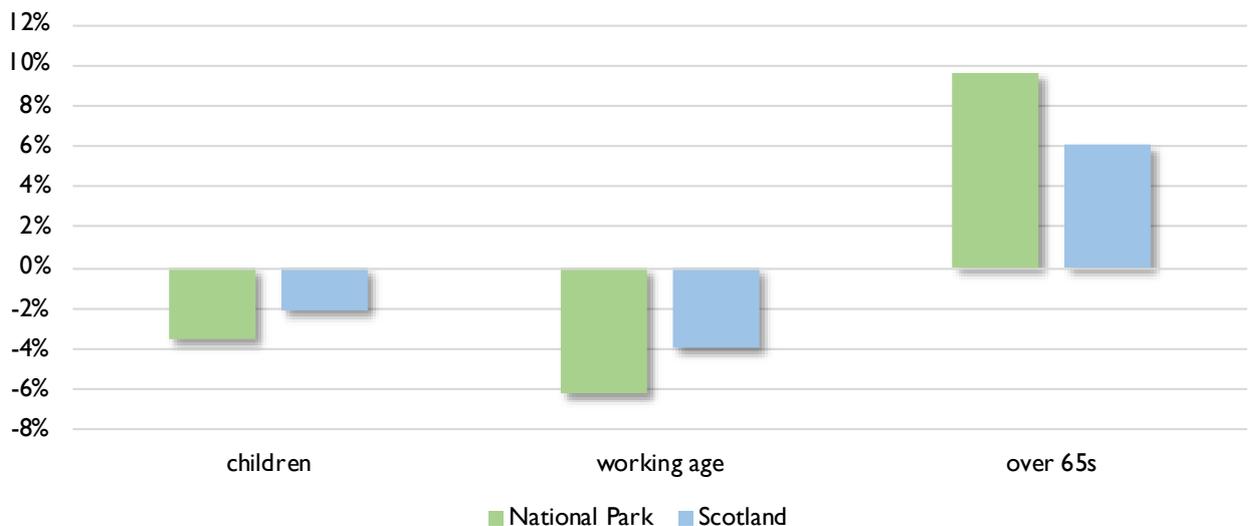


Figure 96 Principle projected population change in the CNP and Scotland 2018 – 2043 (NRS, 2018).

Wellbeing

There is limited information available for the Cairngorms National Park area on aspects of individual wellbeing with most information being at Local Authority or National level. However, the Scottish Index of Multiple Deprivation (SIMD) is an official tool developed and used by the Scottish Government, which collects multiple indicators for data zone areas. The data has a particular focus on



deprivation, with rankings provided for an overall indicator plus seven separate 'domains'. However, the associated data also provides some indicators of personal and economic wellbeing for the National Park.

The SIMD uses the 2011 data zones for Scotland which split the country into 6977 geographic areas and in general they have populations of between 500 and 1,000 residents. There are 24 data zones whose population centroids lie within the Cairngorms National Park – whilst these do not cover 100% of the National Park population and include small numbers of people from outside the park, the data for the 24 data zones are a suitable indicator of the National Park's situation. More information on the use of data zones can be found in Appendix 3.

SIMD Rankings for CNP data zones

Care should be taken in interpreting the SIMD rankings as they measure the overall deprivation of data zones. These may contain smaller geographic areas or households experiencing significant deprivation or affluence which may to some extent be overlooked in assessing the overall score and ranking for the data zone. Disclosure control methods can also complicate analysis for some SIMD indicators because cell values may be suppressed leading to data zones having empty cells.

The overall ranking suggests that all data zones within the Cairngorms National Park are approximately middle-ranking or above (**Table 20**) The only data zone domain rankings in the 'Most Deprived' category is for access to amenities – while this is an issue particularly for households with limited access to a car and with regards to carbon emissions, larger average distances to amenities can be expected for a predominantly rural area. It should also be noted that 10% of this ranking is weighted against access to superfast broadband (an additional indicator added to the 2020 SIMD).

Table 20 SIMD (2020) Rankings for Cairngorms National Park data zones

Domains



Data zone	Overall Rank	Income	Employment	Health	Education	Access to Amenities	Crime	Housing ⁹
Aviemore Centre E	3377	2744.5	3372	3879	2256	4982	5232	2359.5
Area W & N of Granttown	3447	4142	4705	5797	1813	338	5414	3482
Blair Atholl (part) & Areas to N & E	3503	4452	4633	5333	4247	28	6489	3156
Area including Strathdon & Cock Bridge	3509	4251	3932	6269	4192	100	5333	4152
Tomintoul & Surrounding Areas	3960	4344	4950	6155	3219	269	5562	5038
Area South & West of Kingussie	4065	4114.5	6329	6195	4180	166	2893	3367
Newtonmore	4170	3844	4369	3861	3406	2150	6438	3349
Aviemore N & High Burnside	4278	3781	4326.5	5128	3840	2072	4155	2700
Area surrounding Ballater	4447	5998	5116	6551	5235	73	4852	3370
Kingussie North Central & N	4525	4007	3542	4557	3930	5431	5047	2771
Boat of Garten & Area to E	4608	4739	5755	5554	3794	480	6777	3216
Granttown West	4654	3915	4670	4890	3426	3432	4607	4184.5
Area SE & NW of Kincaig	4697	5601	5839	6663	4723	266	2561	3136
Carrbridge & Surrounding Areas	4756	4957	5296	6093	4524	712	3574	3417
Area NE & SE of Granttown	4767	5691	5983	6502	3923	245	4988	3989
Nethy Bridge & Surrounding Areas	4784	5119	5677	6443	5346	292	6494	1576.5

⁹ Housing domain based on overcrowding and absence of central heating in house, not availability or affordability



Ballater N Central & NE	4871	4439	3611	5148	3881	6322	5542	2500.5
Aviemore Centre S & W	4873	4727	4919.5	5567	2943	4852	2054	2133
Kingussie South Central & W	4885	3902.5	4114.5	4997	4855	6182	2777	4502
Aviemore E, Glenmore & surrounding areas	4917	5513	5217	6327	4740	644	4115.5	2603
Grantown North & Central	4936	4002	4897	3878	3756	6419	4269	4423.5
Grantown South & Central	5482	4441.5	5277.5	4306	5104	5639	6048	2240
Braemar & Surrounding Areas	5949	5376.5	6481	6775	5061	1637	5410	5323
Ballater S Central & SW	6040	4794	5637	5611	5134	6206	5309	3731

As the scores are ranks, they do not indicate the degree of difference between data zones. For example, while in the data zone for 'Aviemore Centre East' it is recorded that 13% of households are classed as income deprived (Highest value in the National Park) it may at first appear alarming when some other data zones, nationally, have scores of 1%. However, it should be noted that this is much less significant than in a substantial number of inner-city data zones which have over 40% of households classed as income deprived.

Individual Wellbeing

The Scottish Household Survey (SHS) has surveyed individual wellbeing (SWEMWBS Score¹⁰) at a local authority level and other surveys indicate subjective (self-assessed) wellbeing at a regional level. However, there is no data available to show individual wellbeing statistics for the Cairngorms National Park area. One method to analyse the wellbeing at a local level is the prevalence of people on prescribed medication for mental health concerns. The SIMD data does utilise Prescribing Information System (PIS) data from NHS Scotland to indicate

¹⁰ short version of the Warwick–Edinburgh Mental Wellbeing Scale



the proportion of the population prescribed medication for common mental health issues and this can be aggregated for the National Park data zones.

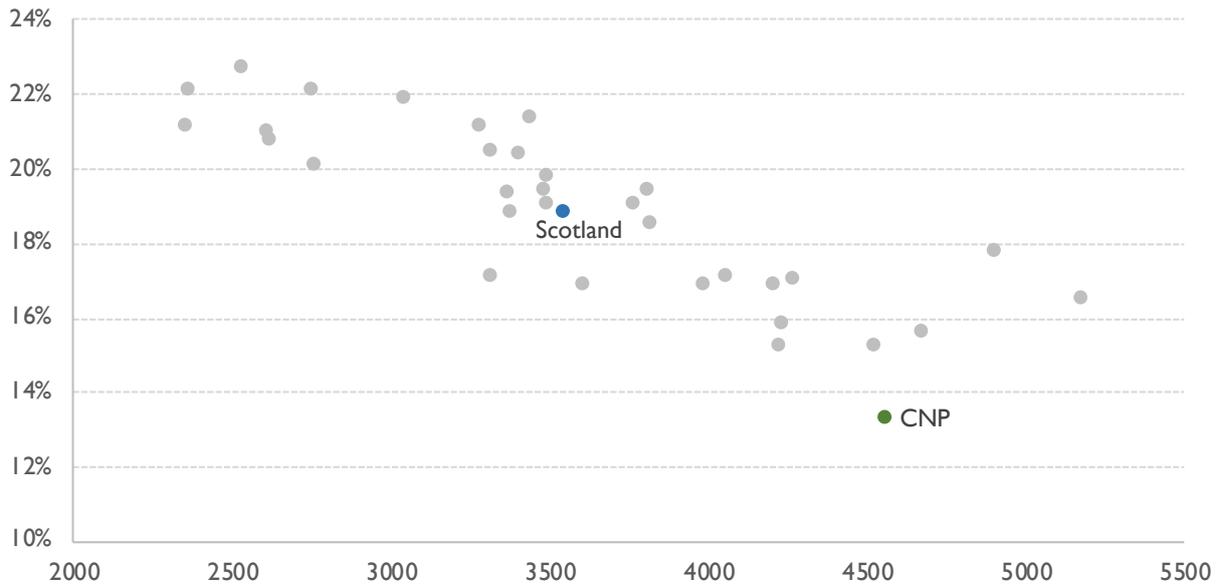


Figure 97 Proportion of population prescribed mental health medication against data zone SIMD (2020) rankings for Local Authorities in Scotland (Source: SIMD, 2020 with medication data derived from NHS Scotland).

Care should be taken interpreting this data as prescription rates may be affected by factors such as cultural attitudes to mental health and medication, whilst the percentage of people recorded as being prescribed such mental health medication varies by only a modest amount between the lowest (Shetland and City of Edinburgh at 15%) and highest (Inverclyde at 23%) proportions for local authority areas in Scotland. The population of the Cairngorms National Park is also relatively small at approximately 18,600 (2020 figure used in data comparison) people (similar to the smallest local authorities of Orkney and Shetland) and this small population size increases the potential for misleading variations. Additionally, there is only a weak correlation between local authorities estimated SWEMWBS Scores and the prescription rates for common mental health issues – however the NHS will inevitably sample a limited section of the population with weightings used to provide estimates for the whole population.

Allowing for the above caveats, the data does appear to be in accordance with the academic evidence that deprivation and reduced social cohesion (discussed below) do in fact negatively affect the populations mental health (D. Fone, J.



White, D. Farewell, M. Kelly, G. John, K. Lloyd, G. Williams and F. Dunstan, 2014). The Cairngorms National Park's position on the chart (**Figure 97**), (further supported by the below data indicating relatively low crime rates), also adds support to suggestions that the Cairngorms National Park could offer a relatively high quality of life to local people and increase migration into the National Park by potential employees from outwith the area. It should however be noted that averaged data should not be used to ignore the likelihood of significant wellbeing challenges faced by individuals and neighbourhoods within an area.

Wellbeing in Rural Scotland

Research into Subjective Wellbeing (Self-assessed wellbeing) frequently finds that people in rural areas report higher levels of wellbeing than people in urban areas. Evidence in England supports this claim (Health and wellbeing in rural areas, 2017¹¹) stating “that overall health outcomes are more favourable in rural areas” Although research specific to Scotland is limited, one analysis¹² using the British Household Panel Survey for the UK found that people in ‘remote’ rural areas of Scotland (under their classification this would apply to the whole of the Cairngorms National Park), do report higher levels of life satisfaction after allowing, as far as possible, for other variables such as income. In a paper examining how people view their locality in Scotland (Rural Scotland: Key facts 2018¹³), a higher proportion of residents in rural areas define their neighbourhoods as a ‘very good’ place to live. Higher proportions of people volunteer and feel they are part of the immediate communities.

As might be expected, a major factor found to explain the higher rural wellbeing is closer social connections. In smaller settlements people are more likely to know their neighbours and the people they meet on the street, supporting greater levels of trust and expectations of support when needed. It should be added that it is hard to disprove the possibility that rural areas may be a self-selecting sample for example, more people who are dissatisfied with their life may leave rural areas in comparison with urban areas.

¹¹ https://www.local.gov.uk/sites/default/files/documents/1.39_Health%20in%20rural%20areas_WEB.pdf

¹² <https://www.sciencedirect.com/science/article/abs/pii/S074301671630002X?via%3Dihub>

¹³ <https://www.gov.scot/publications/rural-scotland-key-facts-2018/>



Effects of Commuting Distance on Wellbeing

Research indicates that substantial time spent commuting (60 – 90 minutes per day) is associated with reduced wellbeing (ONS, 2016). Data presented on commuting transport in Section 4 indicates that both working close to home and travelling longer distances to work are both more prevalent in the Cairngorms National Park than nationally, as might be expected in a rural area. However there has been a modest increase in longer distance commuting between 2001 and 2011 potentially resulting in negative repercussions for the inhabitants of the National Park. The climate emergency implications of this are discussed in section 4. Scotland, overall, represents the 4th highest average commute time of anywhere in the UK (60 minutes), with the highest being London and 2nd and 3rd representing the areas directly adjacent to the capital (Royal Society for Public Health, 2016).

Crime

The commonly held conception of the rural idyll (Bell, 2006) would seem to be supported by the Police Scotland data showing the relatively low levels of crime in the Cairngorms National Park compared with the five adjoining local authorities. The crime rate is also considerably below the Scottish average and currently declining at a rate comparable to National figures. The fact that there may be less crime should not support the misconception that it is not an issue for the local populace (Yarwood, 2001). It cannot be assumed that the perceived safety by the community is higher due to over-all lower rates of crime (Ceccato, 2015).

There was notable increase in recorded crime rates (selected crimes used for SIMD) in 2009, which was not reflected by the National figures (**Figure 98** and **Figure 99**). In terms of the reported crimes (selected sample for SIMD data purposes) the data for the Cairngorms National Park is slightly at odds against the national (Scottish) declining trend (**Figure 100** and **Figure 101**). In 2009 reported crimes increased then decrease the following year but recorded a higher level than before the increase. The only external factor that could be used to explain this was the national economic downturn in 2008 /9 coinciding with these results.

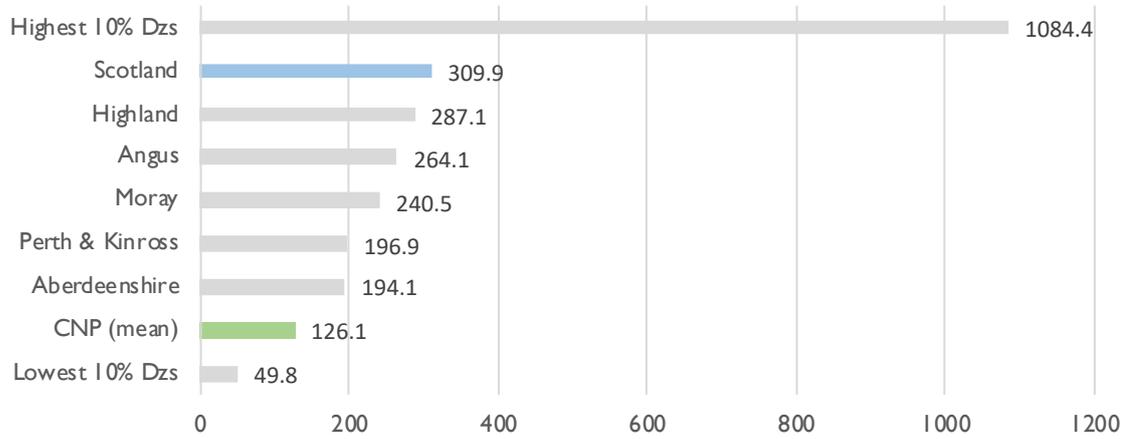


Figure 98 Recorded crime rates¹⁴ (selected categories) per 10,000 Population (Police Scotland, accessed via SIMD 2020).

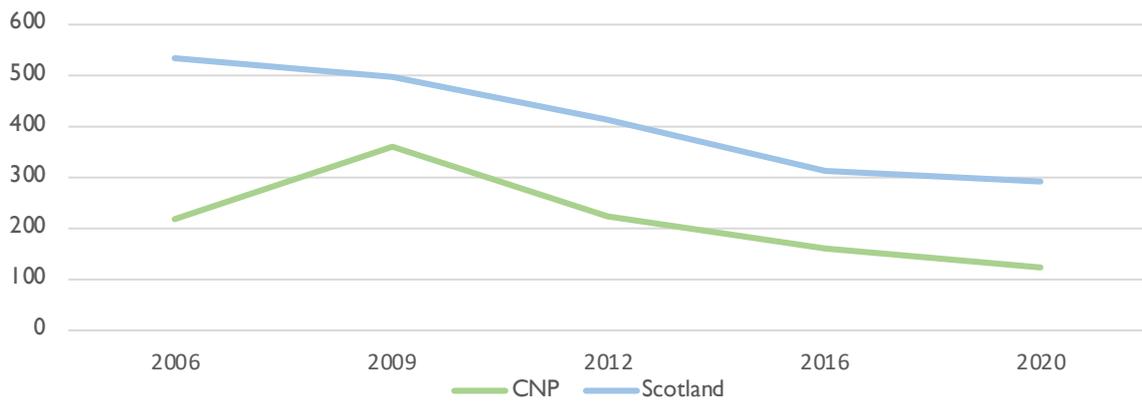


Figure 99 Recorded crime rates (selected categories) per 10,000 Population (Police Scotland, 2020).

¹⁴ Recorded crime rate of selected crimes of violence, sexual offences, domestic housebreaking, vandalism, drug offences and common assault - sum of each SIMD crime per 10,000 population. Data source Police Scotland for 2017-18

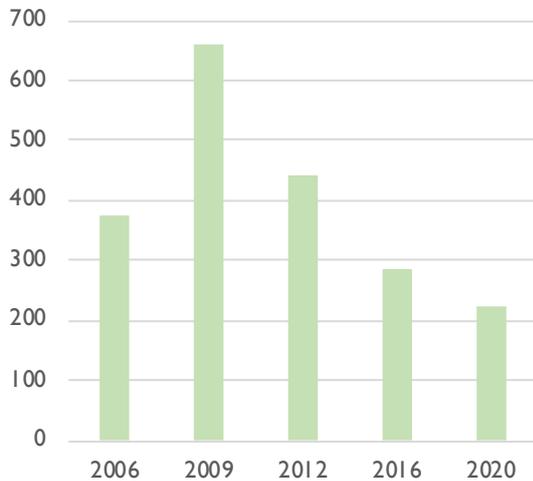


Figure 100: CNP Reported Crimes (selected for SIMD use)

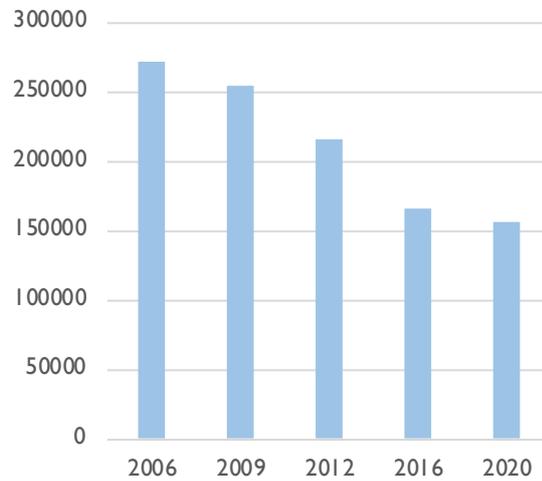


Figure 101: Scotland Reported Crimes (selected for SIMD use)

Factors often associated with this low level of crime (and prevalent in the Cairngorms National Park) include;

- Lower levels of deprivation (De Courson and Nettle, 2021).
- Small towns and villages located in rural areas generally tend to experience lower crime rates (Deller, S and Deller, M, 2010, Donnermeyer, J, 2007, Marshall, B and Johnson, S, 2005) .

Data for individual data zones within the Cairngorms National Park is not shown due to the volatility of this small area data, however it can be noted that the only data zone above the Scottish Average crime rates (in both 2016 & 2020) was the data zone including Aviemore town centre – this is an area that also suffers from income and educational deprivation and is the lowest scoring overall data zone for the National Park on the SIMD scale.

Skills and Education

Data is presented below on formal educational qualifications from higher and further education – however this may underestimate the levels of vocational skills within the Cairngorms National Park's economy.



Educational Attainment of the Adult Population

Scotland's census records the self-reported education / formal vocational training level of people aged 16 or above. The Cairngorms National Park scores relatively highly in terms of the average, the proportion with the highest level and the proportion with the lowest level. The data for adults with Level 4 attainment is 31% for the National Park; this is not only higher than all the respective Local Authorities and the National average but also 4% higher than the average for Rurally classified areas in Scotland (Census Table: CT_0190_2011).

The education level scores are not provided for the individual Cairngorms National Park data zones due to their volatility, however the SIMD data rankings indicate two National Park data zones (Aviemore Centre E and the area W & N of Grantown) that are in the 4th lowest quintile, indicating there is scope for improvement. The National Park does not have data zones amongst the top few scores within Scotland (which tend to be within cities, particularly around universities or in wealthy peri-urban areas) and the relatively high average is perhaps due in part to lack of any areas of major deprivation. Despite the above it would appear that the National Park offers employers an above average level of employees in terms of educational / formal vocational attainment.

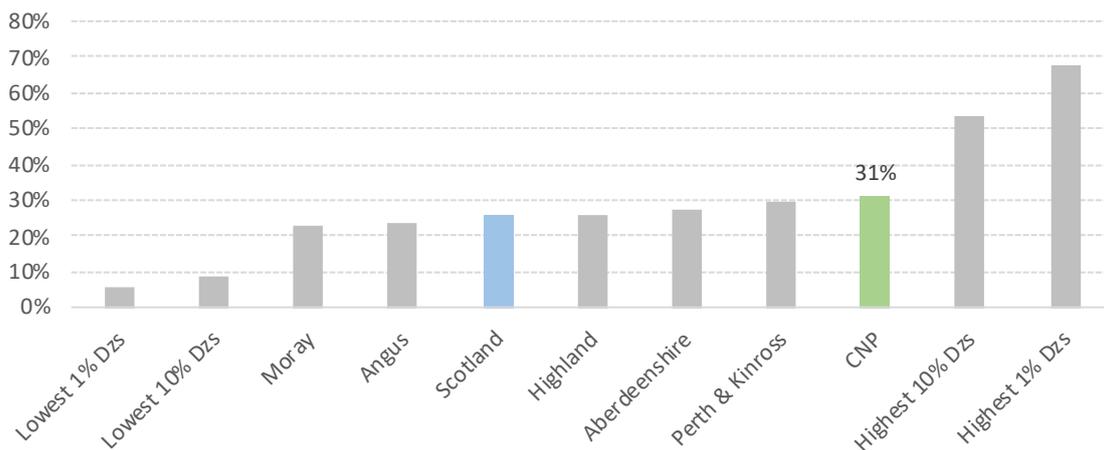


Figure 102 Proportion of adults with level 4 educational attainment (Source- Census 2011).

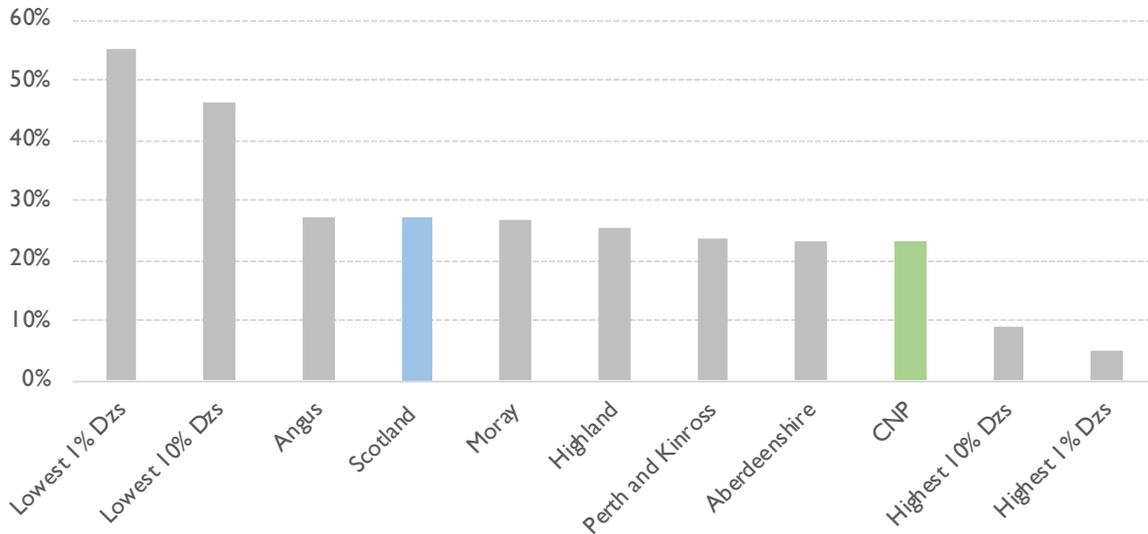


Figure 103 Proportion of adults (16-64 years) with no qualifications (Source- Census 2011).

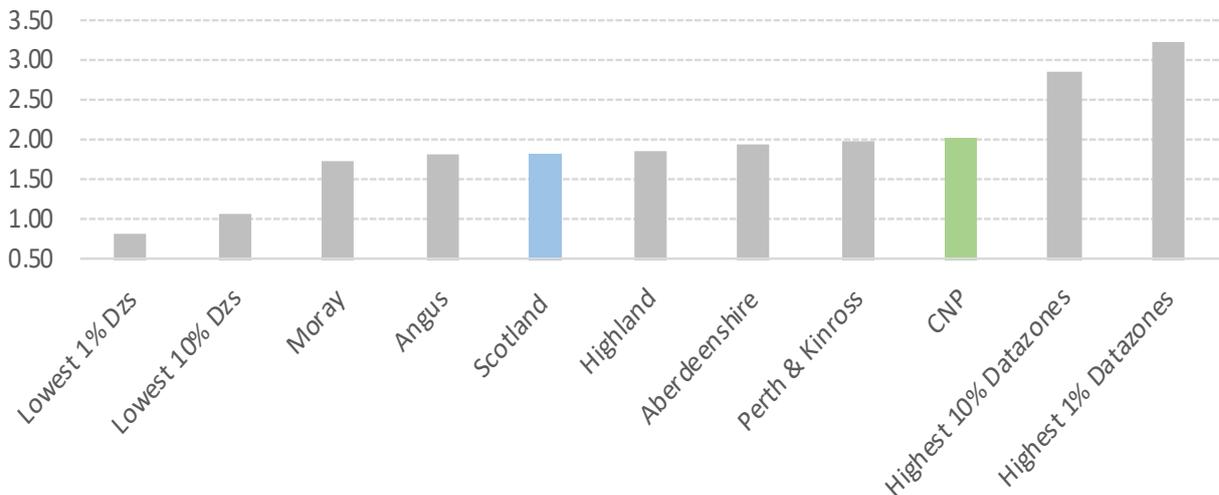


Figure 104 Mean Adult Educational Score (Source- Census 2011).

Educational Scores and Outcomes for 16 – 21 year olds

The data on publicly funded education indicates that school leavers within the Cairngorms National Park have above regional average educational scores – although the differences between local authorities are relatively modest (**Figure 105**). The data also shows one data zone within the bottom 1% for Scotland along with relatively poor school attendance – however this may be a data anomaly due to small sample sizes rather than indicating systemic issues. The



relatively high average attainment for the National Park may be due to a lack of areas with severe deprivation.

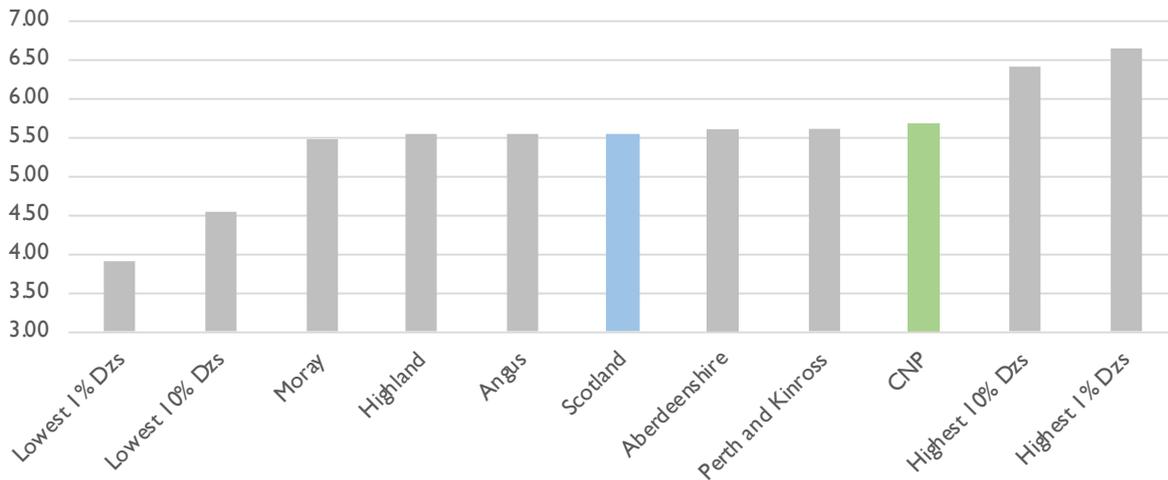


Figure 105 Educational Attainment of School Leavers (Publicly funded schools only) (Source- SIMD 2020, Census 2011).

It is also worth noting that the Cairngorms National Park is above Scottish average figures for attainment but below average in terms of the proportion of 17-21 year olds attending UK Universities (**Figure 106**). Geographical location may be a factor in this whilst there may also be a greater tendency to start employment or do vocational qualifications some of which will not be at universities. The figures are based on young people's location prior to starting university and have been adjusted to allow for areas with large student populations however issues with survey methodology also cannot be entirely ruled out.

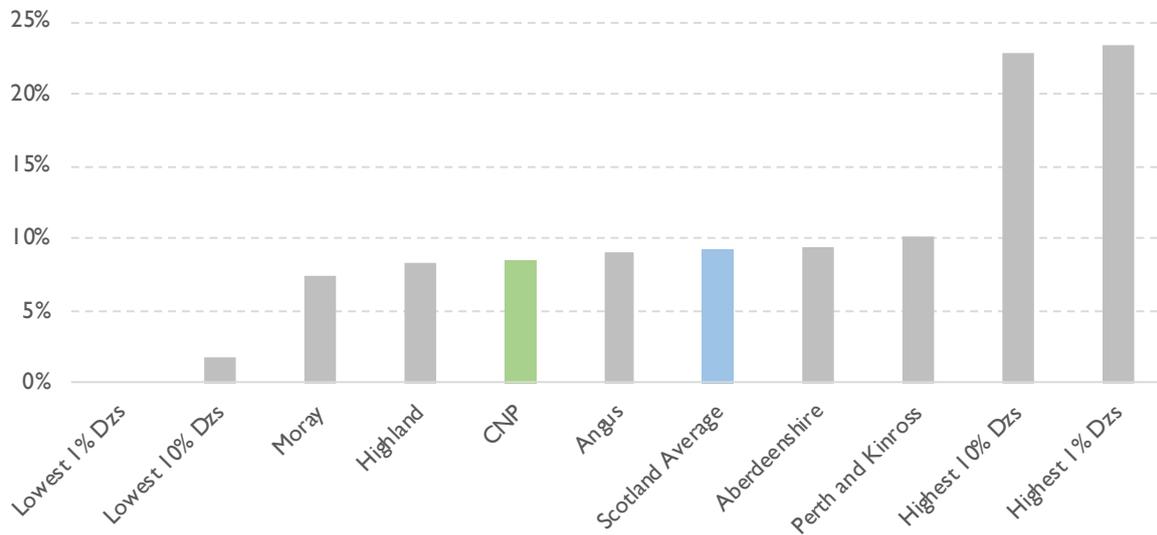


Figure 106 Proportion of 17-21yr olds starting a first degree at UK University 2015/16 – 2017/18 (Source: SIMD 2020¹⁵).

Young people 16-19yrs not in education, employment or training (NEET)

Data (**Figure 107**) from Skills Development Scotland (SDS) indicates that the Cairngorms National Park has an unusually low proportion of 16-19 year olds not participating in Employment, Education and Training (NEET). Factors affecting this may include:

- Relatively high average of educational / vocational qualifications for young people.
- Relatively low unemployment rate and high availability of employment – (for example in tourism).
- Out migration by young people.

Data for individual Cairngorms National Park data zones is not included due to the volatility of this small area data. However, it should be noted that although some National Park data zones record zero 16-19 year olds not participating, two data zones show over 3% of 16-19 year olds not participating and the low

¹⁵ <https://www.gov.scot/publications/scottish-index-of-multiple-deprivation-2020v2-indicator-data/>



average for the whole area does not mean there are no related issues within the National Park.

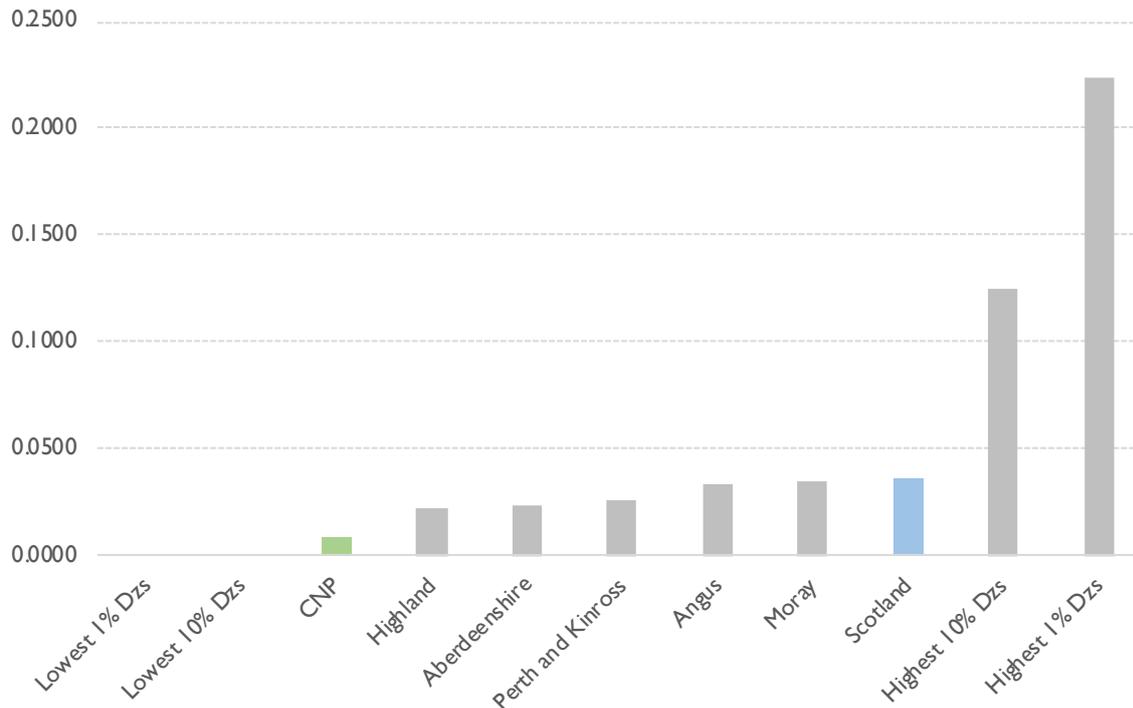


Figure 107 Proportion of 16-19 year olds not in Education, Employment or Training (NEET) (Skills Development Scotland, 2020).

Economic Activity

Rates of employment and unemployment for working age adults can provide a proxy indicator of economic and individual wellbeing within the Cairngorms National Park, with numerous studies confirming that unemployment reduces subjective wellbeing (Argyle, 1989, Burchell, 1992, Feather, 1990, Fryer and Payne, 1986, Rodriguez E, Lasch KE. In: Dohrenwend B, 1998, Murphy and Athanasou, 1999 and Schmitz, 2011.). There is a debate to be had about whether being in a poorly characterised job is better or worse than not being employed at all. Some research suggest that wellbeing is still considerably better for those in poor quality employment over those in an unemployed position (Leach LS, Butterworth P, Strazdins L, Rodgers B, Broom DH, Olesen SC, 2010). However there is also research suggesting that employment characterised by a number of factors including poor conditions, low remuneration, stress and uncertainty can



as negative for wellbeing as unemployment (Broom DH , D'souza RM, Strazdins L, Butterworth P, Parslow R, Rodgers B, 2006 and Graetz B, 1993).

The preceding data used to represent the employment and unemployment rates in the Cairngorms National Park has been taken from census 2011 data and compared with the previous (2001) census data. The data looks at the proportions of people who identified as being in a particular role or employment type, presenting a snapshot of the economic activity when the census' were completed. It should be noted that one person may have had two positions, for example, being a full-time student and also be employed in a part-time position. To present comparable data a percentage of the total working age population (16-74 years; the range set by the Census) for each category will be compared to both the national averages, and the historic values.

Full-time employment in 2011 proportional to the working age population, was recorded nearly equal, in both the Cairngorms National Park (39.6%) and Scotland (39.7%) as a whole (**Figure 108**). This represents a slight change from 2001 (**Figure 108** and **Figure 109**) where the proportion in the National Park was slightly lower (-1.5%), and the national average slightly higher (+0.6%).

In 2011 (**Figure 108**) the most significant finding was the proportion of people in a self-employed capacity in the Cairngorms National Park (14.6%), considerably above the national average (7.5%). There has been little increase nationally (0.9%, 2001 - 2011) in the proportion of self-employed people with the National Park experiencing only a marginal increase (0.03%, 2001 – 2011) (**Figure 109**). This indicates the level of self-employment as a proportion of overall economic activity has been relatively stable and considered a feature of the National Park. This higher proportion of self-employed working practices is considered a typical characteristic of a rural economy and more commonly recorded in affluent rural areas (Williams, C.C. , 2011), reflecting the high proportion of independent and smaller businesses that are present in the Park. This may also account for the consistently higher levels of part-time employment (**Figure 108** and **Figure 109**) seen in the National Park (14.6%, 2011) compared to the national average (13.3%, 2011).

National trends are reflected in the Cairngorms National Park where there has been a steady increase in part-time employment that has maintained the



National Park to Scotland ratio. Unemployment levels have remained relatively stable in the National Park (+0.03%) between 2001 and 2011, not consistent with the national trend (+0.8% for the same period)(see **Figure 110** and **Figure 111**).

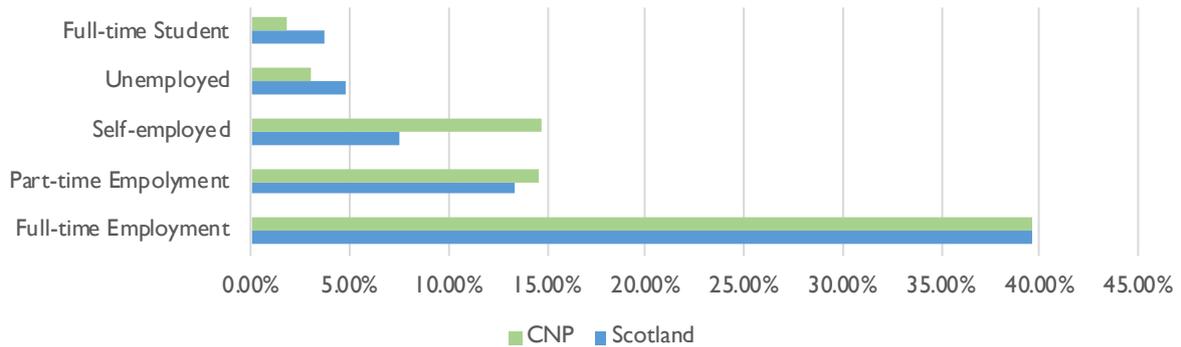


Figure 108 Occupations of economically active population in the Cairngorms National Park and Scotland in 2011 (Census table KS601SC)

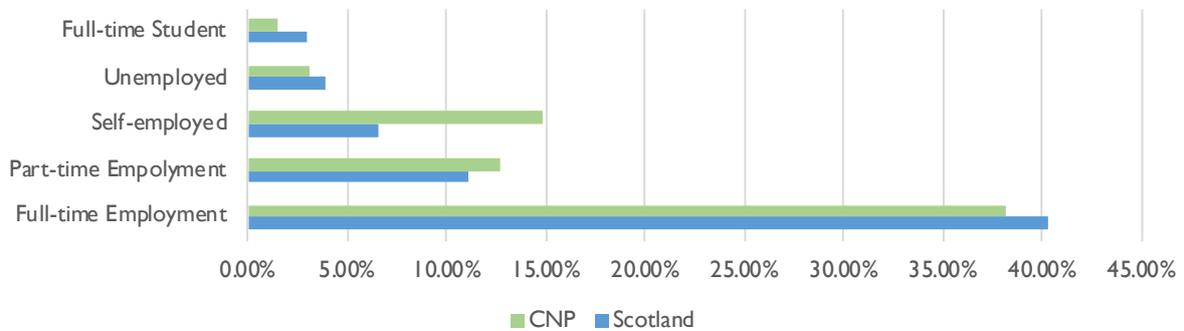


Figure 109 2001 Levels of Economic Activity as a proportion of Population 16 – 74 years in the Cairngorms National Park and Scotland (Census table UV28).

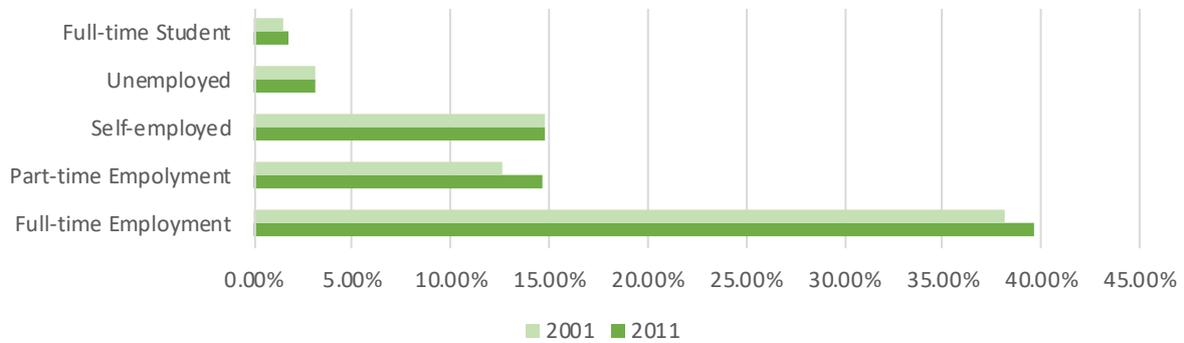


Figure 110 Comparison between levels of the economically active population in 2001 and 2011 in the Cairngorms National Park (Census Tables KS601SC and UV28)

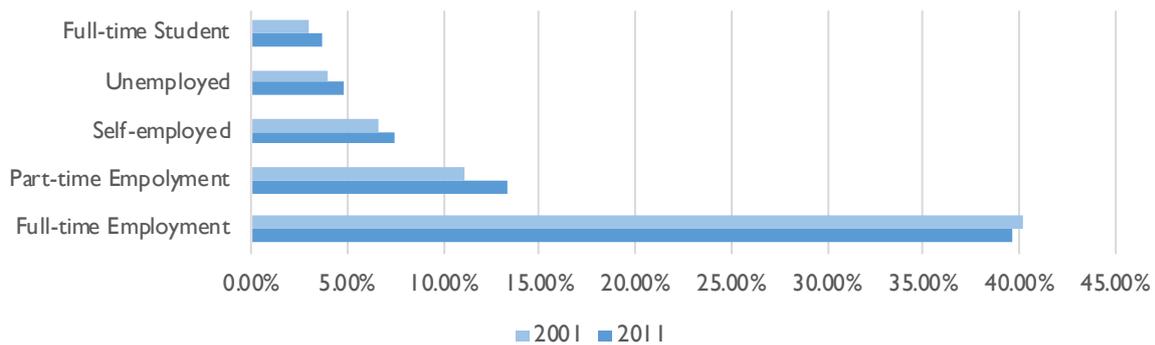


Figure 111 Comparison between Scottish levels of the economically active population in 2001 and 2011 (Census Tables KS601SC and UV28).

According to the Census, of the economically active in 2011 (around 10,487 individuals, or 66% of the 16+ population), around 95% were classed as being in employment, which is slightly higher than the Scottish level of 91.9%. Of the inactive, who numbered 5,377 (around 33.9% of the 16+ population), around 75% were inactive due to retirement.

Indeed, unemployment levels within the Cairngorms National Park are relatively low, with the Census suggesting that in March 2011 only around 445 of the population aged 16-74 (3.2% compared to the Scottish 4.8%) were unemployed, of which around 150 were in long term unemployment, while only around 35 had never worked at all (Table KS601SC). There is however some geographical variation across the area, with the Moray part of the National Park experiencing the highest unemployment level, at around 6.2% (**Figure 112**)

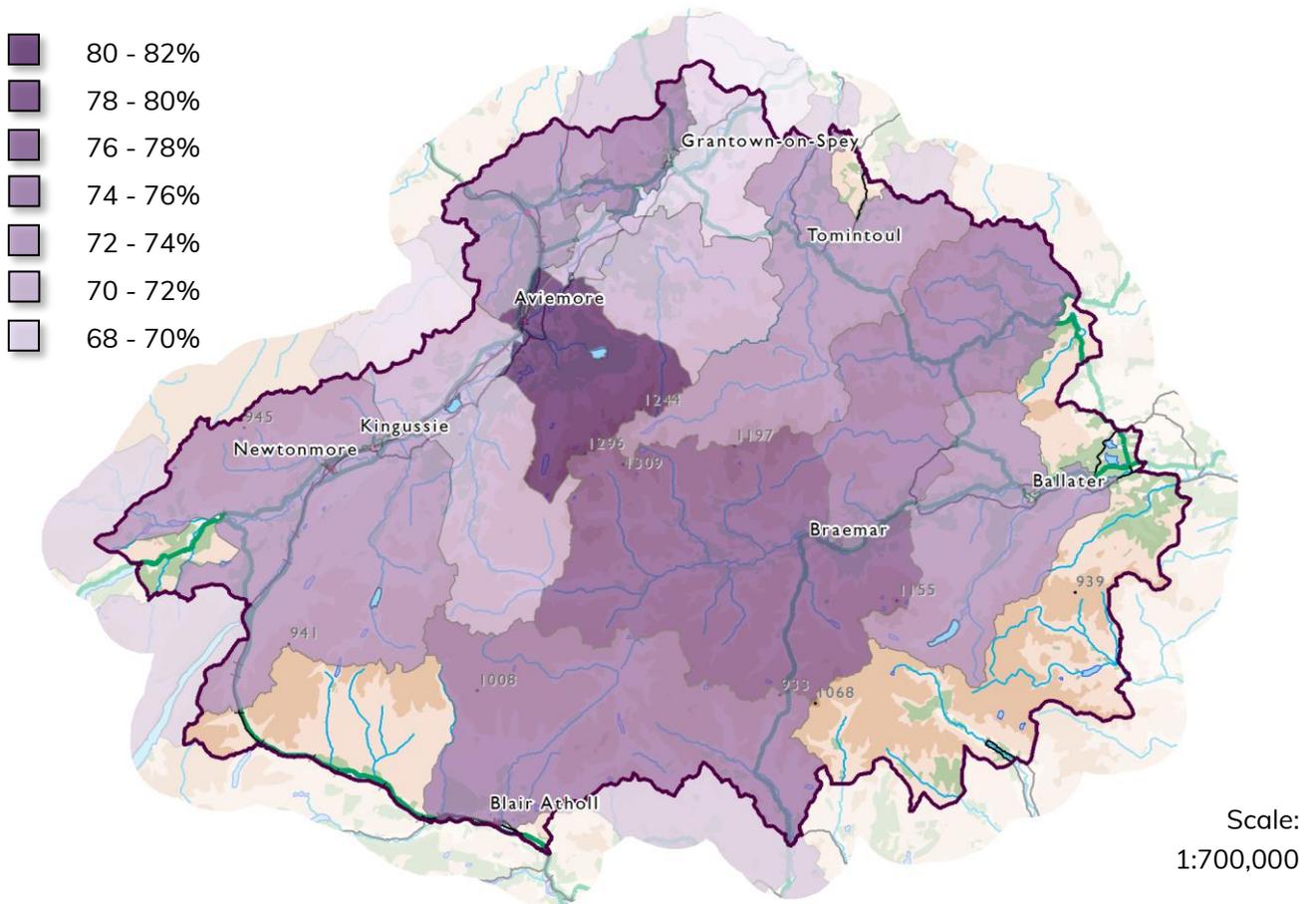


Figure 112 Proportion of the population aged 16-75 that are economically active. (Census table KS601SC).

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For further information on variables, see www.scotlandscensus.gov.uk/variables

The Census profile of full time (72.8%) and part time (27.2%) employee jobs (excludes self-employed, government, trainees and HM Forces) (Table LC6109SC) is generally consistent with Scotland as a whole.

According to SIMD 2020 data, the Cairngorms National Park has relatively low levels of employment related deprivation, which it rates using indicators such as Working Age Unemployment Claimant Count, Working Age Incapacity Benefit recipients and Working Age Severe Disablement Allowance recipients. None of



the data zones within the National Park fall into any of the most deprived categories, with 10 out of the 23 falling within the 20% least deprived.

The significance of certain employment sectors differs quite significantly however, with the proportion of those employed in agriculture, forestry and fishery, accommodation and food and 'other' forms of work far exceeding the Scottish average (**Figure 113**).

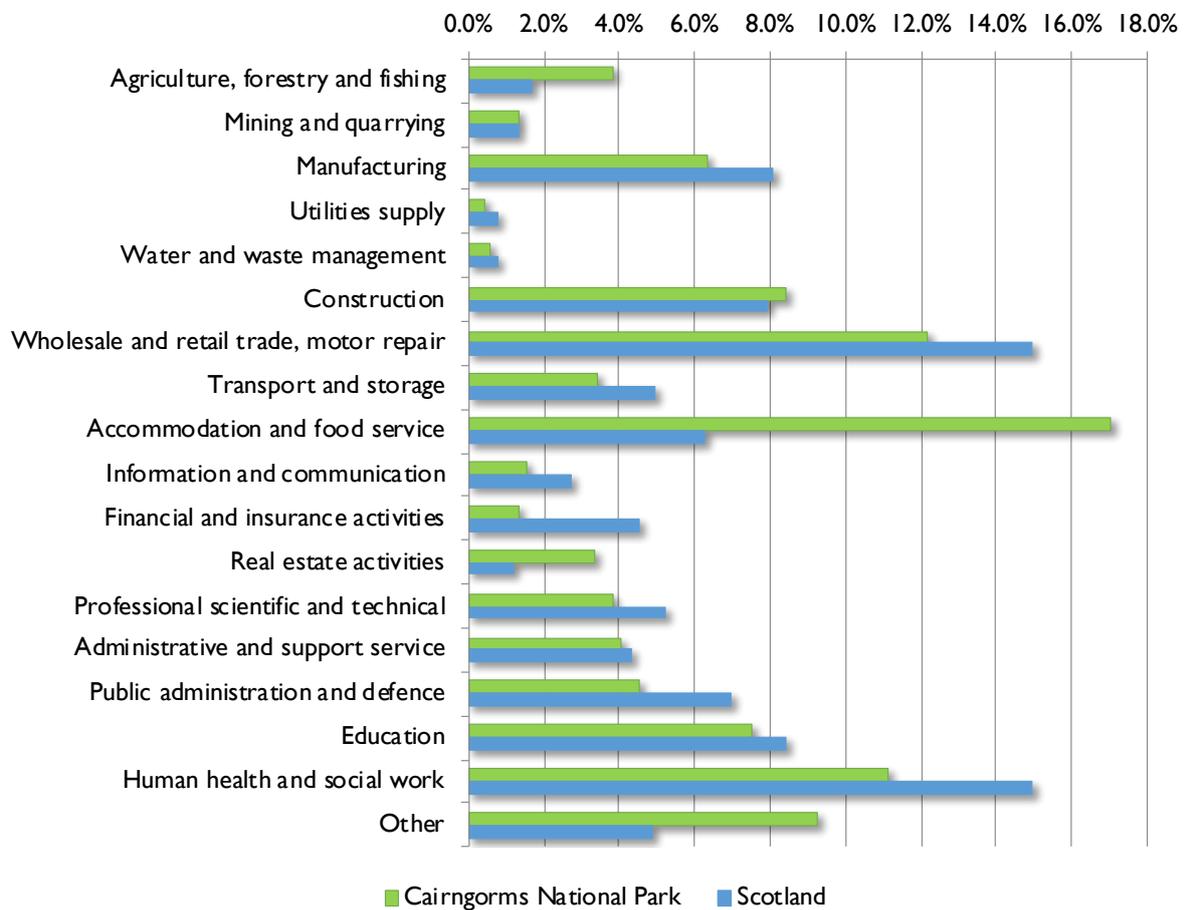


Figure 113 Proportion of all people aged 16 to 74 in employment the week before the census by industry (Census table KS605SC). Crown copyright 2023.

For further information on variables, see www.scotlandscensus.gov.uk/variables
In order to protect against disclosure of personal information, some records have been swapped between different geographic areas. Some cell values will be affected, particularly small values at the most detailed geographies.

Forecasts prepared for the Cairngorms National Park by Oxford Economics (2022) provide an indication of the direction of change in employment in key



sectors in the National Park. The projections are from 2015 to 2032, and data is provided looking at the medium-term (2022-2025) and long-term change (2025-2032).

In the Medium-term it is expected that the largest growth sectors will be in the Accommodation and food services and Arts, entertainment and recreation increasing 7.3% and 7.0% respectively. Over the longer term (2025-32) growth in the accommodation sector is projected to slow to 4%, while the Arts, entertainment and recreation is expected to increase to 9.6%. Both of these sectors are integral to the Cairngorms National Park as a tourist destination.

Transportation and Storage sector is projected to grow in the medium term by 4.7% but over the longer term predicted to contract by 2.3%. Similarly, the Wholesale and retail trade; repair of motor vehicles and motorcycles is projected to grow in the medium term but shrink over the longer term, perhaps reflecting the move away from fossil fuelled vehicles to lower maintenance electric modes of travel.

Significant decreases (in terms of percentages) are predicted for the Mining and quarrying and Manufacturing sectors in the medium term, increasing in the longer-term predictions. However, it should be noted that due to the current low numbers of people employed in these sectors it is difficult to quantify the effect in terms of numbers of jobs in the Cairngorms National Park lost.

Indeed, unemployment levels within the Cairngorms National Park are relatively low, with the Census suggesting that in 2011 only around 445 of the population aged 16-74 (3.2% compared to the Scottish 4.8%) were unemployed, of which around 150 were in long-term unemployment, while only around 35 had never worked at all (Table KS601SC). There is however some geographical variation across the area, with the Moray part of the National Park experiencing the highest unemployment level, at around 6.2% (**Figure 114**).

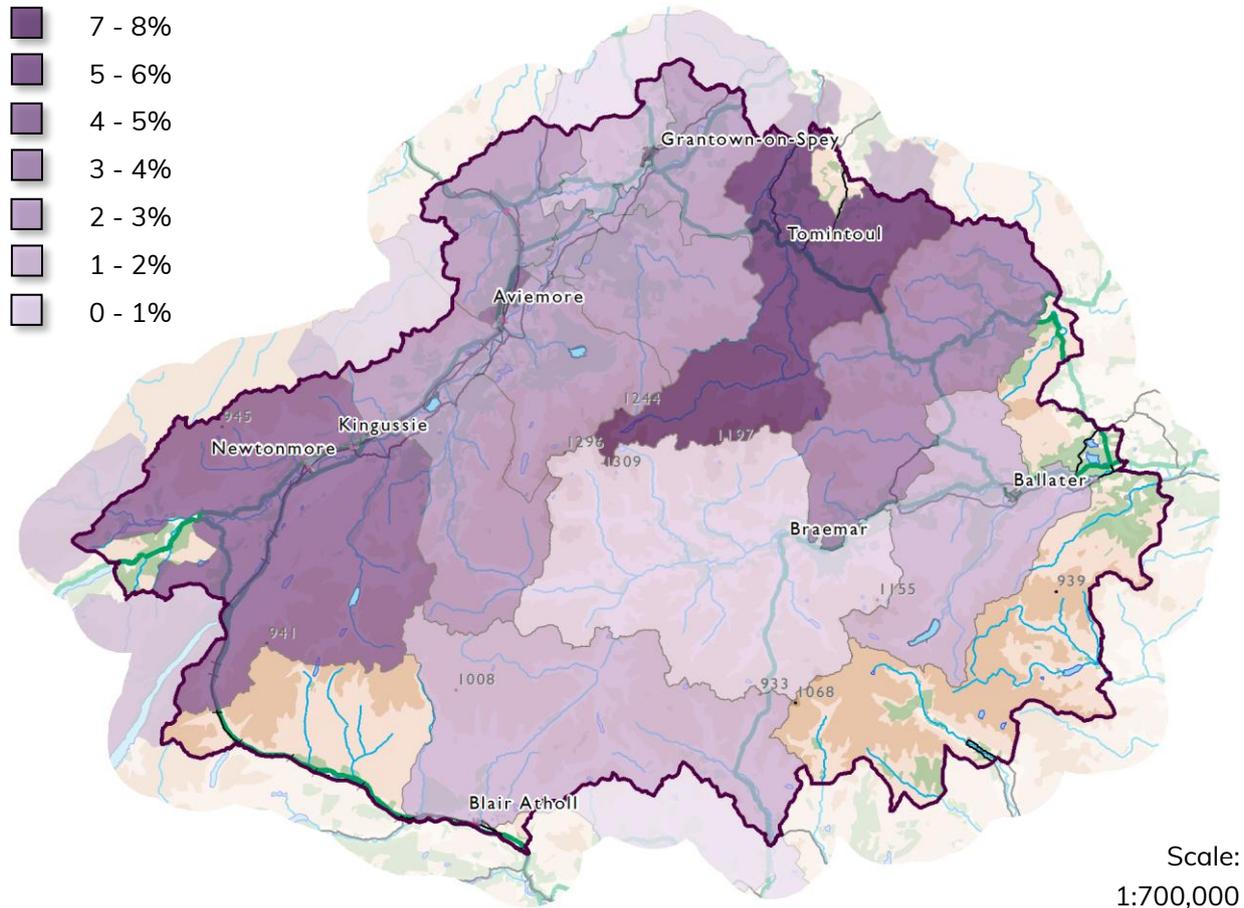


Figure 114 Proportion of the population aged 16-75 that are unemployed. (Census table KS601SC).

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For further information on variables, see www.scotlandscensus.gov.uk/variables

Unemployment

The census employment data and the SIMD employment deprivation data shown previously (in addition to other data sources) indicate that the proportion of adults receiving unemployment related benefits within the Cairngorms National Park is significantly below the national average. Due to limited data availability for the National Park area, in addition to benefit scales and availability changing relatively often (for example through the introduction of Universal Credit), it is difficult to provide accurate data on unemployment trends.



The Community Planning Outcomes Profile (CPOP)¹⁶ created by the Improvement Service provides Intermediate Data zone level (IDZ) data on the proportion of working age people receiving out-of-work benefits (the National Park intermediate data zones largely coincide with the Badenoch and Strathspey and Deeside areas of the National Park). Unfortunately, the IDZ's including the Perth and Kinross, Moray and Angus areas of the National Park extend far beyond the National Park boundary and are therefore unrepresentative, however the IDZ's for the Highland and Aberdeenshire areas of the National Park cover more than 90% of the National Park's population.

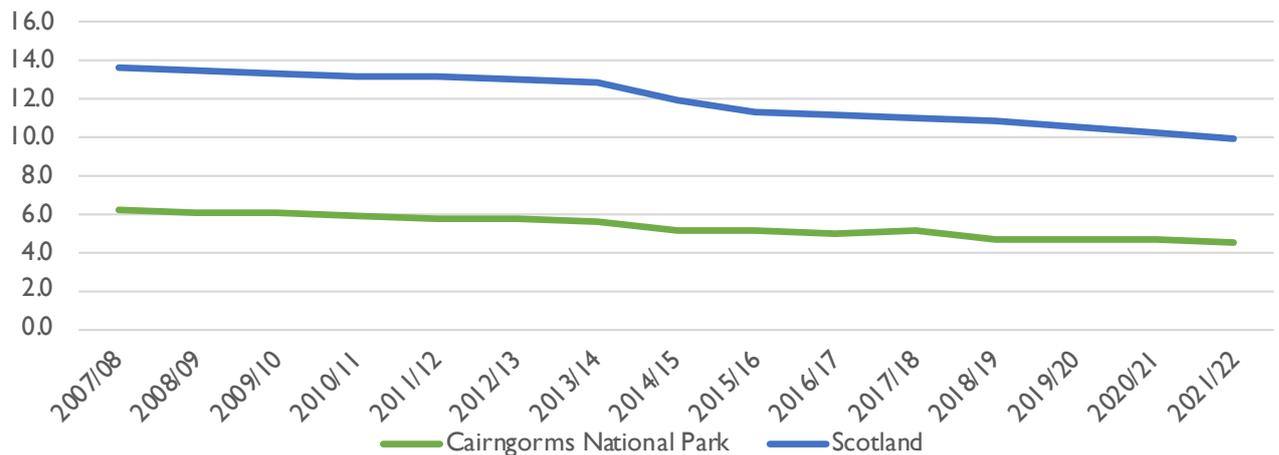


Figure 115: Percentage of working age population receiving out-of-work benefits.

Source: Data¹⁷ accessed from Community Planning Output Profiles website which provides data from DWP Stat Explore¹⁸
Details of methodology available from CPOP⁸

Coinciding with other data presented, the Cairngorms National Park appears to have a significantly lower proportion of people claiming out-of-work benefits than the national average and show a gradual downward trend following the 2007-8 financial crash and subsequent economic downturn (**Figure 115**). Additionally, it should be noted that employment within the National Park has relatively high seasonality due to the importance of the tourism sector in the overall economy – data on Jobseekers Allowance claimants available for 2002-2012 indicates the number of claimants varying by approximately 40% between

¹⁶ <https://scotland.shinyapps.io/is-community-planning-outcomes-profile/>

¹⁷ Note CNP data is for Badenoch & Strathspey and Deeside areas only. Figures for years after 2018/19 are projections.

¹⁸ <https://stat-xplore.dwp.gov.uk/webapi/jsf/login.xhtml>



summer and winter (graph available from 2019 Strategic Environmental Assessment for LDP2¹⁹).

Incomes, Wealth and Poverty

Previous economic reports have indicated that the Cairngorms National Park has an above average proportion of relatively low-paid jobs, in part due to the dominance of the tourism sector and that sector's proportion of relatively low-skilled and low-paid positions (See 2010 Economic and Social Health of the Cairngorms National Park, 2010²⁰)

There is very limited current income-related-data available for the exact area of the Cairngorms National Park. The following pages present SIMD data on receipt-of-income related benefits and 'synthetic' modelled gross household income data from the Centre for Housing Market Analysis (CHMA). It should be noted that the CHMA modelled income data is produced for the purposes of assessing housing need and demand - the data is noted as being for research only, does not represent Official Statistics or National Statistics and has specified limitations with regards to use for assessing actual income levels.

Income Deprivation

One indicator of the measure of income in the Cairngorms National Park is provided by examining the SIMD data. The SIMD data relating to income deprivation is derived from the numbers of people in receipt of a range of income related benefits – further information on the methodology used is available in the SIMD technical notes²¹

When comparing the Cairngorms National Park as a whole to the adjoining Local Authorities (**Figure 116**), it would appear that the National Park is outperforming 4/5 of them (and only marginally worse than Aberdeenshire) and in fact substantially lower than the national average.

¹⁹ <https://cairngorms.co.uk/wp-content/uploads/2019/09/CD006-Proposed-Plan-Strategic-Environmental-Assessment-Environmental-Report.pdf>

²⁰

<https://www.cairngorms.co.uk/resource/docs/publications/14092010/CNPA.Paper.1635.The%20Economic%20and%20Social%20Health%20of%20the%20Cairngorms%20National%20Park%202010pp1-30.%20Sections%201-4.pdf>

²¹ <https://www.gov.scot/publications/simd-2020-technical-notes/>

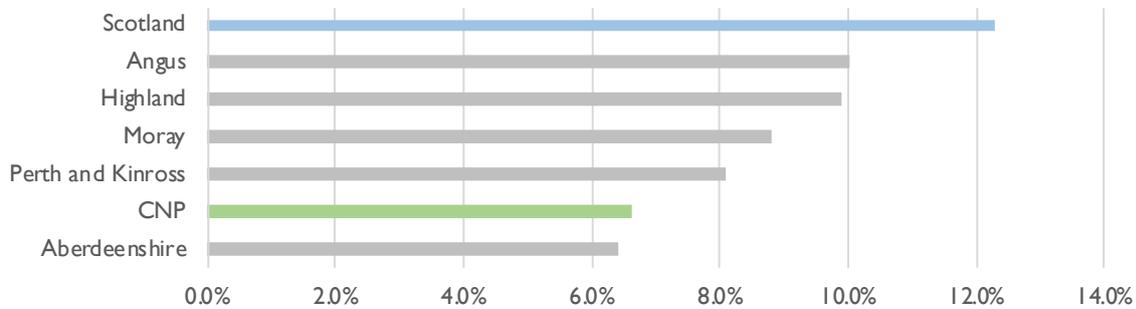


Figure 116: SIMD (2020) Income deprivation rates (based on receipt of income related benefits) as proportion of the total population. (Source: SIMD²²)

Although the data at a Local Authority level is encouraging, when the individual data zones are examined, it is clear the initial data does not provide a uniform reflection accounting fairly for the differing situations across the Cairngorms National Park. Despite the difference between the lowest and highest ranked data zone being only 9.8%; the difference this represents is a 338% increase between the figure for ‘the area surrounding Ballater’ to the least income deprived area in Aviemore (**Figure 117**). Just over half of the data zones (13/24) do in fact perform better than the National Park average which is 46% lower than the national average (**Figure 117**).

Overall, the data (**Figure 117**) shows the average proportion of people receiving the income related benefits is significantly below the Scottish average – however it can be seen that one data zone is slightly above the Scottish average, while the data indicates that 1,215 people within the Cairngorms National Park are receiving at least one of the range of income related benefits.

²² <https://simd.scot/#/simd2020/>

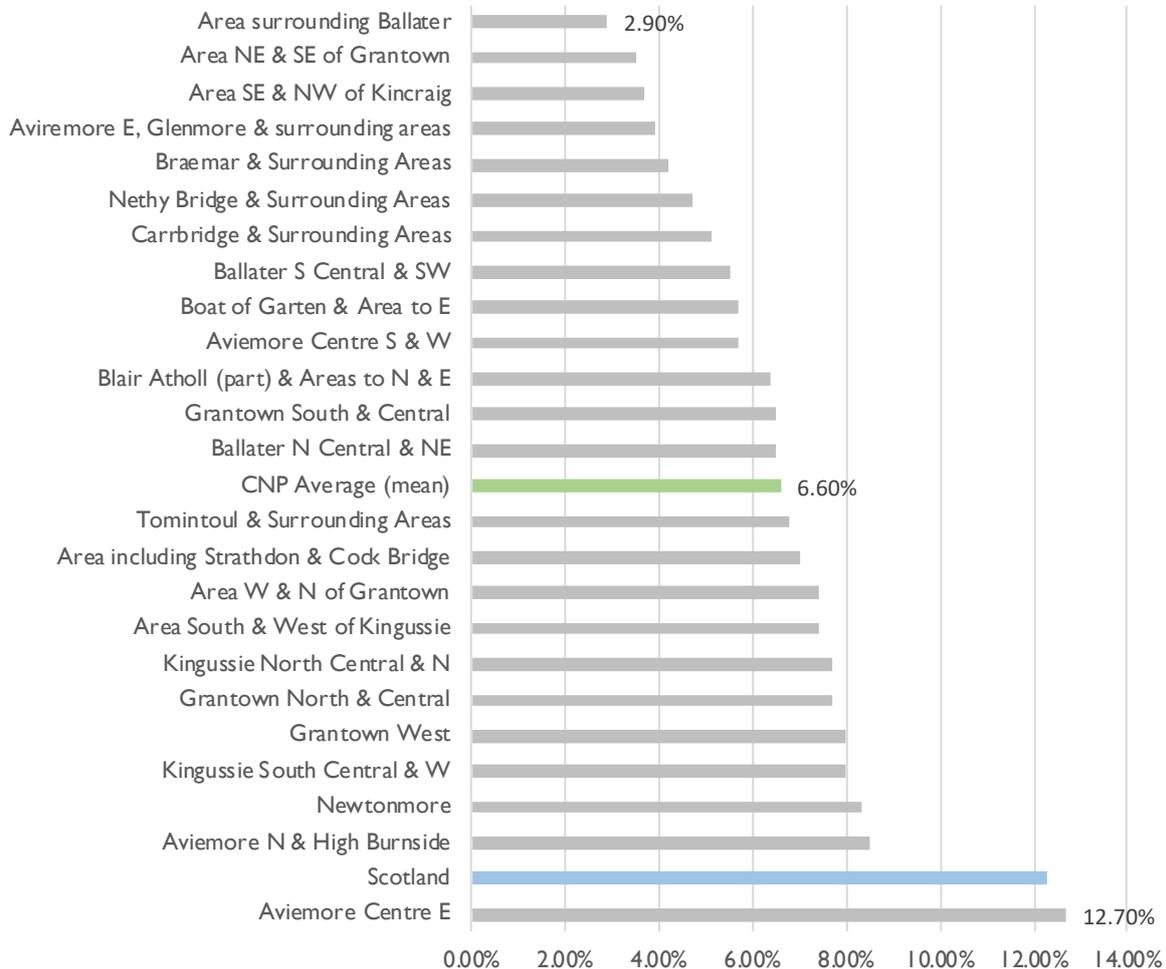


Figure 117: Income deprivation based on receipt of income related benefits (SIMD 2020; further information on the methodology used available in SIMD technical notes²³)

Another indicator of the health of people’s income in the Cairngorms National Park can be obtained by studying the data provided by the Scottish Governments Centre for Housing Market Analysis (CHMA). The CHMA in association with Heriot Watt University produces estimates for Gross Household Incomes by data zone. Although this does provide some indication of income levels in the park it should be noted that the estimates alone cannot be used to give an accurate picture of wealth or poverty in an area due to the other variable deductions from income a household will experience (for example, housing costs and / or home heating and transport as a percentage of disposable income). Low-income data

²³ <https://www.gov.scot/publications/simd-2020-technical-notes/>



is used to calculate the percentage of an area's population that are experiencing relative low income²⁴ (Households whose income falls under 60% of the median gross income).

The Cairngorms National Park has relatively low levels of poverty in terms of households experiencing low income at 12.4% compared with 17.5% nationally. Out the five local authorities within the National Parks boundary, only Aberdeenshire has a lower proportion of low-income households than the National Park average (**Figure 118**).

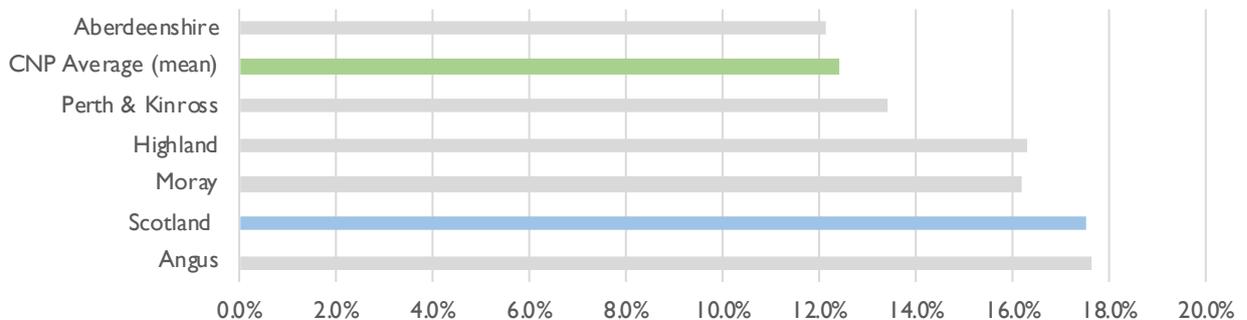


Figure 118 Proportion of households with under 60% of the median gross income.

Source: CHMA, Based on Local Level Household Income Estimates (LLHIE), weekly (£), banded income for 2018. The LLHIE are synthetic income modelling research for the year 2018 & exclude housing costs and adjustments for taxation²⁵ (Data from Heriot Watt University In association with David Simmonds Consultancy)

Along with the SIMD data presented (**Figure 119**) for income related benefits and the data for income estimates (**Figure 120**) it suggests that the Cairngorms National Park is significantly above the national average with regards to incomes.

²⁴ Not to be confused with Absolute low income which is a comparison to the median of the 2010/11 year allowing for comparisons over time.

²⁵ Note these estimates are for use in housing affordability analyses. They are research only and they do not represent Official Statistics or National Statistics.

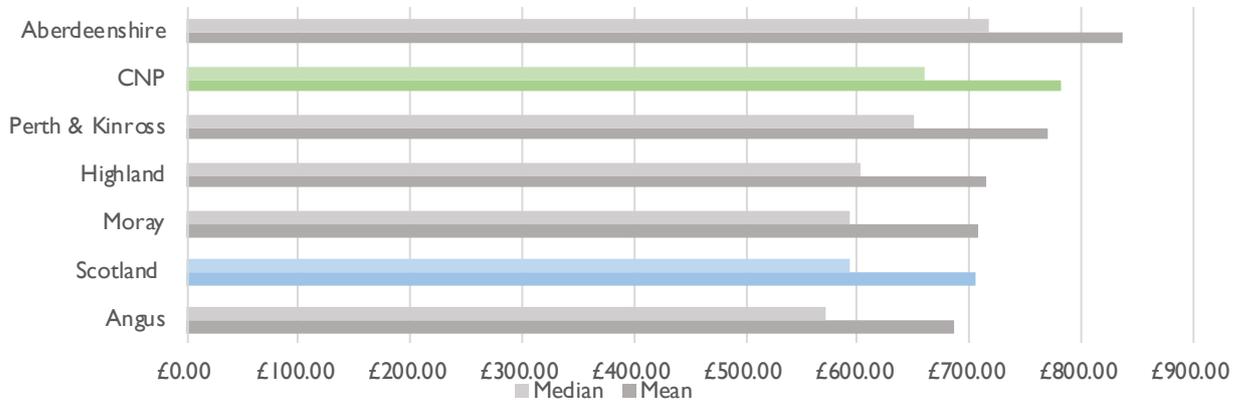


Figure 119 Gross household income estimates

Source: CHMA, Based on Local Level Household Income Estimates (LLHIE), weekly (£), banded income for 2018. The LLHIE are synthetic income modelling research for the year 2018 & exclude housing costs & adjustments for taxation²⁶ (Data from Heriot Watt University In association with David Simmonds Consultancy)

²⁶ Note these estimates are for use in housing affordability analyses. They are research only and they do not represent Official Statistics or National Statistics.

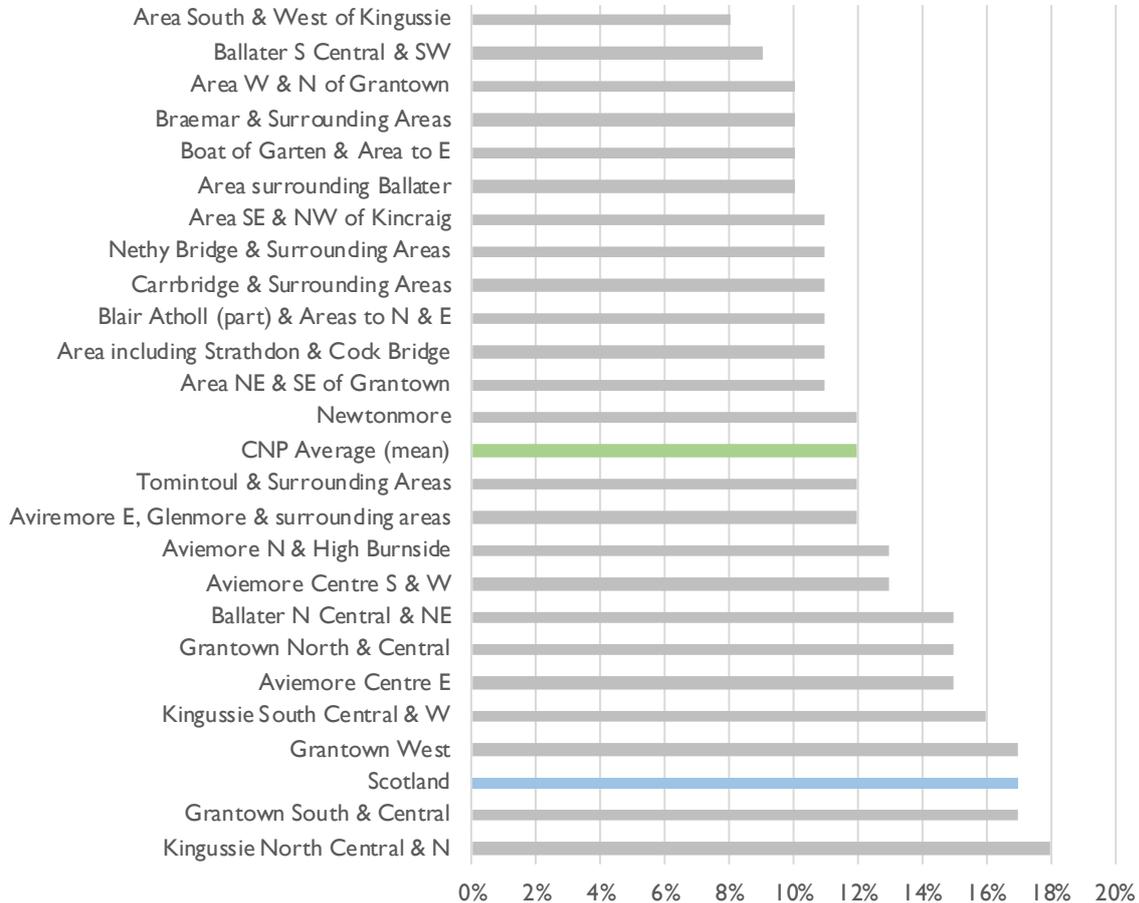


Figure 120: Proportion of households under 60% of the median income

Source: CHMA, Based on Local Level Household Income Estimates (LLHIE), weekly (£), banded income for 2018. The LLHIE are synthetic income modelling research for the year 2018 and exclude housing costs and adjustments for taxation²⁷(Data from Heriot Watt University In association with David Simmonds Consultancy)

Child Poverty

Child poverty is another key indicator that can be used to diagnose the degree of an area’s relative wealth or poverty. Research has shown that the lack of money (or being classed as low income) is likely to have the strongest impact on children’s cognitive, social-behavioural, educational attainment and health outcomes, independent of other contributing factors such as parents’ education (Cooper and Stewart, 2017).

²⁷ Note these estimates are for use in housing affordability analyses. They are research only and they do not represent Official Statistics or National Statistics.



Child poverty is the estimate for the percentage of children living in a household with below 60% of the median income²⁸. A limitation of this data as an indicator of poverty in a given area is that it looks at the income levels on a 'before housing cost' (BHC) basis. Therefore, in different parts of the Cairngorms National Park, housing costs may vary depending on the available housing stock available to the households when they require it. So, although we can, and will, compare the levels of child poverty in the National Park with the Local Authorities we do expect this to give the complete picture of wealth or poverty in the National Park.

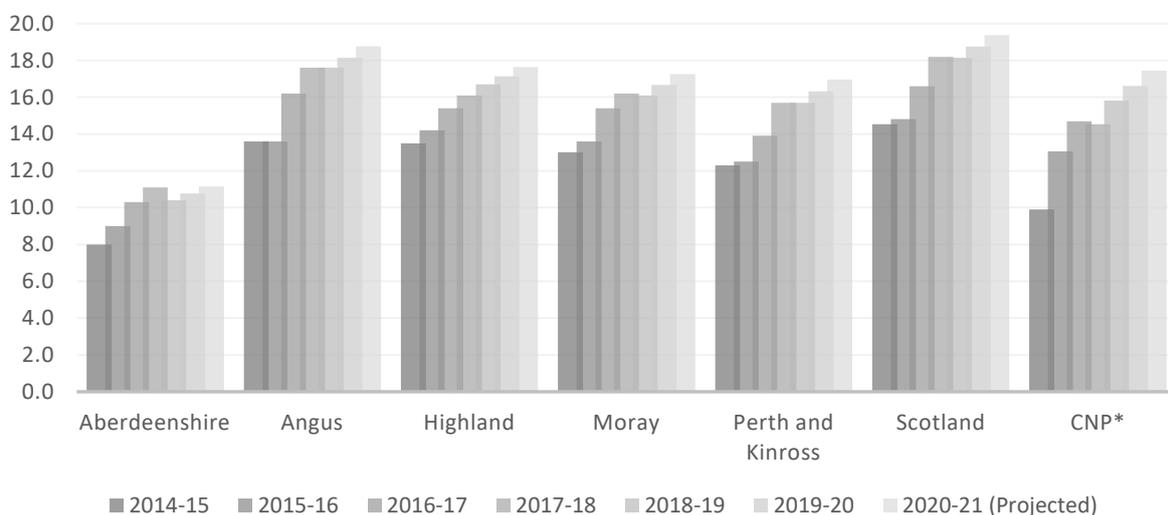


Figure 121: Percentage of children in (relative) poverty

*Due to data availability the CNP figures are for Badenoch & Strathspey and Deeside only (excluding Moray and Perth & Kinross) – however the included area covers over 90% of the CNP population.

Source: Data accessed via CPOP website²⁹ (The data is badged as 'experimental Official Statistics published in order to involve users and stakeholders in the assessment of their suitability and quality at an early stage').

The Cairngorms National Park, although consistently below the averages for Scotland, does not stand out in comparison with the other Local Authorities in terms of being a place of particularity low child poverty levels (**Figure 121**). In fact, Aberdeenshire is noticeably lower than the National Park (for the mean average) and the other four Local Authorities adjoining the National Park. In 2014/15 the National Park performed well in terms of low child poverty rates more akin to Aberdeenshire than the other four Local Authorities. Since 2015/16,

²⁸ Income is defined as Gross Personal Income from benefits/tax credits, from employment and self-employment, and from occupational pensions.

²⁹ <https://scotland.shinyapps.io/is-community-planning-outcomes-profile/>



due to a large increase in the percentage of Children deemed in poverty, the National Park's levels are, and have remained, more akin to Angus, Highland, Moray, Perth & Kinross and the national average than Aberdeenshire.

As the Cairngorms National Park has a relatively low unemployment rate, it appears likely that a substantial amount of the poverty indicated is likely to be in families with at least one adult in employment. The child poverty data shown is, in accordance with other reported studies, indicating that a substantial number of jobs within the National Park provide a relatively poor income for employees.

As effects of child poverty are numerous and long reaching, often negatively affecting the long-term health, social and economic outcomes throughout the children's life and into adulthood (Case A, Fertig A and Paxson C, 2005, Gregg P, Harkness S and Machin S, 1999) the increase in levels in recent years will have an as yet unregistered, negative social and economic effect on the Cairngorms National Park's future. The educational outcomes of children raised in low-income families compared with those from more affluent backgrounds is a key factor leading to inequalities³⁰ and should not be overlooked. Therefore, given the aforementioned statements, attention should be paid to the rising numbers of children categorised as being in child poverty in the National Park.

Inequality

Established in 2019, the Poverty and Inequality commission is a non-departmental advisory public body organisation that supplies informs the Scottish Government regarding inequality and poverty in the Country.

Poverty in Scotland is a key driver of inequality and affects a large proportion of society. Across Scotland, it is estimated 24% of children, 19% of working age adults and 15% of pensioners are currently living in poverty, while 60% of the working age adults and 65% of the children in poverty come from homes where at least one adult is in employment. Therefore, while equivalent statistics do not exist for the Cairngorms National Park's geography, it should be noted that the relatively low levels of unemployment recoded here do not therefore preclude the existence of poverty in the area.

³⁰ <http://www.healthscotland.scot/media/2186/child-poverty-impact-inequalities-2018.pdf>



Poverty disproportionately affects women and those living with a disabled person, as 39% of single mothers and 29% of those with a disabled member in the household live in poverty³¹.

The implications of financial inequality are broad and far reaching; for example, it has been proven that a child in a family in the highest 20% of earners will be approximately 13 months ahead in their vocabulary, when starting school, compared with children in families in the bottom 20% of earners. Therefore, the long-term impacts of inequality on life opportunities and outcomes are a key driver in the Scottish Government's emphasis on inclusive growth, while the government also hosts the Scottish Centre for Regional Inclusive Growth.

There is limited data available to comprehensively analyse inequality within the Cairngorms National Park, although the limited data presented in this report indicates that the National Park as a whole has relatively healthy wealth and the socio-economic attributes (**Figure 122**). However, due to its scale this data may obscure the presence of localised deprivation and inequality. For example, there are over 1,200 people receiving income related benefits (**Figure 122**) within the National Park, indicating that, based on receipt of income related benefits, at least 10.6% could be considered to be on low incomes.

Taking this into account alongside other data presented in this report regarding income and deprivation it is evident that inequality exists within the Cairngorms National Park.

³¹ <https://povertyinequality.scot/poverty-scotland/>

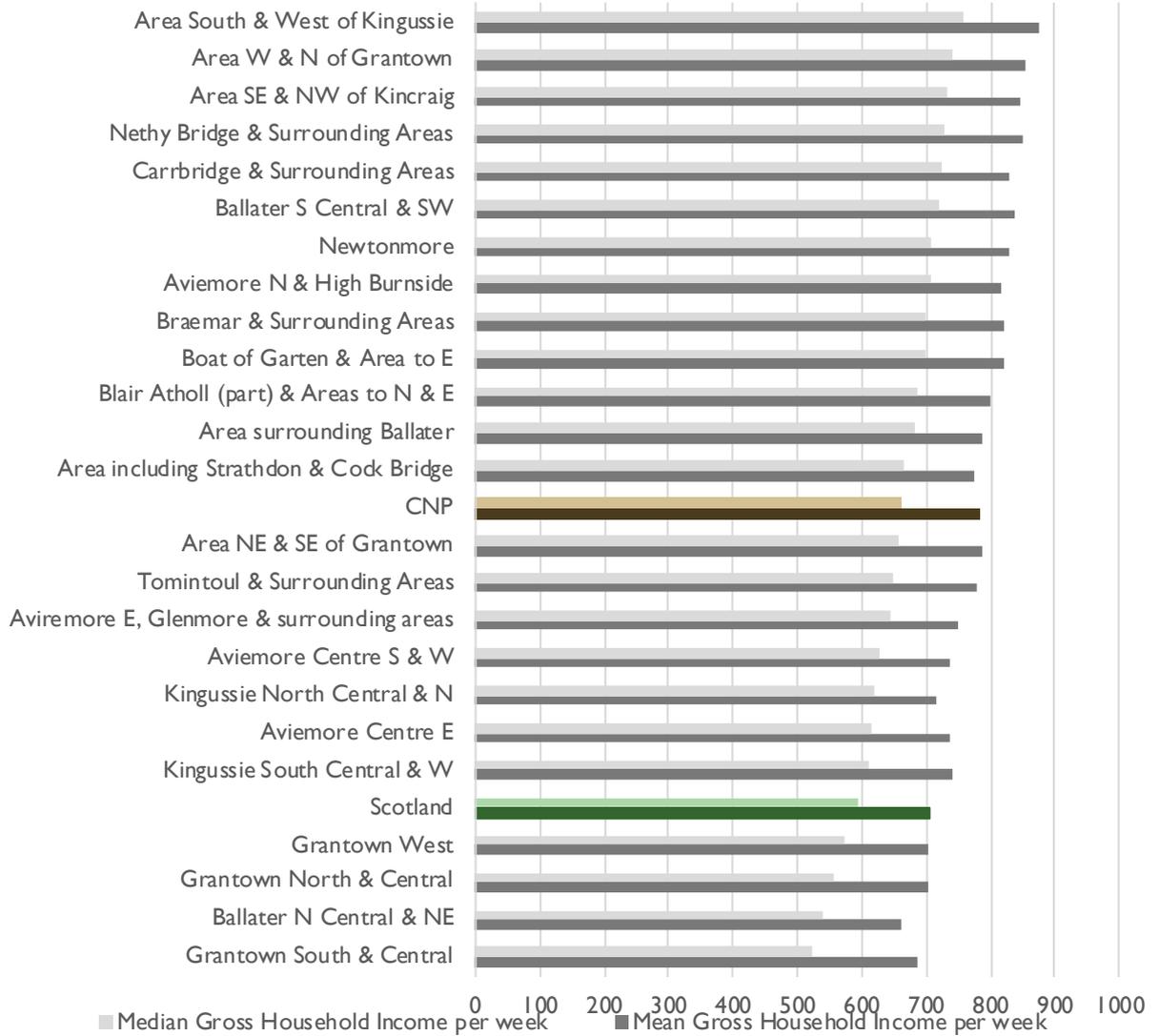


Figure 122 Gross household weekly income estimates, with Cairngorms National Park and Scottish averages (CMHA Gross Household Income Estimates for National Park data zones sorted by Median Household income.)

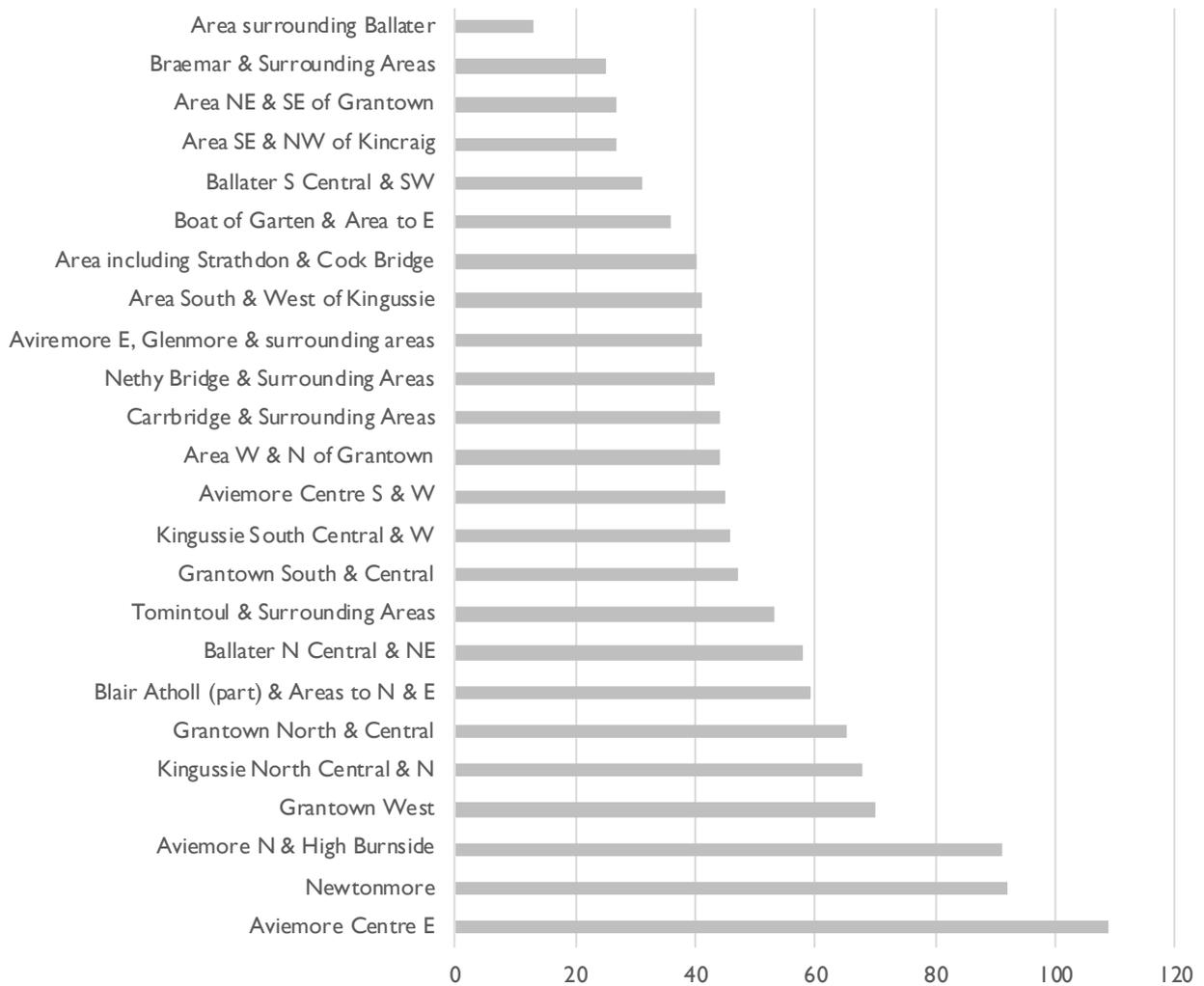


Figure 123: Income deprivation rates based on receipt of income related benefits (SIMD, 2020).

Disability

Statistics for disability in the National Park are limited to data relating to people with a long-term health problem or disability is one that limits a person's day-to-day activities and has lasted, or is expected to last, at least 12 months. This includes problems that are related to old age. People were asked to assess whether their daily activities were limited a lot or a little by such a health problem, or whether their daily activities were not limited at all (Census, 2011). The number of people in a household with a long-term health problem or disability in the National Park was 22.7% of the Parks population (4,327 people). 27.6% of



households (1,815) had one person with a long-term health problem or disability and 6.7% of households (442) had two or more people in the household with a long-term health problem or disability. Data obtained from the most recently available census data (2011) from: www.scotlandcensus.gov.uk . Disability will affect different people differently depending on the severity of the disability and individual circumstances of their day-to-day activities (Table 21).

Table 21 Limitations of disability on day to day activities (Census, 2011: KS301SCb)

	All People			People aged 16-64 years		
	Long-term health problem or disability: Day-to-day activities limited a lot	Long-term health problem or disability: Day-to-day activities limited a little	Long-term health problem or disability: Day-to-day activities not limited	Long-term health problem or disability: Day-to-day activities limited a lot	Long-term health problem or disability: Day-to-day activities limited a little	Long-term health problem or disability: Day-to-day activities not limited
No. of people affected	1,290	1,949	15,795	495	838	10,573
% of total population	6.8%	10.2%	82.9%	2.6%	4.4%	55.5%

Another metric for assessing people's health in the Cairngorms National Park is the data collected by the Census (2011) surrounding general health. General health is a self-assessment of a person's general state of health. People were asked to assess whether their health was very good, good, fair, bad or very bad. This assessment is not based on a person's health based over any specified period of time. Figure 124 shows 55.6% (10,590) of people reported they were in very good health, 30.7% (5,845) in good health, 10.3% (1,952) have fair health, 2.7% (518) were in bad health and 0.7% (129) reported being in very bad health (Figure 124).

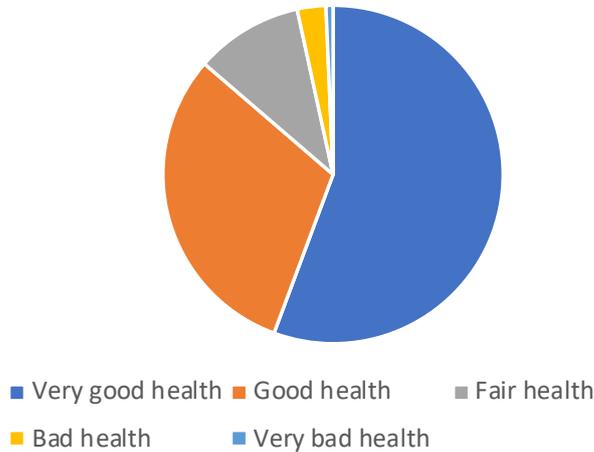


Figure 124 General health of people in the National Park (Census 2011).

The provision of unpaid care is another measure of the support needed in the Cairngorms National Park, Figure 125 shows that 8.9% of people in the National Park receive some care ranging from 1 – 50+ hours per week.

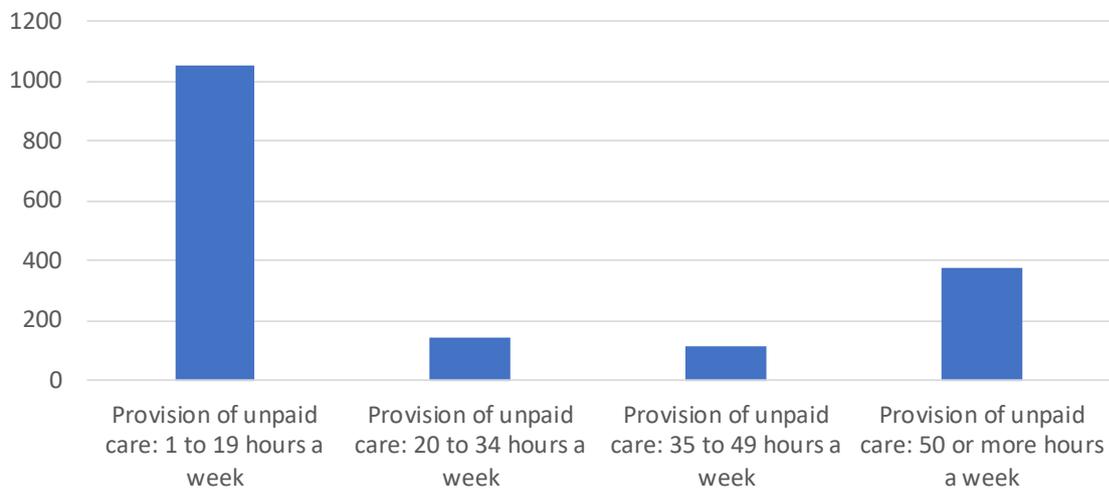


Figure 125 Provision of unpaid care received by number of National Park residents (Census, 2011: KS301SCb)

Sex

In 2021 the estimated population of the Cairngorms National Park was 18,711 (Scottish Government, 2023). This was comprised of 50.5% female (9452) and 49.5% male (9259), a more balanced distribution when compared to national figures for Scotland of 51.2% female and 48.8% male.



Differences in social grade between men and woman is useful in assessing potential inequalities between men and woman in the Cairngorms National Park. According to the Census data (2011) more women (5,773) are employed in the National Park than men (5,628). **Table 21** shows that more women occupy both Higher and intermediate managerial/administrative/professional positions and Supervisory, clerical, junior managerial/administrative/professional positions. There are a higher number of men in skilled manual worker positions, but far lower in the lowest pay grade / or unemployed positions.

Table 22 Gender based Social Grade Employment in the Cairngorms National Park

	Higher and intermediate managerial/administrative and professional	Supervisory, clerical, junior managerial/administrative/professional	Skilled manual workers	Semi-skilled and unskilled manual workers; on state benefit, unemployed, lowest grade workers	Total
Male	1057	1437	1977	1157	5628
Female	1082	1663	1722	1306	5773

Race

In 2011 98.9% (18,816) of all people in the Cairngorms National Park (19,034) self-identified as White (this includes White Scottish, British, Irish White Other). Of the minority ethnic groups (1.1%) present; 109 people identified as Asian (including Asian Scottish and British), 45 people as mixed or multiple ethnic groups, 23 people as African, 17 people as Caribbean or Black and 24 people from other ethnic groups.

Language, as well as playing an important role in the creation and maintenance of cultural and ethnic identities, may also present issues relating to accessibility where individuals lack skills in the dominant code. In the Cairngorms National Park there were a total of 211 individuals who do not speak English well or at all (**Table 23**).



Table 23 Language proficiency of people living in the Cairngorms National Park.

	Speaks English very well	Speaks English well	Does not speak English well	Does not speak English at all	Total
All people aged 3 and over	16680	1608	185	26	18499
3 to 15	2117	467	43	8	2635
16 to 24	1486	151	28	4	1669
25 to 49	5388	395	69	8	5860
50 to 64	4120	231	23	3	4377
65 and over	3569	364	22	3	3958

Spoken language is one aspect of language ability. In 2011 there were a total of 264 people in the Cairngorms National Park who do not speak, read or write or English while 510 could speak English but could not read or write English (**Table 26**). Data obtained from the most recently available census data (2011) from: www.scotlandcensus.gov.uk.

Table 24 English Language skills of people living in the Cairngorms National Park.

Understands but does not speak, read or write English	Speaks, reads and writes English	Speaks but does not read or write English	Speaks and reads but does not write English	Reads but does not speak or write English	Other combination of skills in English	No skills in English	Total
264	17513	510	117	3	66	26	18499

Sexual orientation

No data is currently available for the geographical area of the Cairngorms National Park. This section will be updated once the data from the 2022 Scotland Census is released.

Gender reassignment

The Registrar General for Scotland maintains a Gender Recognition Register in which the birth of a transgender person who has transitioned and their new gender legally recognised is registered showing any new names(s) and their new



gender identity. This enables the transgender person to apply to the Registrar General for Scotland for a new birth certificate showing the new name(s) and the transitioned gender. The Gender Recognition Register is not open to public scrutiny, and therefore information covering the Cairngorms National Parks geography is not available (NRS Registration Division, 2016).

Marriage and civil partnership

In the Cairngorms National Park of all the people 16 years and older (15,864 people), 51.3% (8,131 people) identified as married and 37 people (0.2%) reported being in a registered same-sex civil partnership³². In Scotland 45.2% of people aged 16 and over were married, and 7,000 (0.2% of adults were in a registered same-sex civil partnership. Data obtained from the most recently available census data (2011) from: www.scotlandcensus.gov.uk .

Pregnancy, maternity and paternity

The birth rate in the Cairngorms National Park is 6.7 births per 1000 residents, compared to 9.1 births per 1000 people across Scotland (Scottish Government, 2019).

No data is available at a National Park level surrounding maternity and paternity uptake in the workplace.

Life expectancy

Life expectancy also varies by rurality across Scotland with people living in rural areas generally living longer and spending more years in good health than those in urban areas. For males in 2019-2021 there was a 4-year gap in life expectancy between the most rural and most urban areas, and for females there was a 3-year gap (Scottish Government, 2022). This analysis is based on the 2018 urban-rural classification (NRS, 2022). Overall Scotland has the lowest life

³² Marital and civil partnership status classifies an individual according to their legal marital or registered same-sex civil partnership status as at 27th March 2011. This topic was included in the 2001 Census but it has to be revised in order to take account of registered same-sex partnerships after the adoption of the Civil Partnership Act 2004. (Census, 2011).



expectancy of all the UK countries, with most council areas in Scotland experiencing a decrease in recent years.

Life expectancy in the Cairngorms National Park is based on SIMD data (2020) determined through the decile each of the data zones covering the National Park falls within. Based on this method, the life expectancy (2019-21), for males in the National Park is 79.4 and females is 82.7 years. This is higher than the Scottish averages, where in 2019-21, life expectancy for males was 76.6 years and for females 80.8 years (NRS, 2022).

Religion and belief

In the Cairngorms National Park 37.4% (7,126) of people consider themselves as belonging to the Church of Scotland, 7.7% (1,457) belonging to the Roman Catholic Church and 8.2% (1,562) identify as 'other' Christians. Of the minority religions present (0.9%), 40 people identified as Buddhists, 19 as Hindu, 9 as Jewish, 29 as Muslim, 5 as Sikh and 76 people as another religion (not listed). 7.5% (1,423) of people stated no religious position (neither with or without belief) and 38.3% (7,288) of people responded that they have no religion. Data obtained from the most recently available census data (2011) from: www.scotlandcensus.gov.uk.

Housing

Household projections for the Cairngorms National Park remain based on 2018 projections (National Records Scotland, 2023) until new projections (2020 based) are released at a National Park level. These suggest that households are set to increase from 8682 in 2018 to 9963 in 2043, an increase of 14.8% (**Table 25** and **Figure 126**). Single adult households (male and female) represent the largest projected change set to increase from 2804 in 2018 to 3,560 in 2043 representing an increase of 27.0%. A larger projected increase, for the period, is reported for single female adults projected to increase by 35.0% compared to a rise of 17.8% for men. This may be in part explained by the longer life expectancy of women compared to men.



Table 25 Household projections for the Cairngorms National, by type of household, 2018 to 2043 (NRS, 2023).

Household Type	2018	2043	Change 2018-2043	
1 adult, 1 child	264	263	-1	-0.4%
1 adult, 2+ children	169	162	-7	-4.1%
1 adult: female	1493	2015	+522	+35.0%
1 adult: male	1311	1545	+234	+17.8%
2 adults	3251	3821	+570	+17.5%
2+ adults, 1+ children	1588	1535	-53	-3.3%
3+ adults	606	622	+16	+2.4%
All households	8682	9963	+1281	+14.8%

There is a insignificant change in the projected households with 1 adult and 1 child In the Cairngorms National Park (-0.4%). However the percentage decrease for 1 adult with 2+ children (-4.14%) Is significantly higher than the projected change for Scotland (-0.48%) between 2018 and 2043 (**Figure 126**). The percentage change in single female adult households within the National Park is projected to rise by 35% compared to a Scottish growth of 20.4%, This reflects the higher proportion of older age cohorts within the area and the longer life expectancy of women in general. Overall, the National Park will see a greater proportional increase in households than the national average (**Figure 126**).

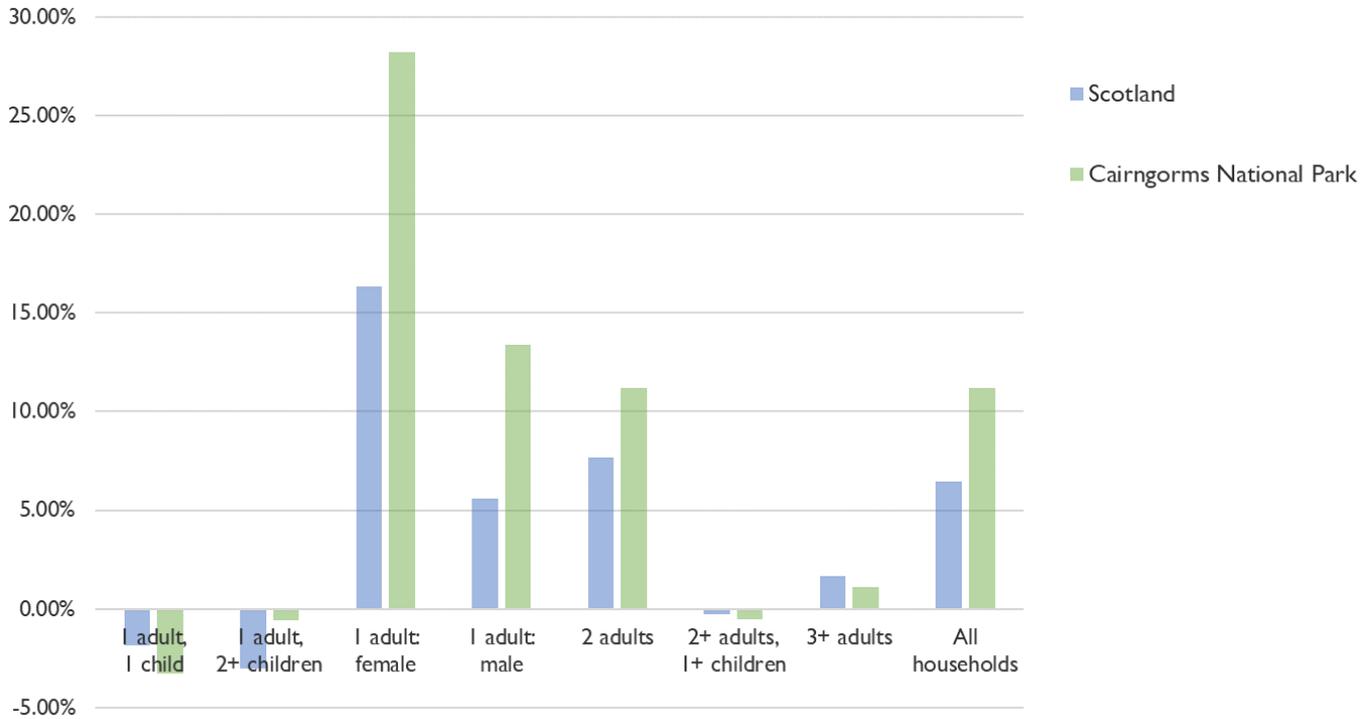


Figure 126 Comparison between projections for the Cairngorms National Park and National Averages percentage changes between 2018-2043 in household type (NRS, 2023.)

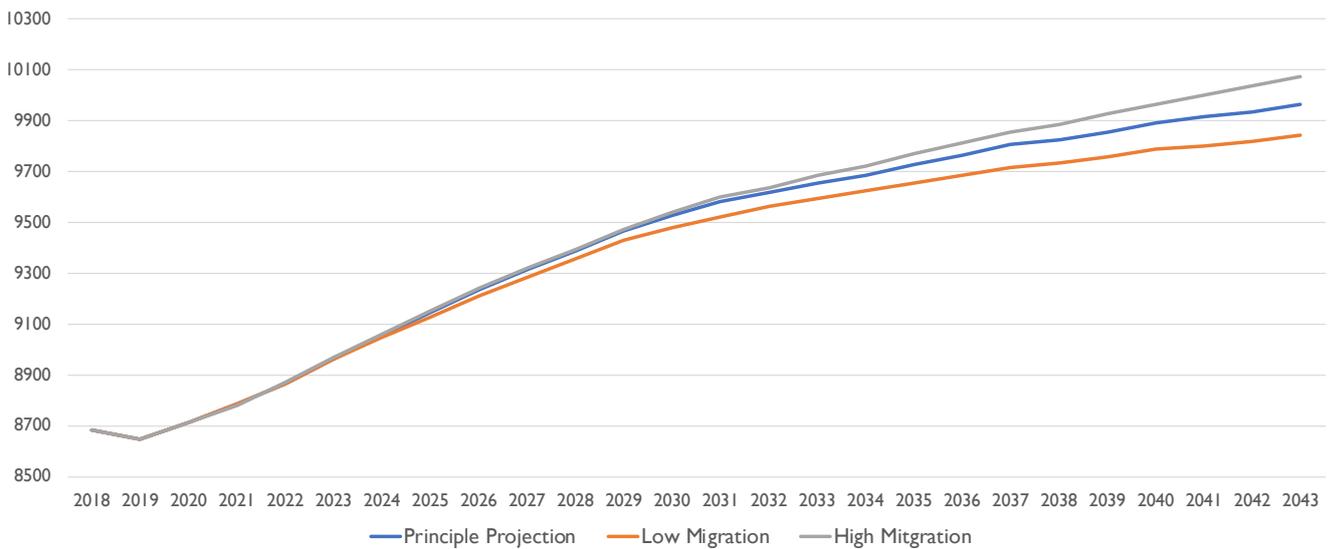


Figure 127 Overall household projections for the Cairngorms National Parks, 2018 to 2043 (NRS, 2023).

In the Cairngorms National Park, the average household size is projected to drop from 2.12 people in 2018 to 1.93 people in 2043 representing a decline of 9.0%. (Figure 128).

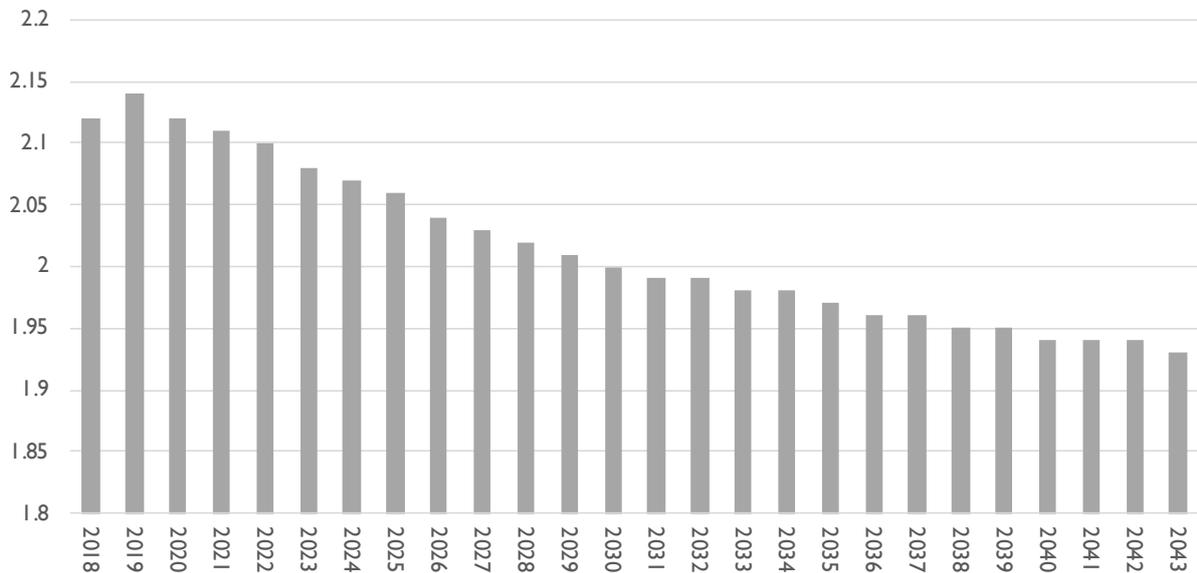


Figure 128 Projected household size for the Cairngorms National Park, 2018 to 2043 (NRS, 2023).

Housing Deprivation

The relationship between the availability of good quality housing and the health and well-being of people has been well recognised for some time now (National Housing Federation, 2014; Parliamentary Office of Science and Technology, 2011).

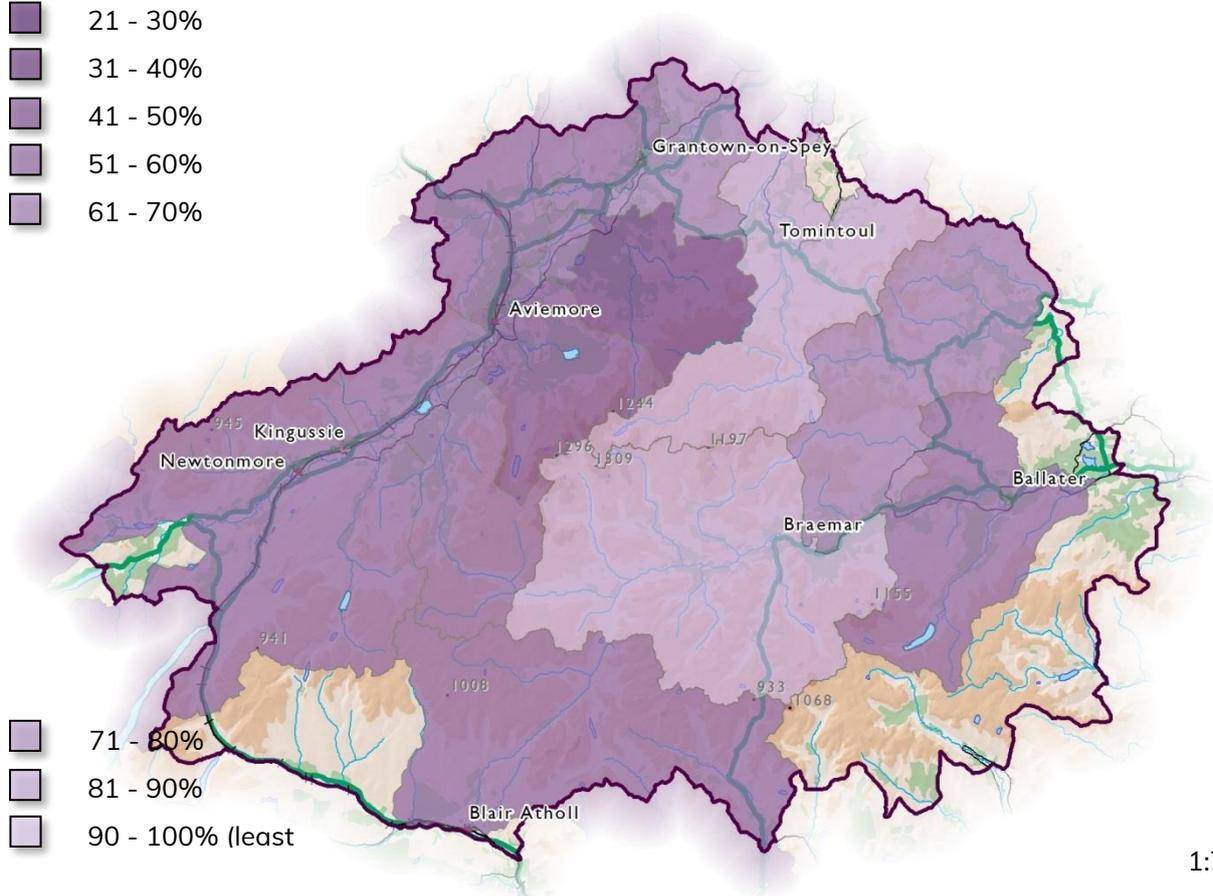
For example, children who are brought up in disadvantaged neighbourhoods, in poor quality housing or insecure accommodation are more likely to be exposed to avoidable health risks such as damp, cold, accidents, community safety concerns, inadequate pre-school and early-years provision, poor schools, and a lack of safe play areas (Shelter, 2006). Similarly, growing older in poor quality, unaffordable or inappropriate housing has a negative impact on quality of life the maintenance of independence in retirement (The Housing and Ageing Alliance, 2013).

Research carried out in England, showed an average life expectancy gap of seven years between the richest and poorest areas of the country. People living in poorer areas and households with the lowest incomes spend a greater proportion of their lives (an additional 17 years on average) coping with the impact of long-term illness and associated disability (Marmot, 2010).



- 0 - 10% (most)
- 11 - 20%
- 21 - 30%
- 31 - 40%
- 41 - 50%
- 51 - 60%
- 61 - 70%

- 71 - 80%
- 81 - 90%
- 90 - 100% (least)



Scale:
1:700,000

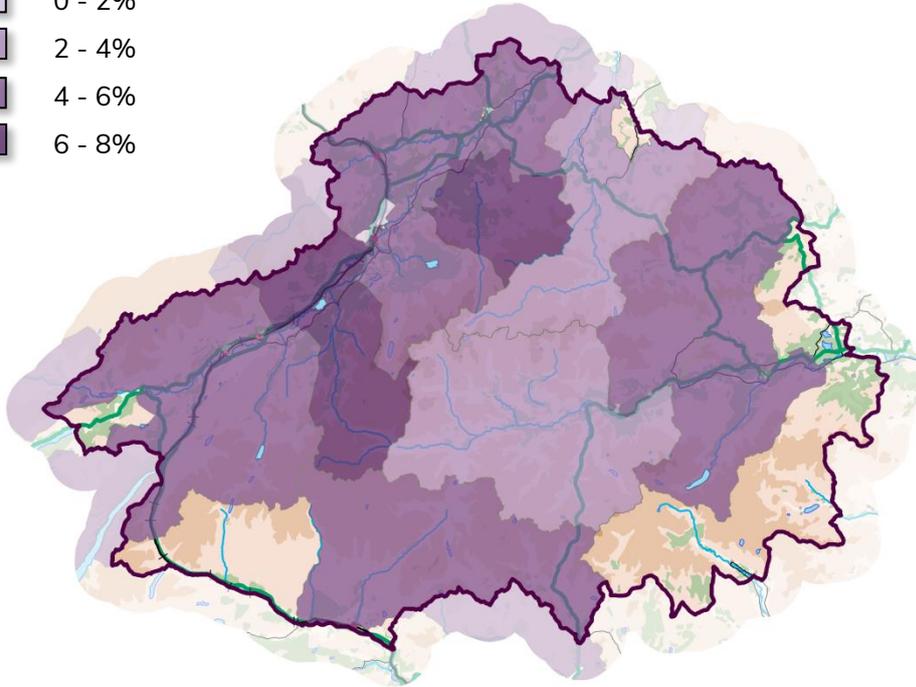
Figure 129 Housing deprivation by decile according to the SIMD (2020).

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There are not a high levels of housing related deprivation within the Cairngorms National Park, with no data zones falling within the 30% most deprived (**Figure 129**). There are however areas of the National Park where certain indicators of housing deprivation exceed the national average.



-  0 - 2%
-  2 - 4%
-  4 - 6%
-  6 - 8%

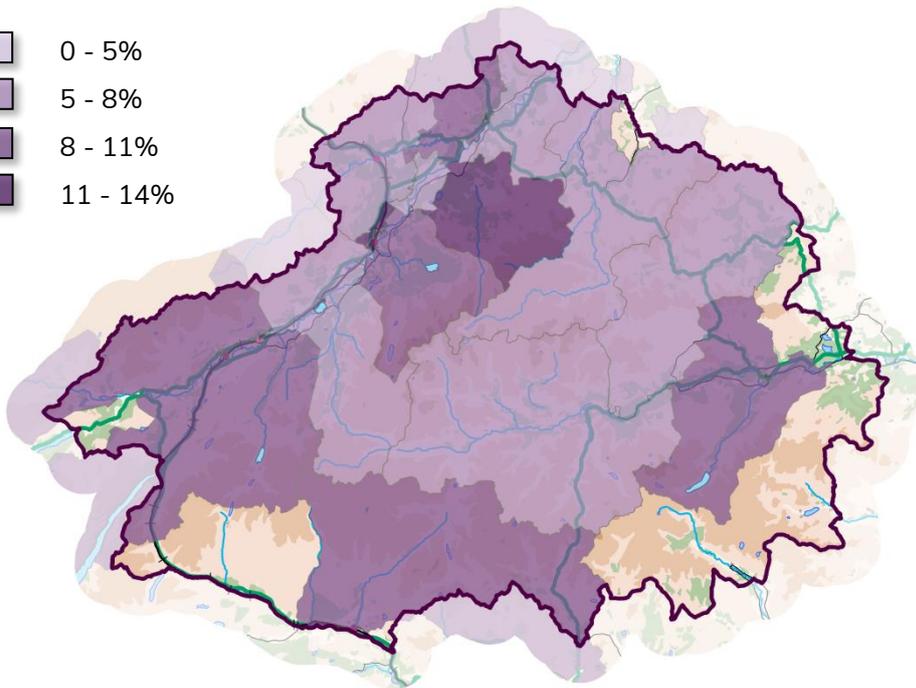


Scale:
1:900,000

Figure 130 Proportion of household population without central heating (SIMD, 2020).

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-  0 - 5%
-  5 - 8%
-  8 - 11%
-  11 - 14%



Scale:
1:900,000



Figure 131 Proportion of household population living in overcrowded households (SIMD, 2020).

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Many areas of the Cairngorms National Park have relatively high proportions of the household population living in homes with no central heating, equating to around 4.3% across the whole area (Scotland 2.3%) (**Figure 130**).

Levels of household overcrowding are relatively low within the National Park (**Figure 131**), with the vast majority of data zones falling below the Scottish average of around 13.9%.

Overcrowding statistics may be skewed by the fact that compared to the Scottish average, there is higher proportion of large dwellings within the National Park and a lower proportion of small ones (**Table 26** and **Table 27**). This may therefore mask significant instances of overcrowding suffered by those unable to afford larger properties.

Table 26 Number of dwellings by size in the Cairngorms National Park in 2017 (Scottish government, 2017).

Area of National Park	All	Number of Rooms										
		One	Two	Three	Four	Five	Six	Seven	Eight	Nine	Ten +	Unknwn
ABD	1,937	40	220	294	438	410	245	128	74	37	51	0
Highland	7,290	27	710	1,711	1,872	1,200	712	426	177	85	140	230
Moray	418	6	38	49	118	97	49	27	15	6	13	0
PKC	541	2	27	92	166	101	50	41	13	15	31	3
CNPA	10,186	75	995	2,146	2,594	1,808	1,056	622	279	143	235	233
Scotland	2,603,174	28,632	304,447	754,626	684,560	425,583	199,666	92,424	41,440	17,417	14,736	39,643

Table 27 Proportion of dwellings by size in the Cairngorms National Park in 2017 (Scottish Government, 2017).

Area of National Park	All	Number of Rooms										
		One	Two	Three	Four	Five	Six	Seven	Eight	Nine	Ten +	Unkn own
ABD	100%	2.1%	11.4%	15.2%	22.6%	21.2%	12.6%	6.6%	3.8%	1.9%	2.6%	0.0%
Highland	100%	0.4%	9.7%	23.5%	25.7%	16.5%	9.8%	5.8%	2.4%	1.2%	1.9%	3.2%
Moray	100%	1.4%	9.1%	11.7%	28.2%	23.2%	11.7%	6.5%	3.6%	1.4%	3.1%	0.0%
PKC	100%	0.4%	5.0%	17.0%	30.7%	18.7%	9.2%	7.6%	2.4%	2.8%	5.7%	0.6%
CNPA	100%	0.7%	9.8%	21.1%	25.5%	17.7%	10.4%	6.1%	2.7%	1.4%	2.3%	2.3%
Scotland	100%	1.1%	11.7%	29.0%	26.3%	16.3%	7.7%	3.6%	1.6%	0.7%	0.6%	1.5%



A significant barrier in reducing household deprivation is the availability of enough new housing to replace existing poor-quality stock while also meeting projected growth in households. The number of new homes completed in the National Park fell following the ‘credit crunch’ in 2008 resulting in an average annual completion rate of around 81 new dwellings between 2000 and 2021 (**Figure 132**). In 2021 only 48 new houses were completed. The effects of the covid-19 pandemic and rising prices of materials of the UK's exit from the European Union may have further dampened confidence in the housing market and limited the development of new homes.

Being the area of the National Park in which most development takes place, completions in Badenoch and Strathspey heavily influence this trend with development peaking in 2006 and falling to a nadir in 2013 (**Figure 132**).

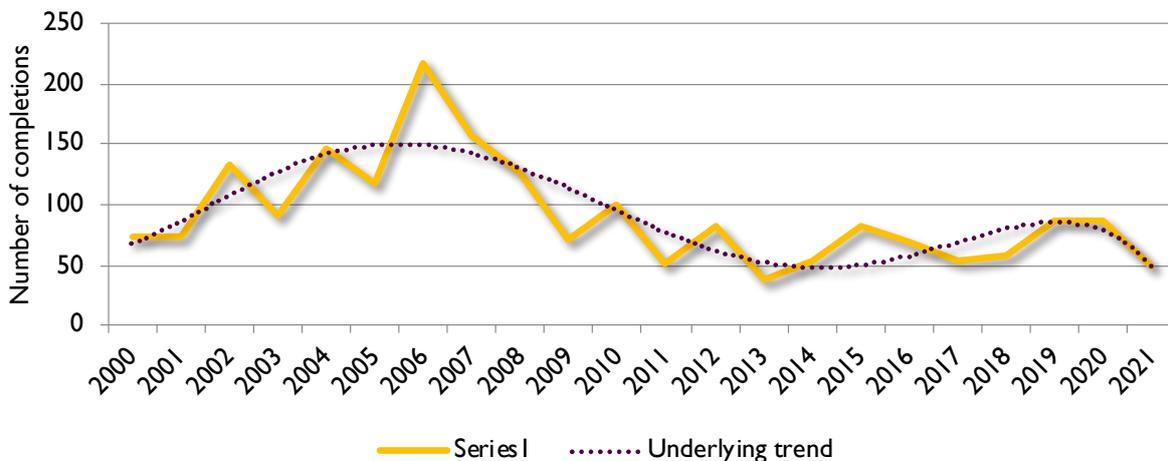


Figure 132 Number of new dwellings completed per year in the Cairngorms National Park. Data Sourced from the LA's covering the various areas within the National Park. Data will be reviewed and updated later in 2023 when a complete data set for 2023 is available.

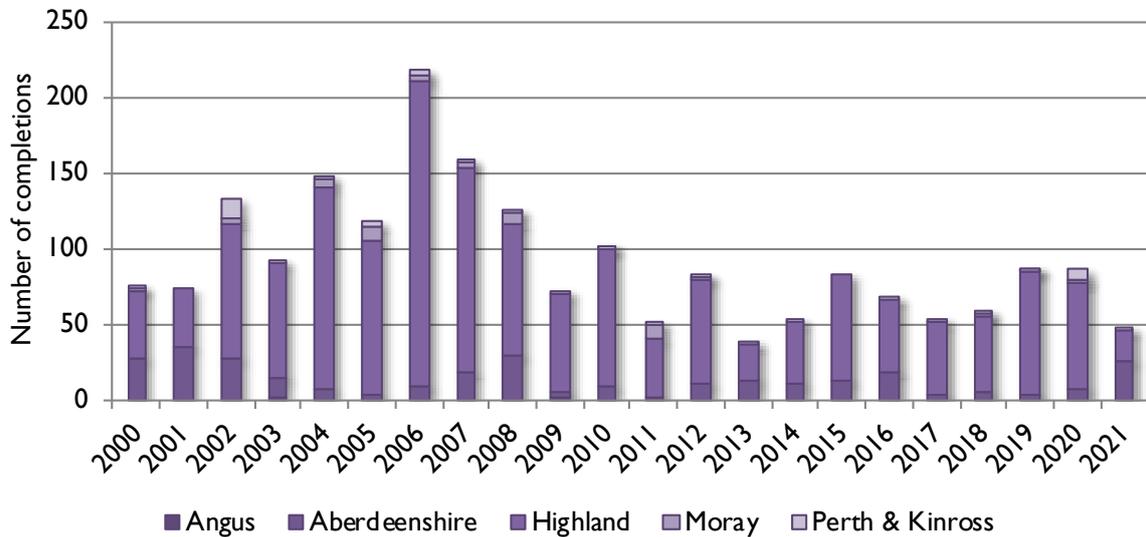


Figure 133 Number of new dwellings per year by Local Authority. Data: Local Authorities, 2023. Data will be reviewed and updated later in 2023 when a complete data set for 2023 is available.

Table 28 Median House Prices in the Cairngorms National Park (Scottish Government, 2023).

Year	Lower Quartile House Price	Annual Change in Lower Quartile House Price	Median Sale Price	Annual Change in Median House Price	Number of Sales	Annual Change in Number of Sales	Median Gross Household Income ³³	Annual Change in Estimated Median Gross Household Income	Estimated Median House Price / Income Ratio
1993	£43,750	N/A	£56,000	N/A	237	N/A	No data		
1994	£44,200	1.03%	£58,500	4.46%	222	-6.33%			
1995	£52,400	18.55%	£60,000	2.56%	234	5.41%			
1996	£48,400	-7.63%	£59,000	-1.67%	233	-0.43%			
1997	£47,900	-1.03%	£65,500	11.02%	274	17.60%			
1998	£45,300	-5.43%	£57,000	12.98%	276	0.73%			
1999	£52,100	15.01%	£68,876	20.84%	301	9.06%			

³³ Based on Scottish Government Experimental Statistics on Local Level Household Income Estimates (Scottish Government, 2014)



Year	Lower Quartile House Price	Annual Change in Lower Quartile House Price	Median Sale Price	Annual Change in Median House Price	Number of Sales	Annual Change in Number of Sales	Median Gross Household Income ³³	Annual Change in Estimated Median Gross Household Income	Estimated Median House Price / Income Ratio
2000	£55,600	6.71%	£75,000	8.89%	258	-14.29%			
2001	£55,700	0.18%	£75,000	0%	344	33.33%			
2002	£61,500	10.41%	£87,000	16%	338	-1.74%	£21,465	N/A	4
2003	£70,000	13.82%	£93,250	7.18%	334	-1.83%	£22,108	3.00%	4
2004	£57,000	-18.57%	£109,550	17.48%	457	36.83%	£22,466	1.62%	5
2005	£71,000	24.56%	£120,000	9.54%	430	-5.91%	£23,847	6.14%	5
2006	£93,900	32.25%	£152,000	28.33%	489	13.72%	£25,058	5.08%	6
2007	£106,311.50	13.22%	£171,000	11.04%	571	16.77%	£25,598	2.15%	7
2008	£114,875	8.06%	£184,000	7.60%	376	-34.15%	£27,039	5.63%	7
2009	£98,125	-14.58%	£170,000	-7.61%	303	-19.41%	£28,711	6.18%	6
2010	£130,000	32.48%	£170,000	0%	331	9.24%	£28,915	0.71%	6
2011	£131,000	0.77%	£180,000	5.88%	297	-10.27%	£29,069	0.53%	6
2012	£180,750	37.98%	£166,000	-7.78%	285	4.04%	£29,774	2.43%	6
2013	£111,250	38.45%	£169,950	2.38%	356	24.91%	£30,206	1.45%	6
2014	£125,375	12.70%	£175,000	2.97%	418	17.42%	£31,058	2.82%	6
2015	£133,375	6.38%	£182,500	4.29%	380	-9.09%	£31,070	0.04%	6
2016	£129,500	2.91%	£188,500	3.29%	336	-11.58%	£32,585	4.55%	6
2017	£130,062.50	0.43%	£189,875	0.73%	365	8.63%	£33,196	2.86%	6
2018	£137,637	5.82%	£192,750	1.51%	335	-8.22%	£34,300	3.40%	6
2019	£143,750	4.44%	£188,750	2.08%	298	-11.04%	£32,287	-5.87%	6



Year	Lower Quartile House Price	Annual Change in Lower Quartile House Price	Median Sale Price	Annual Change in Median House Price	Number of Sales	Annual Change in Number of Sales	Median Gross Household Income ³³	Annual Change in Estimated Median Gross Household Income	Estimated Median House Price / Income Ratio
2020	£140,609	-2.19%	£215,083.25	13.95%	282	-5.37%	£35,863	11.08%	6
2021	£157,000	11.66%	£228,000	6.01%	386	36.88%	£37,126	3.52%	6

Affordability is a further barrier. Between 1993 and 2021, the median price of a property in the Cairngorms National Park saw a net rise of just over 307%, with a peak in 2021 of £228,000 (**Table 28**). The 2008 'credit crunch' does not appear to have had much of an immediate impact on prices, although it seems to have resulted in a lower level of sales since a peak in 2007. Since 2007, 2014 saw the largest number of sales at 418, this reduced between 2015 to 2020 with a 26% overall decrease but shows possible signs of improvement with a 37% increase from 2020 to 2021.

The growth in house prices was lower and more variable between 2007 and 2019, then in 2020 the highest (since 2006) annual increase was recorded at 13.95%. The increase in both sales and house prices in 2020/2021 may reflect changing working patterns, including more home and hybrid working, and an increase in people seeking to relocate to rural locations following the Covid-19 Pandemic and changing work-based patterns. Between 2020 and 2021 the increase reduced; however it is too early to ascertain yet if this represents a continued trend of upward prices or a standalone peak, due to the uncertain economic climate post Covid-19 Pandemic.

Since 2009 the median house price to median household income/earnings ratio in the Cairngorms National Park has remained constant at around 6 times median income to median house price.

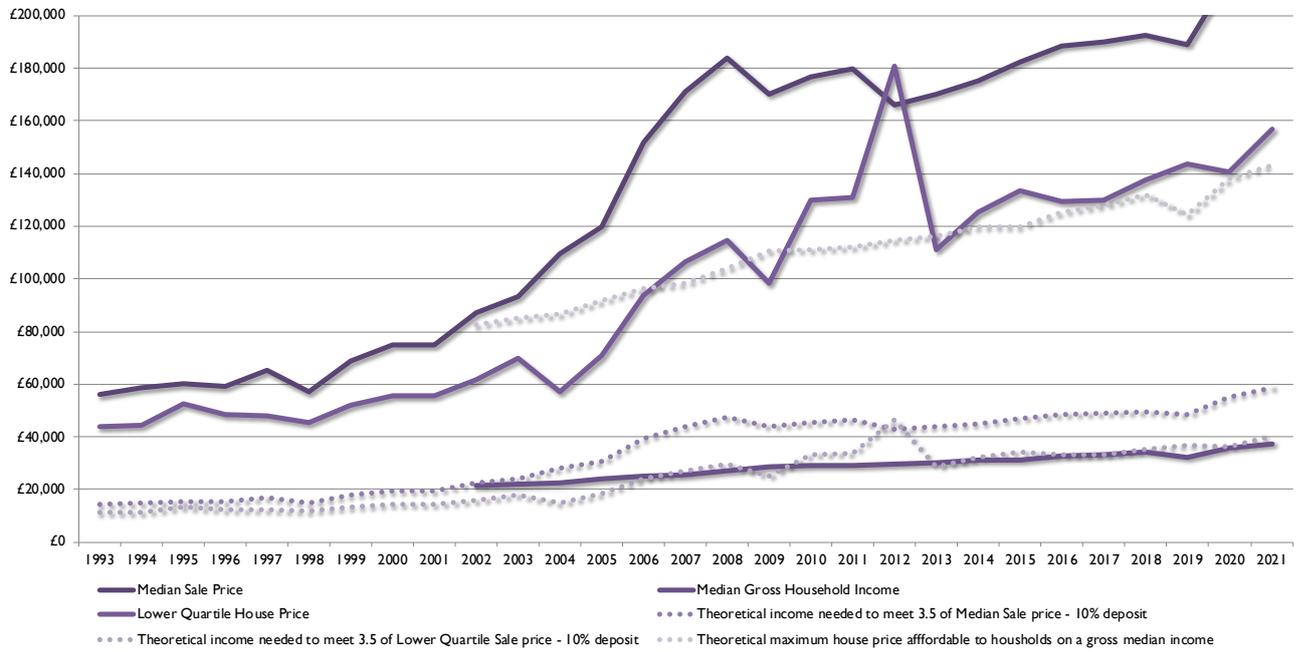


Figure 134 House prices and household incomes within the Cairngorms National Park 1993-2021 (Sources: www.statistics.gov.scot; Scottish Government, 2023 & Nomis: Official Labour Market Statistics).

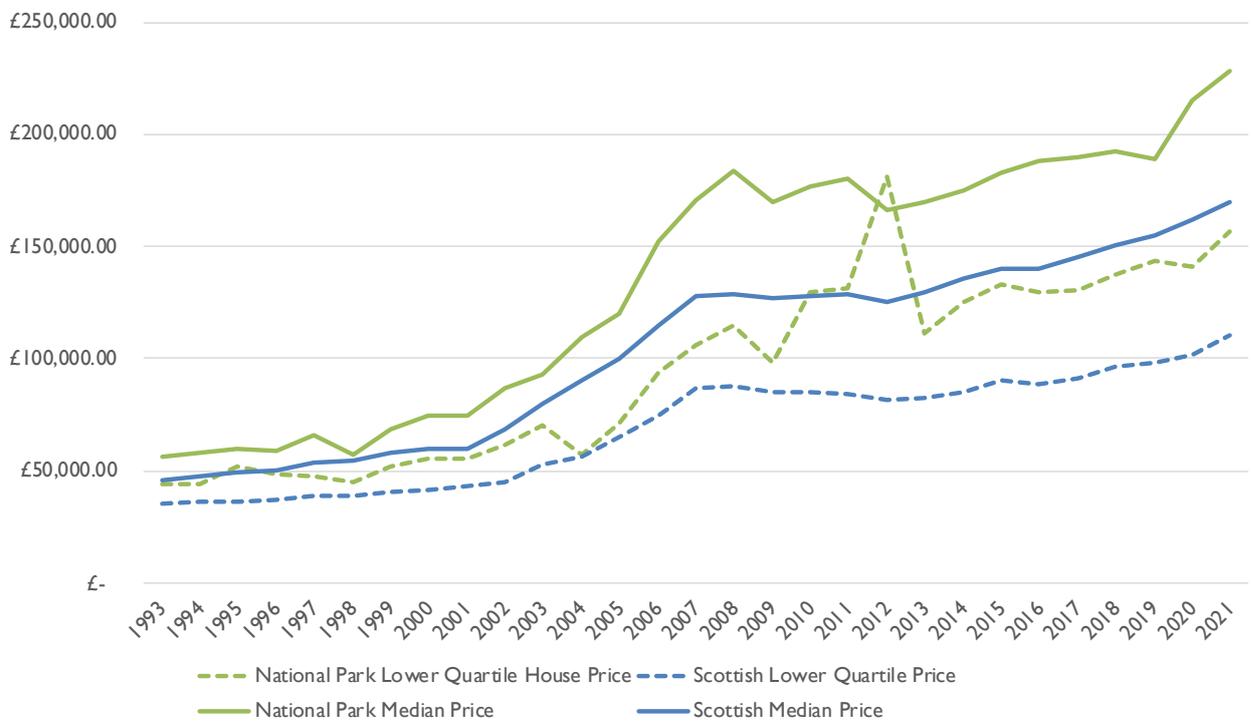


Figure 135 Comparison between the Scottish and Cairngorms National Park Median and lower quartile house prices (Scottish Government, 2023).



Figure 135 offers an insight into the evolution of median house prices across the National Park and Scotland. The graph shows that both the lower quartile and mean house prices in the National Park, despite fluctuating, have consistently remained above those of the Scottish average values.

Private Sector Rent Statistics

Scottish Government have published private sector rent statistics for the Broad Market Areas in Scotland. Data is not available for the geography of the Cairngorms National Park, however the data for the five Local Authorities which the National Park overlaps give an indication of private sector rates in the wider area. Data provided by Scottish Government is derived from the Rent Service Scotland market evidence database³⁴, collected for the purposes of determining annual Local Housing Allowance levels and Local Reference Rent. Caution is advised when considering rent levels and trends for property sizes within Broad Rental Market Areas which are based on small sample sizes.

The areas of Highlands and Islands, Perth and Kinross, Aberdeen and Shire and Dundee and Angus fall within the National Park's boundary. It should be noted that all of these areas, also cover large urban centres, Inverness, Perth, Aberdeen and Dundee and therefore may not be comparable to the rural characteristics present in the National Park. Furthermore, the National Park is a tourist destination in itself and therefore experiences additional pressures related to short term lets.

One-bedroom properties

Average rents for one-bedroom properties at the Scotland level increased by an estimated 6.3% between 2021 and 2022, to reach £580 in 2022, which compares to an average increase in UK CPI of 7.6% across the year to September 2022.

³⁴ Note that the rental information contained in the market evidence database is largely based on advertised rents, therefore it is important to note that the statistics presented in this publication do not represent rent changes for existing tenants.



Between 2010 and 2022 rents increased for one-bedroom properties in three of the four Broad Market Areas that partially cover the Cairngorms National Park (Table 29 and Figure 136). Rents increased highest in the Highlands and Islands area (26.3%) and decreased in the Aberdeen and Shire area (-11.3%). There were no areas in which changes increased beyond the Scottish (mean) average or 31.2%.

Between 2021 and 2022, rents increased in all areas between 3% for Aberdeen and Shire and 6.1% in the Highlands and Islands. As with above, Scottish (mean) averages exceeded any rise seen in any of the other Broad Rental Market Areas (Table 29 and Figure 136).

Table 29 One-bedroom Properties - Average (mean) monthly rents (£): Cumulative changes 2010 to 2022, by Broad Rental Market Area

Broad Rental Market Area	2010	2021	2022	2010 to 2022 change	2021 to 2022 change	Cumulative CPI - 2010 to 2022 (33.7%)
Scotland	442	546	580	31.2%	6.3%	33.7%
Highland and Islands	415	494	524	26.3%	6.1%	33.7%
Dundee and Angus	351	414	439	25.0%	5.8%	33.7%
Perth and Kinross	377	439	457	21.2%	4.3%	33.7%
Aberdeen and Shire	529	455	469	-11.3%	3.0%	33.7%

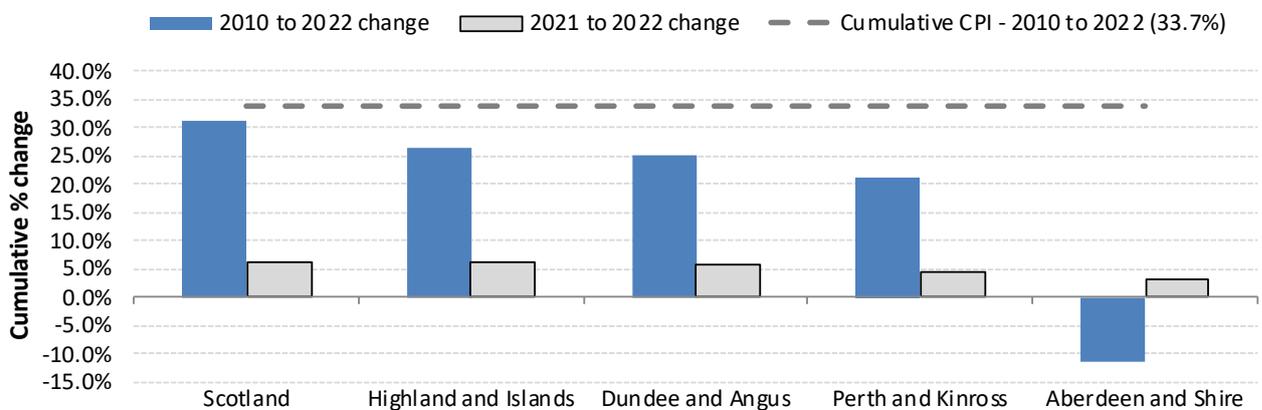


Figure 136 One-bedroom Properties - Average (mean) monthly rents (£): Cumulative changes 2010 to 2022, by Broad Rental Market Area



Two-bedroom properties

The most common type of property in the private rented sector is a two-bedroom property, with around half (49 per cent) of all private rented properties in Scotland estimated to be this size³⁵. Average rents for two-bedroom properties at the Scotland level increased by an estimated 6.2% between 2021 and 2022, to reach £736 in 2022, which compares to an average increase in UK CPI of 7.6% across the year to September 2022.

Rents increased in all the Broad Market Areas for two-bedroom properties in both the long-term (2010-2022) and short term (2021-2022) (**Table 30** and **Figure 137**).

The largest increases between 2010 – 2022 were seen in Dundee and Angus with rents increasing 30.3% and the lowest in Aberdeen and Shire at only 3.1%. The Scottish (mean) average for the period was 32.9%, higher than any of the individually reported Broad Rental Market Areas (**Table 30** and **Figure 137**).

Between 2021-2022 Dundee and Angus saw an increase of 8.0%, and Aberdeen and Shire 2.1%. Perth and Kinross saw increases (6.1%) similar to the Scottish (mean) averages of 6.2% (**Table 30** and **Figure 137**).

Table 30 Two-bedroom Properties - Average (mean) monthly rents (£): Cumulative changes 2010 to 2022, by Broad Rental Market Area

Broad Rental Market Area	2010	2021	2022	2010 to 2022 change	2021 to 2022 change	Cumulative CPI - 2010 to 2022 (33.7%)
Scotland	554	693	736	32.9%	6.2%	33.7%
Dundee and Angus	497	601	648	30.3%	8.0%	33.7%
Highland and Islands	503	612	643	27.6%	4.9%	33.7%
Perth and Kinross	506	590	626	23.6%	6.1%	33.7%
Aberdeen and Shire	643	649	663	3.1%	2.1%	33.7%

³⁵ See Table 3.6d 'Housing characteristics by tenure - Number of bedrooms (Scotland, 2019)' at [SHS Data Explorer \(shinyapps.io\)](https://shinyapps.io)

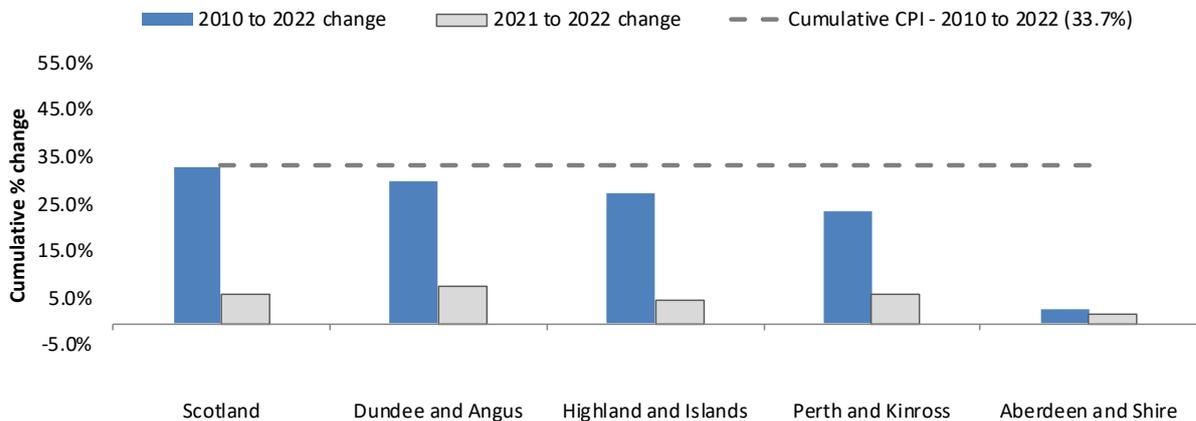


Figure 137 Two-bedroom Properties - Average (mean) monthly rents (£): Cumulative changes 2010 to 2022, by Broad Rental Market Area

Three-bedroom properties

Average rents for three-bedroom properties at the Scotland level increased by an estimated 7.4% between 2021 and 2022, to reach £906 in 2022, which compares to an average increase in UK CPI of 7.6% across the year to September 2022.

Rents for three-bedroom properties between 2010-2022 increased in Dundee and Angus by 39.8% above the Scottish (mean) average of 34.5% (**Table 31** and **Figure 138**). This pattern was repeated in the short term when between 2021 and 2022 rents increased in Dundee and Angus by 9.3%, compared to the Scottish (mean) average of 7.4% (**Table 31** and **Figure 138**).

Table 31 Three-bedroom Properties - Average (mean) monthly rents (£): Cumulative changes 2010 to 2022, by Broad Rental Market Area

Broad Rental Market Area	2010	2021	2022	2010 to 2022 change	2021 to 2022 change	Cumulative CPI - 2010 to 2022
Dundee and Angus	633	809	884	39.8%	9.3%	33.7%
Scotland	674	844	906	34.5%	7.4%	33.7%
Perth and Kinross	647	777	857	32.4%	10.3%	33.7%
Highland and Islands	595	737	770	29.5%	4.5%	33.7%



Aberdeen and Shire	744	867	931	25.2%	7.4%	33.7%
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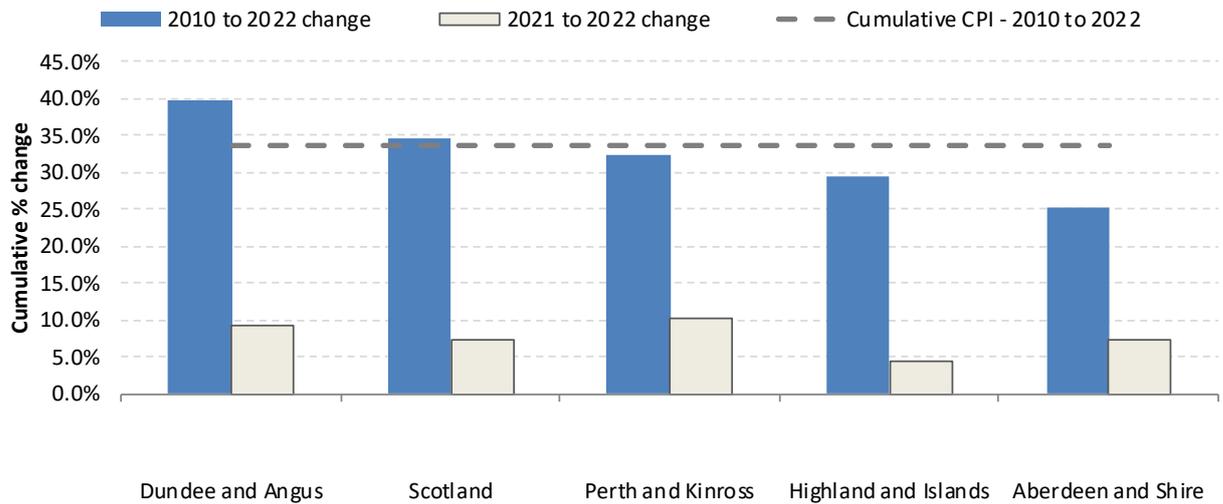


Figure 138 Three-bedroom Properties - Average (mean) monthly rents (£): Cumulative changes 2010 to 2022, by Broad Rental Market Area

Four-bedroom properties

Average rents for four-bedroom properties at the Scotland level were estimated to increase by 7.5% between 2021 and 2022, to reach £1,460 in 2022, which compares to an average increase in UK CPI of 7.6% across the year to September 2022. It worth noting that some areas have a relatively low number of four-bedroom property records recorded, and therefore some caution is needed when interpreting the findings given that the averages presented can be based on a small number of underlying records.

Between 2010 and 2022, Dundee and Angus saw a significantly higher increase (62.4%) in rental prices, compared to the Scottish (mean) average (55.6%) (**Table 32** and **Figure 139**). The gap has narrowed between 2021-2022 with only a 0.1% point change between the two (**Table 32**).

The Highlands and Islands saw the smallest change between 2010-2022 with an increase of 35.2%, however in the short term (2021-2022) the smallest increase was in Aberdeen and Shire (3.9%).



Table 32 Four-bedroom Properties - Average (mean) monthly rents (£): Cumulative changes 2010 to 2022, by Broad Rental Market Area

Broad Rental Market Area	2010	2021	2022	2010 to 2022 change	2021 to 2022 change	Cumulative CPI - 2010 to 2021
Dundee and Angus	811	1,224	1,317	62.4%	7.6%	33.7%
Scotland	939	1,358	1,460	55.6%	7.5%	33.7%
Aberdeen and Shire	944	1,319	1,371	45.3%	3.9%	33.7%
Perth and Kinross	858	1,080	1,210	41.2%	12.1%	33.7%
Highland and Islands	751	940	1,015	35.2%	7.9%	33.7%

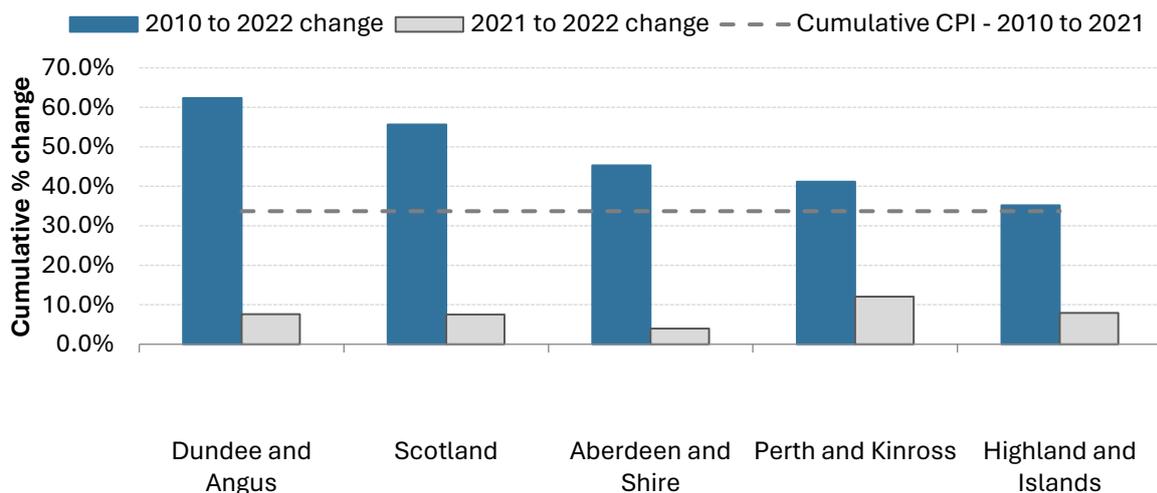


Figure 139 Four-bedroom Properties - Average (mean) monthly rents (£): Cumulative changes 2010 to 2022, by Broad Rental Market Area

Digital Connectivity

Connectivity through digital infrastructure in the Cairngorms National Park remains a challenge. **Figure 140** shows that the National Park (71%) falls short of the national average (93%) in terms of number of premises connected with superfast broadband. These figures are generated from 2019 data, the latest report from Ofcom stating that 94% of Scotland has access to superfast



broadband and this reflects 72% in rural locations³⁶. The data in Figure 140 is collated and utilised by Ofcom in their annual Connected Nations Report and feeds into the calculations for one of the seven SIMD domains; Access to amenities, as a new indicator (10% of the domain) added in 2020. This Domain is where the National Park scores worst and is in the 2nd lowest quintile (2460; the mean average of the data zones covering the National Park).

Individual data zones in the Cairngorms National Park vary considerably from 100% 'fast broadband' connectivity in Aviemore to 15% in the areas south and west of Kingussie and the area surrounding Ballater (**Figure 140**). Predominately the areas that have below National Park average connectivity are more rural locations outside of established settlements. The latest Ofcom Report³⁷ (2020) reveal that 17% of rural locations in Scotland are still unable to receive a decent broadband³⁸ connection from a fixed line. Since March 2020 the reliance on the internet has meant millions of people are now dependent on the internet for employment, public services, vital consumerism (for example, food and clothes), education and socialising³⁹. There has also been a significant increase in the demand for online entertainment. This has meant that problems with connectivity have become a more prominent issue with an increased need to be addressed.

With the potential increase in systems and processes that utilise the 'Internet of Things' (IoT) concept within the Cairngorms National Park the availability of reliable fast broadband will be crucial to their delivery. The demand for bandwidth has been steadily growing as more applications are developed and rolled out with applications currently being developed for and rolled out for: healthcare, utilities, domestic consumer electronics and smart city products and services.

New initiatives assisted by Growbiz also prioritise the creation of 'Smart Villages' with extensive online networking. The Scottish Governments R100 program intends to deliver superfast broadband to all Scottish homes within the next few years, however delivery forecasts have been lengthened.

³⁶ https://www.ofcom.org.uk/__data/assets/pdf_file/0024/209373/connected-nations-2020.pdf

³⁷ https://www.ofcom.org.uk/__data/assets/pdf_file/0024/209373/connected-nations-2020.pdf

³⁸ Decent Broadband is defined as bandwidth speeds between 10Mbit/s and 30Mbit/s

³⁹ https://www.ofcom.org.uk/__data/assets/pdf_file/0024/209373/connected-nations-2020.pdf

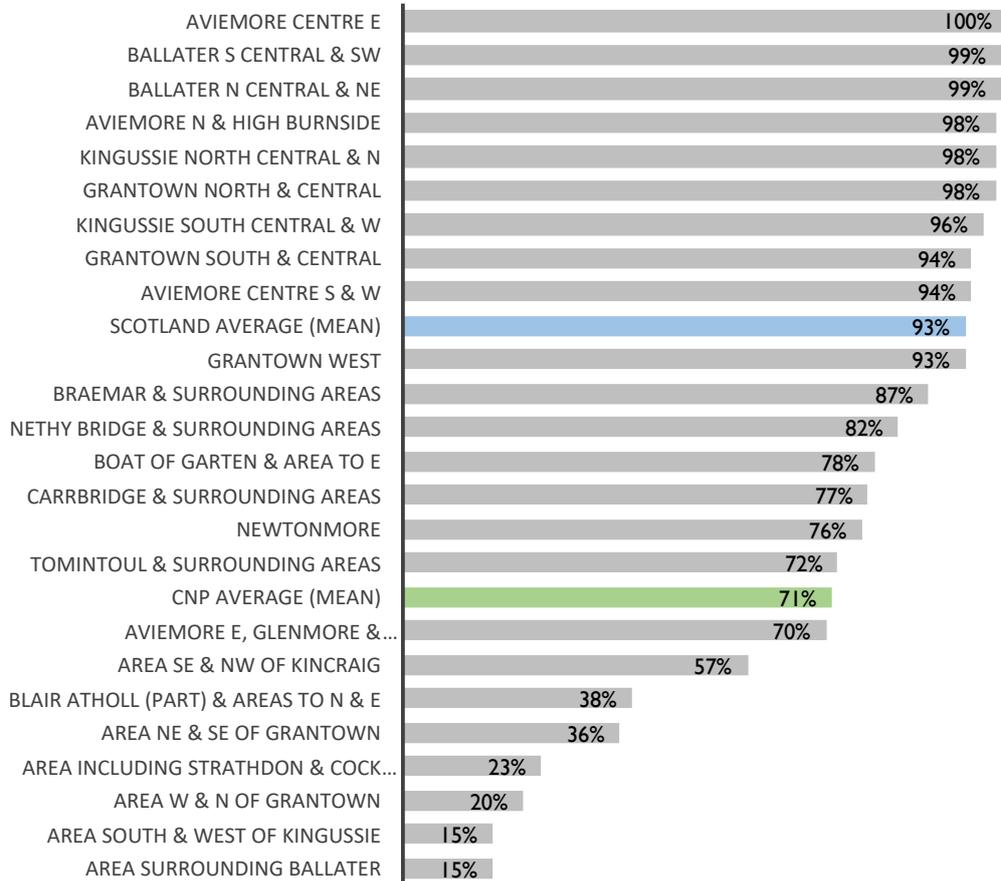


Figure 140 Premises with superfast broadband⁴⁰ (SIMD 2020⁴¹. Source of SIMD data: Ofcom Connected Nations update: Spring 2019⁴²; further information regarding data available from Ofcom⁴³)

Outdoor Recreation

Standardised measures of deprivation aside, there are many factors that can have an influence on a population’s health, and it is probable that the high-quality environment described in this report is a contributory factor. Another factor is likely to be the ability of the population to easily access this environment for leisure and recreational purposes.

Significantly, the Cairngorms National Park is a world-renowned area where both residents and visitors can enjoy a wide range of outdoor recreation opportunities.

⁴⁰ Superfast broadband defines as at least 30 Mbit/s download, up to 300 Mbit/s

⁴¹ <https://www.gov.scot/collections/scottish-index-of-multiple-deprivation-2020/>

⁴² Provides coverage and service availability information received from communications providers as of January 2019. Covers residential broadband services, which may also be used by small businesses. It does not include commercial leased line connectivity, which may affect the figures for very urban areas such as city centres.

⁴³ <https://www.ofcom.org.uk/research-and-data/multi-sector-research/infrastructure-research/connected-nations-update-spring-2019>



People are able to explore the area on foot, in a wheelchair, on horse-back, on a bicycle or even in a boat or canoe, as long as they do so in a responsible manner, with respect for other people and for the environment, and in accordance with the Scottish Outdoor Access Code.

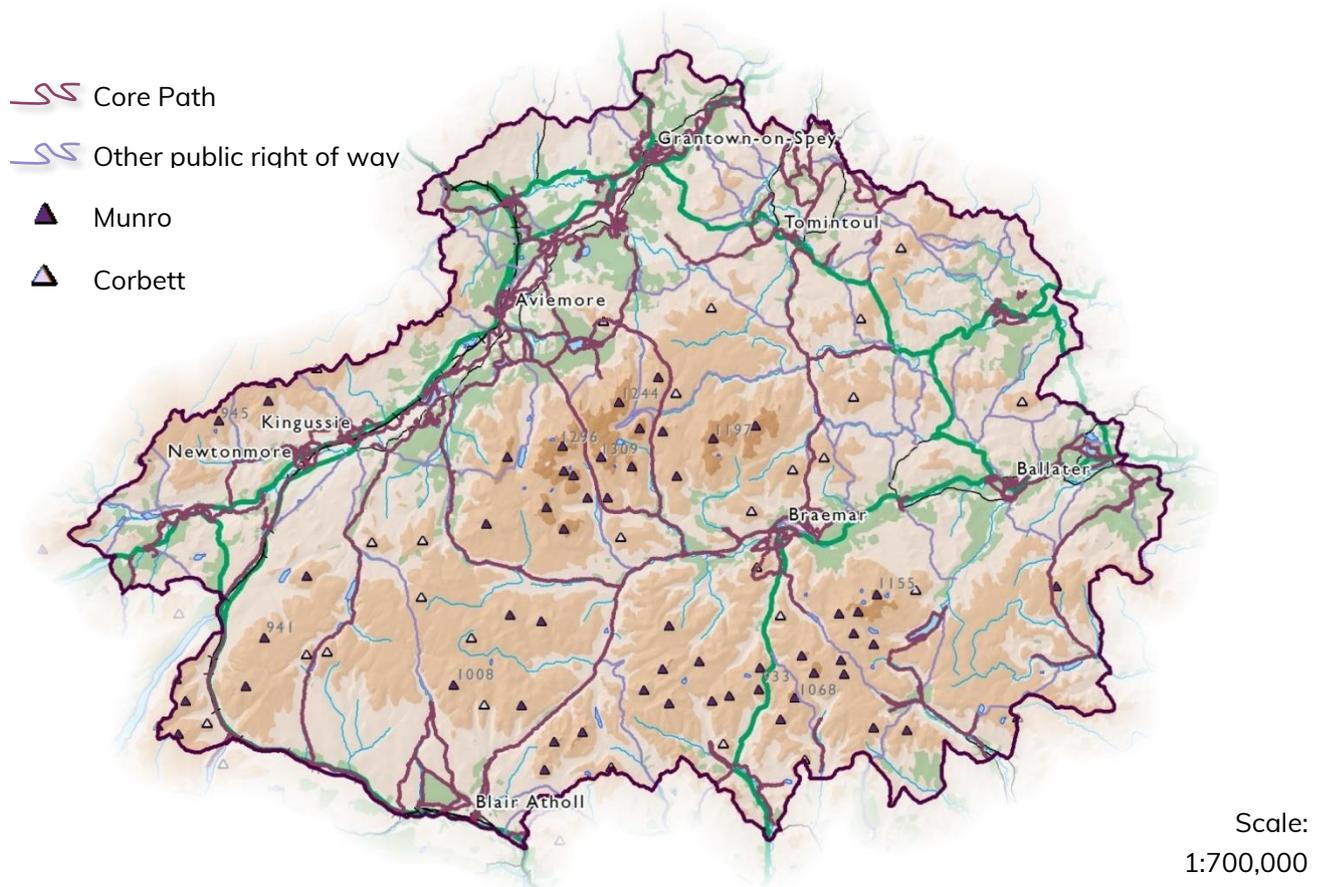


Figure 141 Map of the Core Paths in the Cairngorms National Park

Visitors

In 2020, the Cairngorms National Park received 551,000 visitors, representing a 73.3% decrease from 2019. This significant decline in visitor numbers in 2020 was due to the UK wide lockdowns implemented during the Covid-19 Pandemic and is not representative of the growth experienced to 2019 under 'normal operating parameters. This has had a significant impact on the economic impact of tourism in the National Park.



Pre-pandemic, in 2019, the Cairngorms National Park received 2.067m visitors representing an increase of 32.4% between 2009 – 2019 (**Figure 142**). On average there has been a net increase in visitors in every quarter annually and between 2018 and 2019 average growth exceeded the annual averages (for the 2009 – 2019 period) highlighting the strong growth in tourism in the National Park.

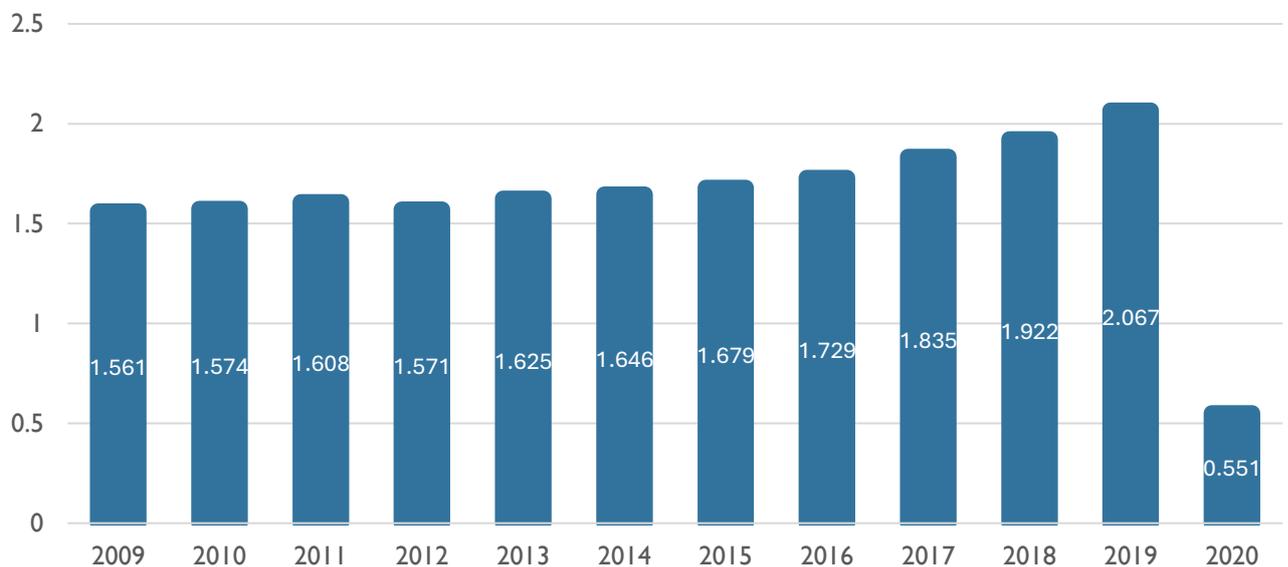


Figure 142 : Annual Visitor Numbers (Millions/year) (Cairngorms National Park STEAM report, 2020)

The highest annual growth was reported in 2019 with increase of 7.5%. In all but two years (with one being during the Pandemic, in 2020) there has been positive growth in the numbers of Visitors.

In order to gain meaningful analysis under 'normal operating conditions' the following pages will focus on the period between 2009 to 2019. In 2012 there was a net decrease in visitor numbers compared to the previous year of -2.3%. The largest monthly gains, up to 2019, are November and December, where over the 2009-2019 period we have seen average increases in visitors of 54.1% and 82.1% respectively. This may reflect that the Cairngorms National Park is becoming more popular as a winter holiday season destination. There are also noticeable gains in visitors in April and May for the 2009-2019 period of 47.0% and 42.1%. These dates coincide with the Easter break vacations taken in schools and colleges and the two UK May Bank holidays.

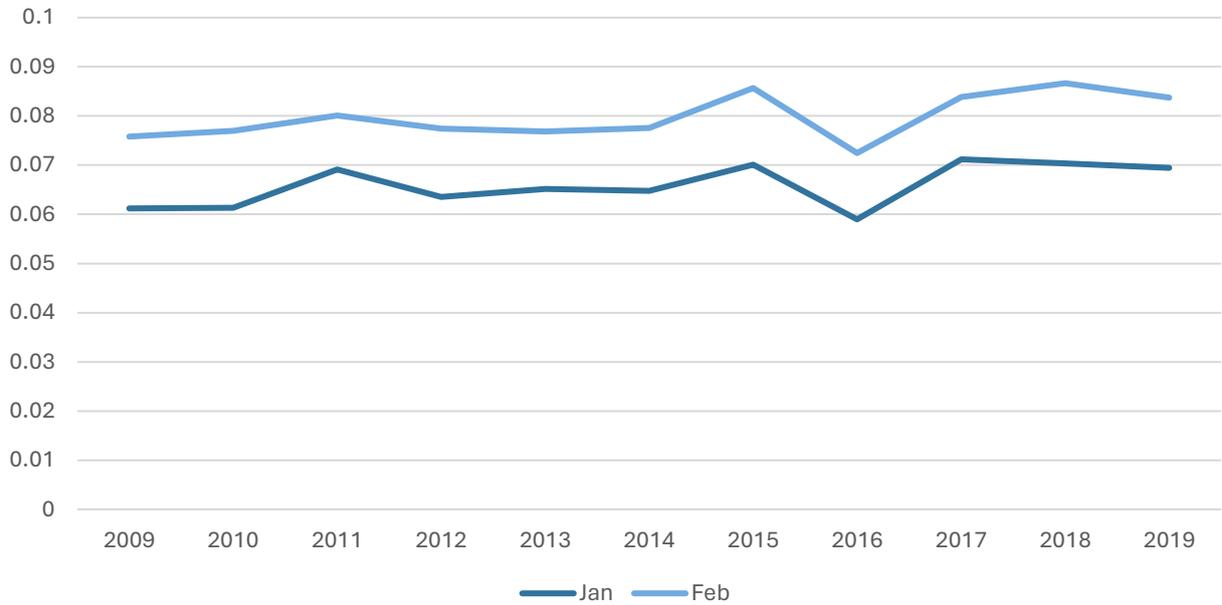


Figure 143: Monthly Visitor Numbers 2009 – 2019 for months of January and February (Cairngorms National Park STEAM report, 2020).

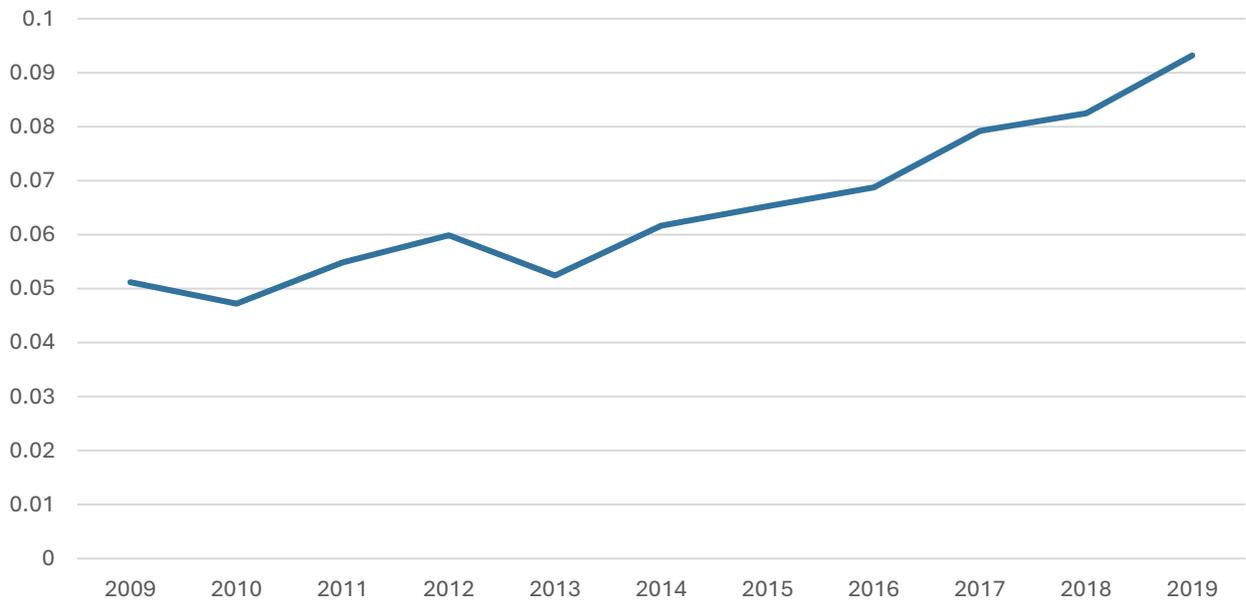


Figure 144: Monthly Visitor Numbers (millions) 2009 – 2019 for months of December (Cairngorms National Park STEAM report, 2020).

The Cairngorms National Park experiences seasonal variations in visitor numbers affecting the monthly number of people employed in this sector throughout the



year. **Figure 145** correlates to the yearly figures, with strongest growth seen in the last year (2019) in September and December coinciding with the UK holiday seasons.

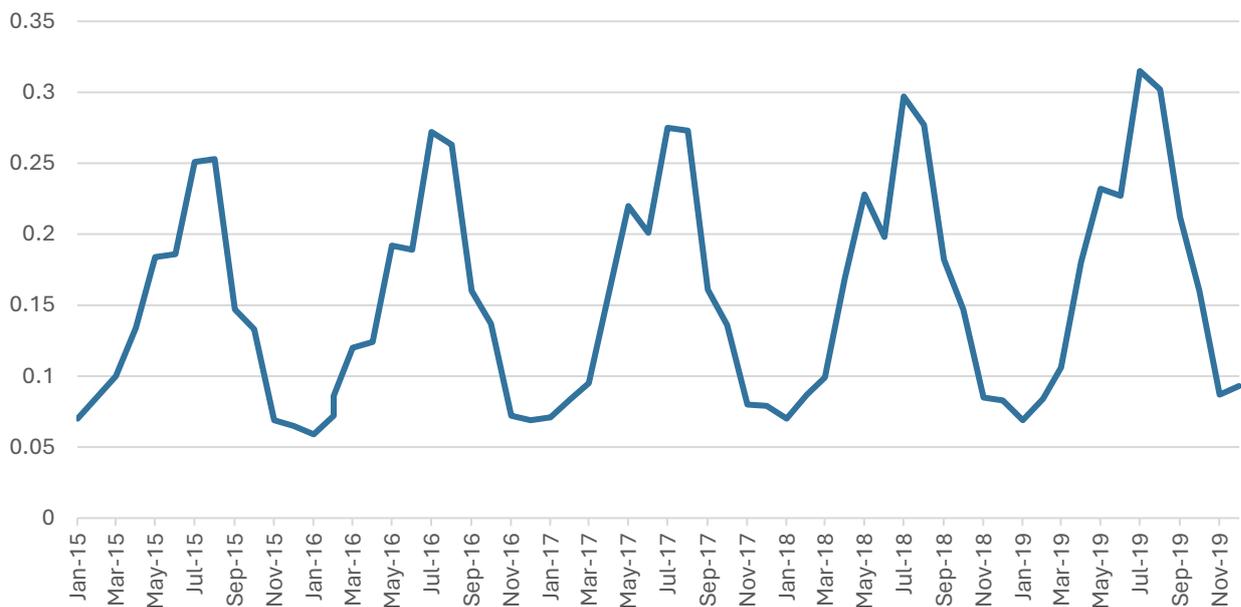


Figure 145: Monthly Visitor Numbers, 2015 – 2019 (Cairngorms National Park STEAM report, 2020)

Economic Impact

The Covid-19 Pandemic had a significant negative effects (-66.2%) on the economic impact of tourism in the Cairngorms National Park In 2020 (**Figure 146** and **Figure 147**) with the reduction of £204.31m compared to the previous year. In 2019 the economic impact of tourism in the Cairngorms National Park was reported to be £308.54m. There was strong economic growth up to 2019, with an average increase of +7.5% annually (2009–2019) representing an increase of +74.7% change for the period. 2019 reported the highest growth during the reporting period of +14.2% over twice the annual average and over 2% higher than in 2018 (+12.1% increase).



During 2012, the park experienced a contraction (**Figure 146** and **Figure 147**) of the tourism economy was recorded (-0.5%) in terms of economic impact coinciding with the reduction in tourism visitors seen in 2012.

No growth was recorded in 2016 and this reflects International Domestic Overnight Visitor spend, for Scotland, from data published in the Tourism Report⁴⁴ produced by Scottish Government in 2018. It reported a marked reduction in the overnight visitor spend by domestic visitors in 2016.

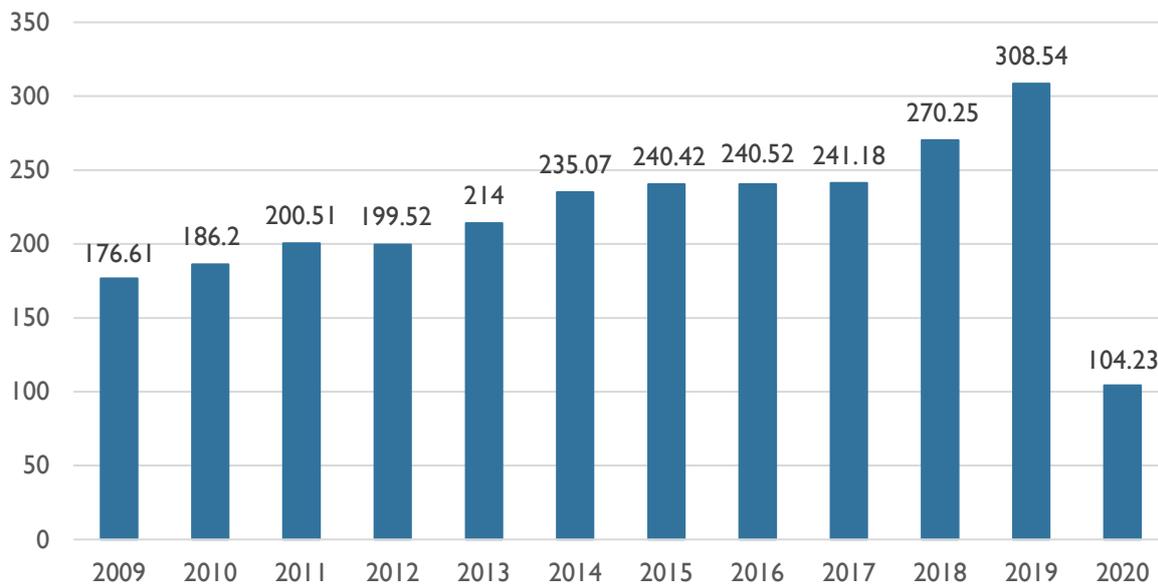


Figure 146: Annual Economic Impact from Tourism 2009 - 2020 (£M) (Cairngorms National Park STEAM report, 2020).

⁴⁴ <https://www.gov.scot/publications/tourism-scotland-economic-contribution-sector/pages/3/>

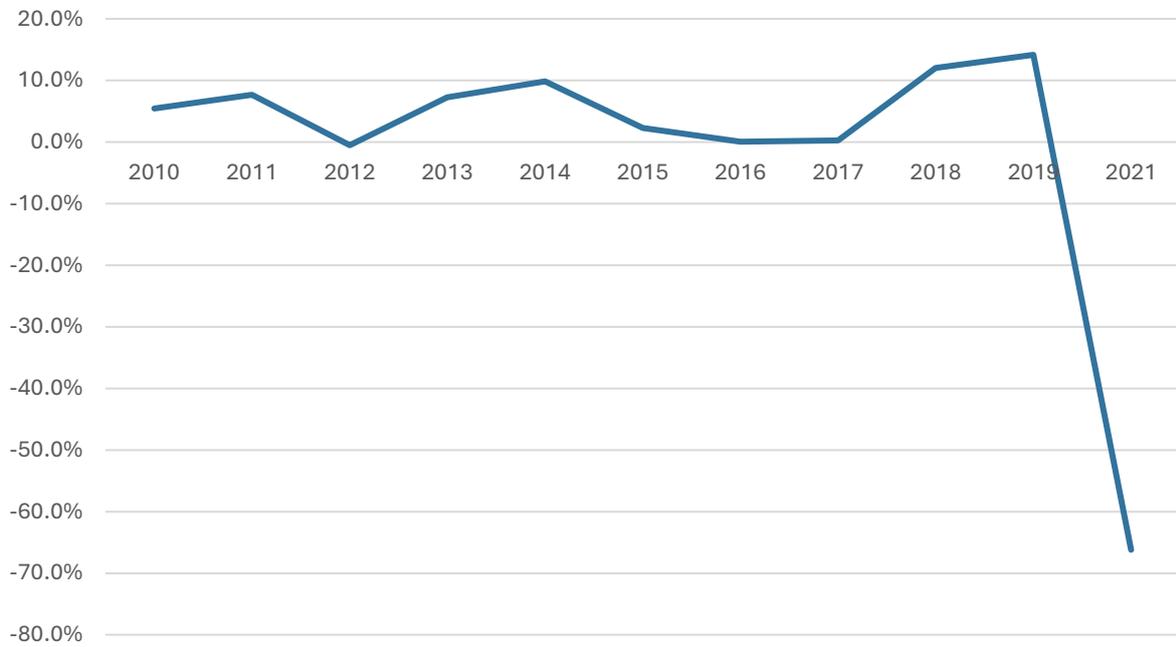


Figure 147: Annual % Change in Economic Impact (Cairngorms National Park STEAM report, 2020)

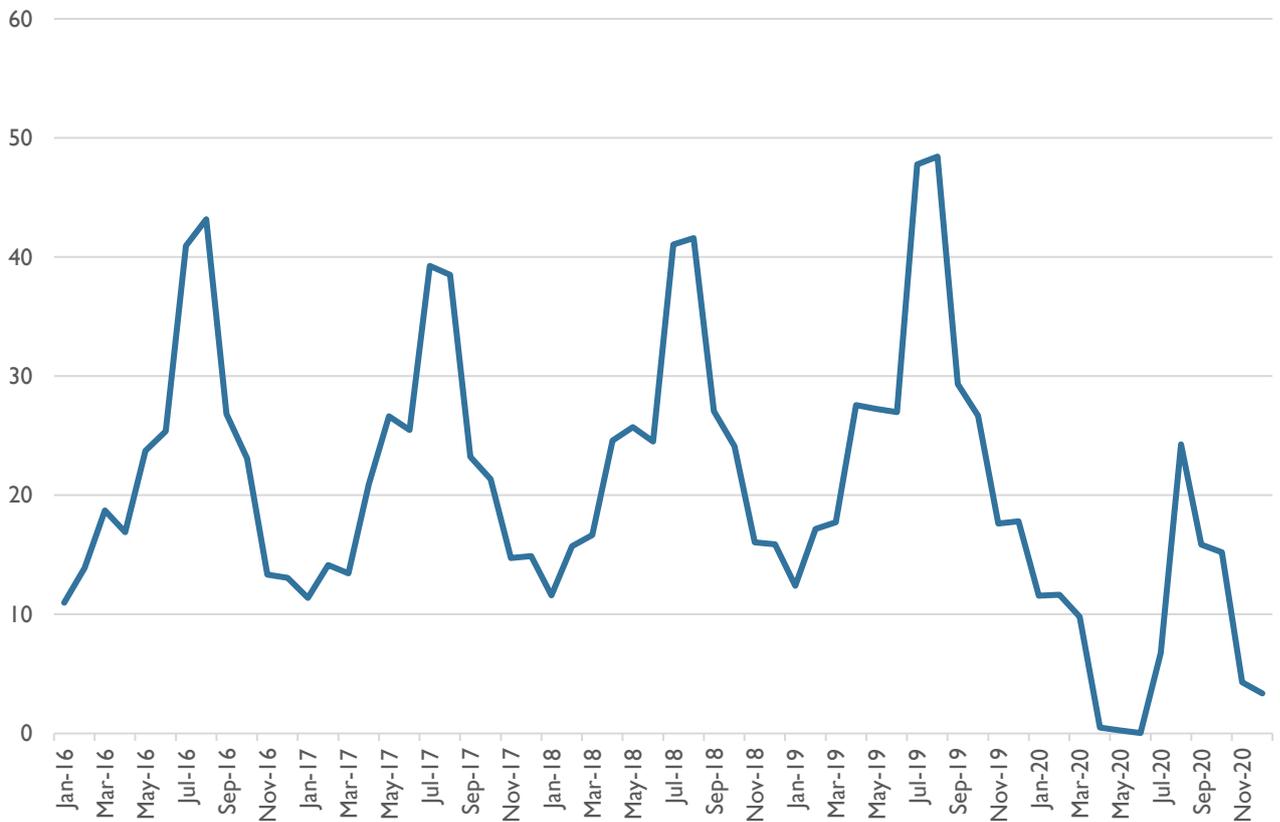


Figure 148: Monthly Economic Impact from Tourism 2016 – 2020 (£M) (Cairngorms National Park STEAM report, 2020).

Monthly economic impact data reflects the seasonality of the tourism industry in Scotland (as highlighted also by the monthly visitor numbers, **Figure 145**). The greatest gains in monthly economic impact from 2009 to 2019 have been in the months of December, +150.1% increase, November +137.4% increase and in April +115.4% increase. These reflect the increase in monthly visitor numbers during these months. In 2019 the largest monthly increases in terms of monthly economic impact were seen in July, +19.3% and August, +19.4% with the third highest increase seen in December; +15.1% increase. These coincide with the educational summer and winter holidays in the UK, EU and the USA. The Scottish Government reported in 2018 that visitor numbers from Germany and the USA had been the main drivers for tourist related economic growth between 2011 and 2016.

During 2020 the Covid-19 Pandemic has an effect on the monthly economic Impact trends seen between 2016 to 2019 (**Figure 149**), there was some



recovering during the summer of 2020 when restrictions were lifted however the peak visitor numbers seen in August produced an economic impact of only £24.27m approximately half of the £48.43m recorded in the previous year for the same month.

Economic Impact: Indexed to 2020 prices to reflect inflation

In 2020 the indexed economic impact of tourism between 2009 and 2020 was estimated to have contributed £3.027b to the Cairngorm National Park's economy. There was strong growth, up to 2019, with an average increase of +3% annually (2009–2019) representing an increase of +29.7% change for the period (2009-2019). 2019 reported the highest growth during the reporting period of +11.3%. As previously mentioned, the Covid-19 Pandemic had a significant negative impact on the economic impact from tourism in the National Park

During 2012, the largest contraction (**Figure 149**) of the tourist economy was recorded (-4.3%) in terms of economic impact, coinciding with the reduction in tourism visitors seen in 2012. There was also a contraction recorded in 2016, -1.3% and 2017, -2.3% reflecting the reduced growth seen in the unindexed figures earlier mentioned in this section. The monthly indexed figures are shown for comparison on the next page.

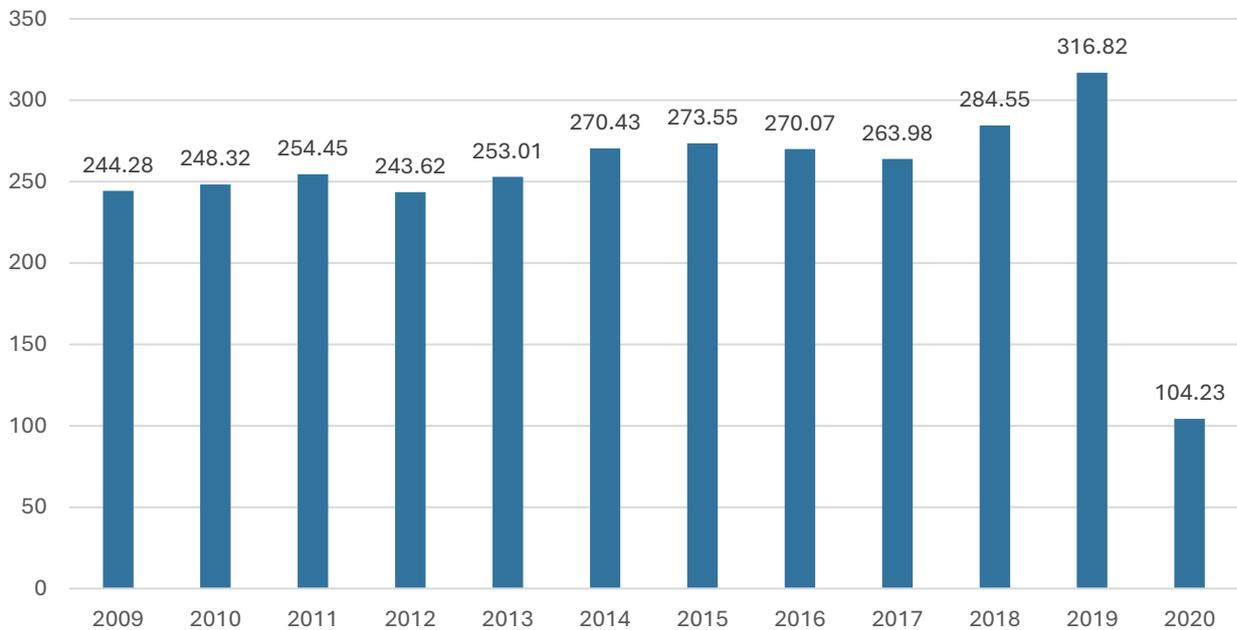


Figure 149: Annual Economic Impact from Tourism (£M) Indexed, 2020⁴⁵ (Cairngorms National Park STEAM Report 2020).

Sectorial Distribution of Economic Impact

The data for the sectorial contributions to the overall economic impact to the economy of the National Park shows that Accommodation is the biggest contributor, followed by Indirect Expenditure and then Food and Drink and Transport, which are comparable contributors (**Figure 150**). Recreation is the lowest contributor, and this may reflect the seasonality of this sectors activities; being mainly summer or winter-based activities with little cross-over. To gain a meaningful insights into the sectorial distribution of the economic Impact In the National Park, this section will look at the trends leading up to the Covid-19 Pandemic. In 2019, Accommodation accounted for 26.5% of the total economic impact (not including related VAT) and Indirect Expenditure attributing 19.2%.

⁴⁵ Indexation to reflect price inflation 2020



Transport and the Food and Drink sectors contributed 13.6% and 13.8% respectively.

The trends presented in most sectors do mirror the overall fluctuations seen in the annual economic impact figures (**Figure 150**), however this is more pronounced in the Accommodation sector with a slower recovery in 2018 compared with other sectors.

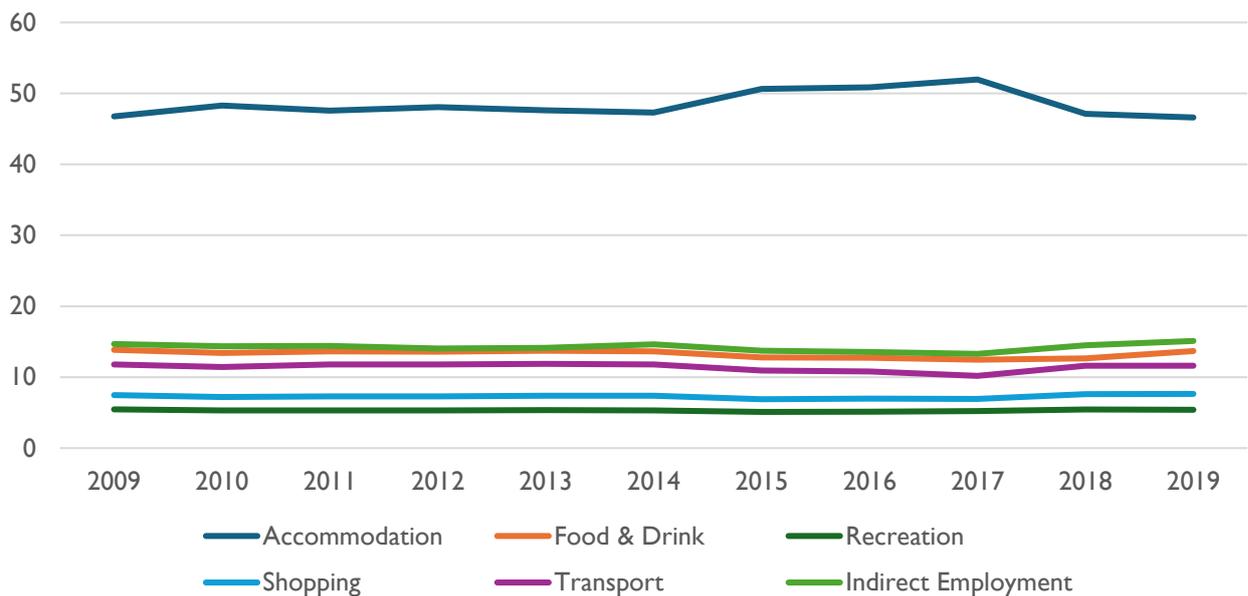


Figure 150 Annual Sectorial Distribution of Indexed Economic Impact (£M) (Cairngorms National Park STEAM Report 2020)

Tourism Employment (FTEs)

There has been an overall upward trend in the numbers of people employed in in the National Park up until 2019, with an expected significant reduction in 2020 due to the Covid-19 Pandemic (**Figure 151**). Between 2009 and 2019 the numbers of people employed in tourism related positions in the National Park had increased by +17.1% (+867 FTEs positions). The decrease in 2012 by 81 positions can also be potentially attributed to the decrease in both visitors and economic impact in that year.

The decreases in employment figures for 2017 and then also in 2018 reflect the falling economic impact (seen in the indexed data, and a reduced growth rate in



unindexed data) attributed to this sector in 2016 and 2017. As market confidence decreased after the fall in economic impact in 2016, it is likely businesses reduced staffing levels in anticipation of a lower expectancy of visitors in the following year and therefore trade.

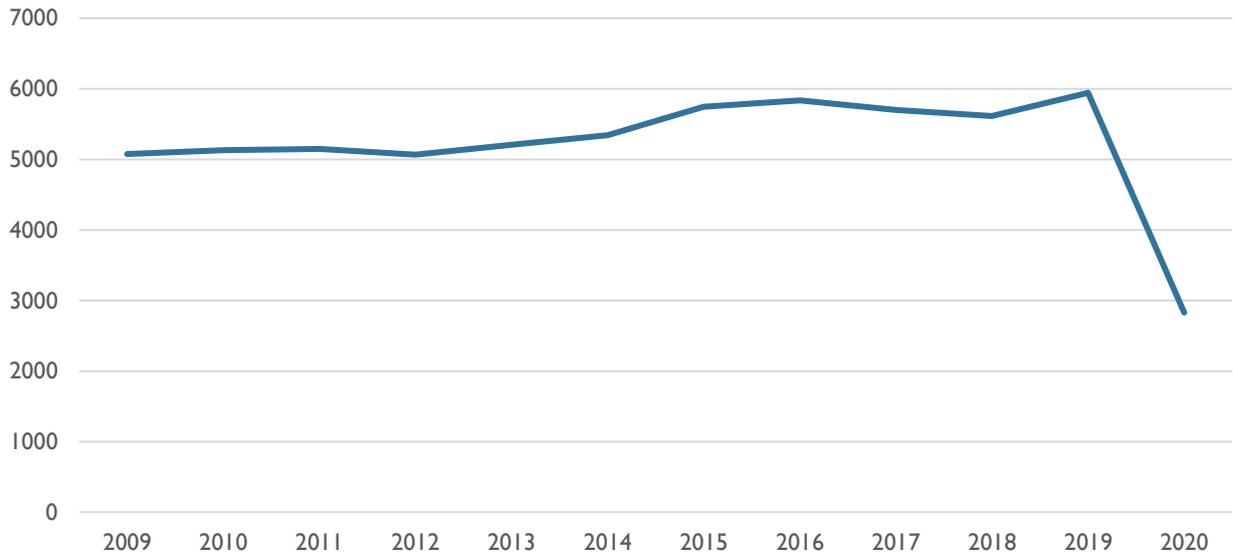


Figure 151 Total Annual Tourism Employment (FTEs) (Cairngorms National Park STEAM Report 2020).

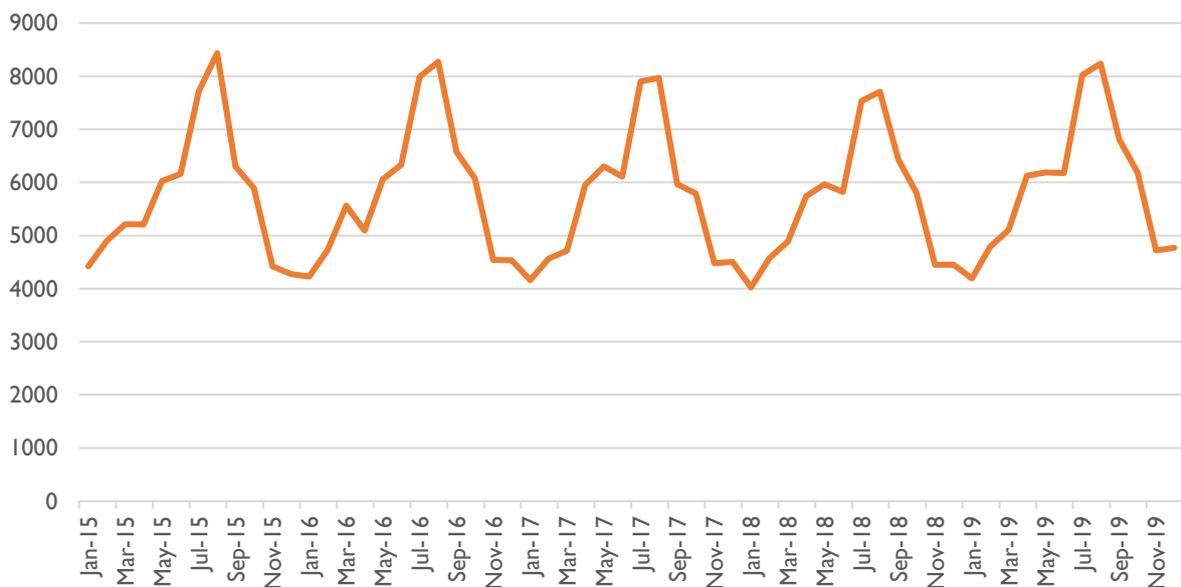


Figure 152: Total Monthly Tourism Employment (FTEs), 2015 – 2019 (Cairngorms National Park STEAM Report 2020).



Monthly employment in the tourism sector is closely linked and reflects the seasonal nature of the tourism industry in the National Park (**Figure 152**). The reduction in people employed in the National Park during the summers, in particular in September from 2015 to 2018, may reflect the figures shown in the indexed annual economic impact data (**Figure 149***Error! Reference source not found.*) which reported a decline in economic impact between 2015 and 2017.

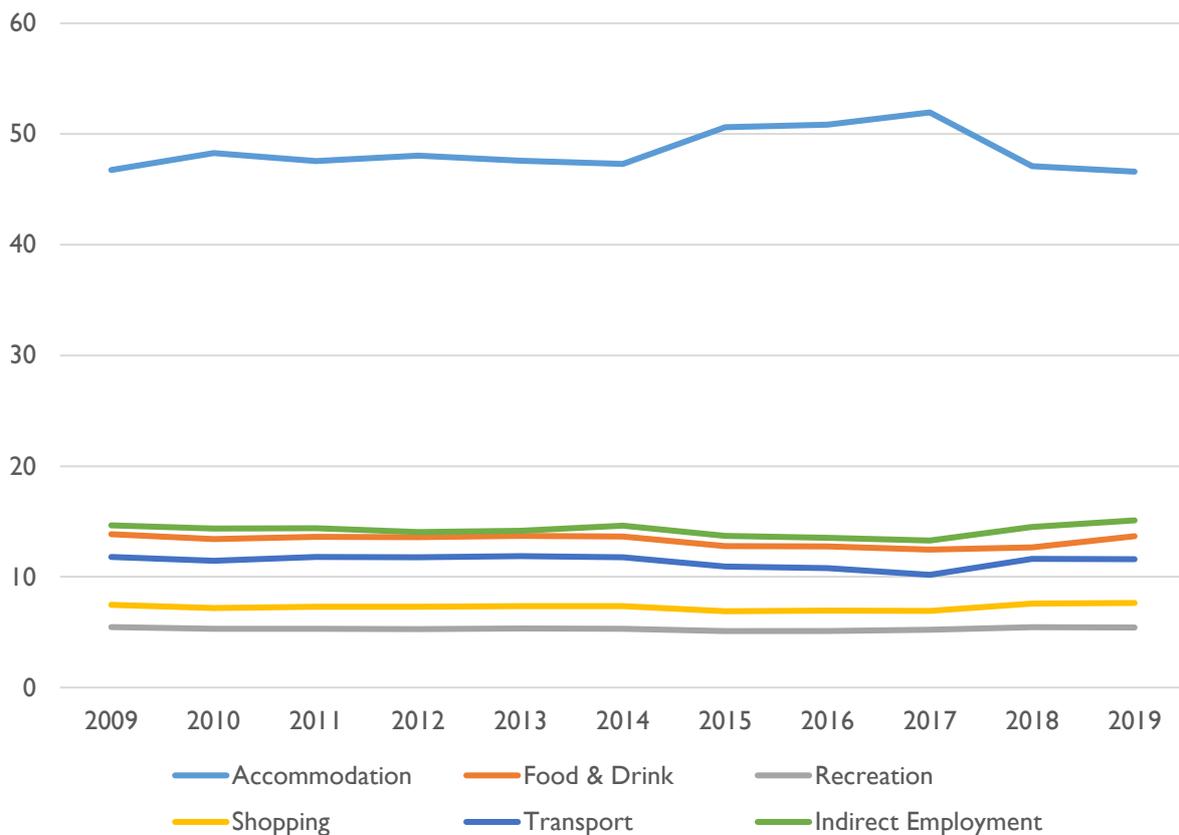


Figure 153: Annual Percentage of Sectorial Distribution of Employment (FTEs) (Cairngorms National Park STEAM Report, 2020).

The largest sector of employment within the tourism industry in the National Park is Accommodation reflecting the economic impact attributed to this type of employment. In 2019 this sector employed 2769 people accounting for 46.6% of all employment within the tourism industry. Excluding Indirect employment related to tourism, Food and Drink was the second largest contributor accounting for 13.7% of the total employment in 2019 and Transport accounted for 11.6%.

There was a steady increase in jobs in the Accommodation sector between 2009 and 2014. Then in 2015 employment in this sector increased by 382 (+15.1%



increase compared to the previous +1.81% annual increase), not reflected in any significant visitor number increases but possibly a consequence of the overall increase in economic impact seen since 2012 (**Figure 149**) and increased market confidence.

Key Messages

The Cairngorms National Park has seen significant population growth over its lifetime, although this is now projected to slow down significantly over the next 25 years.

Gross household incomes are higher than the average for Scotland, however they vary across the data zones in the National Park. The National Park retains a high proportion of its workforce with the most commuting via private motor vehicle.

Overall, deprivation levels are low, and the life expectancy of the population is estimated to be above Scotland's as a whole. Instances of life limiting conditions are low and claimants of related benefits few.

The Cairngorms National Park has an extensive and well-maintained public footpath network and many man-made and natural features that provide attractive objectives and encourage healthy recreational activities.

Prior to Covid there was growing tourism sector that contributed significantly to the economic prosperity for the National Park.

Data discussed in topic one has inter-relationships with the following topics:

Topic 1: Climatic Factors

Topic 2: Air

Topic 3: Water

Topic 5: Material Assets

Topic 7: Landscape

Topic 8: Historic and Cultural Heritage

