Scottish Natural Heritage
Commissioned Report No. 554

Ecosystem service provision in the Cairngorms National Park: case study of past and future management of geodiversity and biodiversity

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For further information on this report please contact:

Patricia Bruneau
Scottish Natural Heritage
Silvan House
231 Corstorphine Road
EDINBURGH
IV3 8NW
Telephone: 0131 3162618
E-mail: patricia.bruneau@snh.gov.uk

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Ecosystem service provision in the Cairngorms National Park: case study of past and future management of geodiversity and biodiversity

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Background

This study has been supported by Scottish Natural Heritage and concerns the cultural landscape of the Cairngorm National Park. The primary focus of this research has been to identify indicators of human activity as a dominant agent for changing landscapes since c.1700.

By selecting specific sites from within the Cairngorms it was possible to produce a detailed historical narrative of changing forms of land management and land use, and the consequent land cover of each locality. To address the dominant themes in a concise manner, this paper separates the development of the three most dominant pressures on the Scottish countryside today: agriculture, forestry and recreation.

Sub-themes within each chapter arise in reflection of changing climatic, economic or social factors that influenced land use; factors such as the Little Ice Age, the collapse of cattle markets or the growing popularity of deer stalking, each of which had distinct impacts. Particular attention, however, is paid to the unique experience of each area, so as not to produce too many regional generalisations. It is shown that a chronology over three hundred years can be clearly recognised and attributed to the landscape. As information has been drawn from many primary sources it is hoped to demonstrate the means by which similar research can be carried out for other areas for the benefit of future conservation management.

Main findings

- Land management of individual localities was strongly influenced by population pressure, access (both transport and communication networks), the availability of local resources such as fuel, pasture and building materials, and the underlying geological and environmental conditions of each site.

- Climatic factors were not always the principle catalyst for changing land-use.

- Economic and social factors often defined the parameters of changed land-use.

- Stark differences exist between the history of a region and the history of individual localities.

- Careful research into the unique historical characteristics of how and why rural Scottish landscapes developed will help modern management schemes identify the best methods to preserve them.

For further information on this project contact:
Patricia Bruneau, Scottish Natural Heritage, Silvan House, 231 Corstorphine Road, Edinburgh, IV3 8NW.
Tel: 0131 3162618
For further information on the SNH Research & Technical Support Programme contact:
Knowledge & Information Unit, Scottish Natural Heritage, Great Glen House, Inverness, IV3 8NW.
Tel: 01463 725000 or research@snh.gov.uk

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Further thanks to the trustees of the MacPherson-Grant family of Ballindalloch for permission to view their private papers.

1. INTRODUCTION

Human interaction with the physical environment has been the topic of much research conducted towards understanding the processes by which the land has been changed and the means by which it can be preserved. Modern sensitivities to the damage caused by centuries of industrialisation and enormous population growth has conceptualised notions of our responsibilities to the natural world. Therefore, Scottish Natural Heritage has sponsored this work at the University of Stirling in the interest of furthering understanding of human agency as driver of landscape change in Scotland. To keep the study to a manageable scale and to permit more than generalised comments, it has been focused on the Cairngorms National Park region.

Whilst the cultural landscape of Scotland is the product of millennia of human activity, it is the aim of this study to discuss the means by which it has been shaped from 1700 to the present. These parameters commence with the transition from distinctive land management regimes developed in the Middle Ages that had existed relatively unchanged in the Highlands until the early 18th century. Approaches to management of the land altered substantially, particularly after the 1745 Jacobite Rebellion, and this study analyses how social, environmental and economic factors resulting from those changes influenced the creation of the modern Scottish landscape. To distinguish between the development of the three dominant physical forces upon the landscape today: Agriculture, Forestry and Recreation, the present study has been approached thematically over three chapters. Each chapter presents various causes for changing approaches to land management in the eighteenth and nineteenth centuries and the narrative behind their progression. It will be shown that the evolution of management has been characterised by changing understanding of the natural world, influenced by various climatic and market factors, and defined by numerous, contemporary social ideals. Each chapter concludes by explaining how their respective themes were carried into the 20th century by the momentum of the previous two.

As this project is focused on the Cairngorms National Park two study areas were selected for in-depth analysis to complement the broader narrative and reflect on distinctive regional circumstances. Restricting the paper to only two sites was entirely practical given the detail of research required. For certain similarities and particular dissimilarities highlighted below, the two sites chosen were Aviemore and Glentanar, both of which are introduced after a brief introduction to the pre-Improvement landscape. Through the course of the primary research, however, it became apparent that attention to particular localities allows only a partial view of the larger picture. Therefore, whilst much of this paper is concerned with dominant themes applicable to the entire district, particular focus has been paid to the unique development of the two localities in question. In doing so this study offers an aspect of periodization for the introduction of new practices into distinct areas and the means by which they were spread, thereby indicating the time frame in which particular factors have been in play upon the land.

Consultation of archives held by the National Records of Scotland made possible many observations when viewed alongside contemporary maps, demonstrating how and when the landscape was changing. Once a timeline was established for both sites it was then possible to view the modern conditions of each with reference to the various influences that shaped them since the 18th century. Through such research the present landscape can be attributed to distinguishable historical processes and events. Identifying these causes enables the human manipulation of the environment to be contextualised for the purposes of conservation management.

1.1 Introduction to the 18th century landscape

Before the process of agricultural Improvement which defined the 18th century, the cultivated landscape common throughout the Cairngorms was dominated by runrig farming[1]. The construction of these ridges manually with spades or by large ox-drawn ploughs was historically developed in the absence of effective drainage. The technique continued, albeit in diminishing circumstances, into the 19th century.[2] Due to the expense involved in building and maintaining these rigs, where the use of the old Scotch mould-board required large teams of oxen and horses, runrig necessitated a communal approach to farming with equitable use of shared tools and labour.[3]

Until the introduction of improved ploughs, rigs were usually of a 'broad' quality, often over 4.5 m in width and of varying heights.[4] Pre-Improvement rigs developed a curved appearance and were carefully allotted annually so tenants were in possession of fair portions of naturally productive and unproductive soil proportionate to the value of their rent.[5] The site, inherent soil quality and aspect of ridges determined the crops grown as well as their yield (**Figure 1**).

The historic landscape of the Cairngorms was thus a mosaic of uncultivated areas of 'baulk' dividing planted rigs, contained within a series of infield and outfield systems, complemented by shared areas of peat, rough pasture and woodland. In general, the site and circumstances of agricultural land was influenced by certain factors such as beneficial geology which might not have been understood by the contemporary farmer but produced conditions that were observable on the surface. For example, isolated limestone outcrops at the head of Glentanar enriched the soil enough to focus the majority of agriculture on that area (see Annex 1: Site 2*)*.[6] Before the widespread practice of enclosing farmland, infields were prioritised on land superior in terms of drainage and aspect for constant fertilisation and cultivation.[7] It is these infields where the primary crops of the region were grown; usually peas, beans, oats and barley.

In contrast, outfields were farmed on a rotational basis, whilst often being used as pasture for cattle, the dung of which would prepare the soil for subsequent planting.[8] Reporting on Aberdeenshire's agriculture Keith described the act of tathing whereby cattle were confined to a specific portion of land for eight to ten days, manuring it, before being moved to another spot, an act that was noted to encourage weeds and other species that competed with

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[1] Caird, J.B. 1964.The Making of the Scottish Rural Landscape. *Scottish Geographical Magazine,* 80:2, p.72; Whittington, G. 1970. The Problem of Runrig. *Scottish Geographical Magazine,* 86:1, p.71; Hodd, A.N.L. 1974. Runrig on the Eve of the Agricultural Revolution in Scotland. *Scottish Geographical Magazine,* 90:2, pp.130-1; Dixon, P. 1994. Field-Systems, Rigs and Other Cultivation Remains in Scotland: The Field Evidence. *In*: Foster, S. & Smout, T.C. (eds.) *The History of Soils and Field Systems*. Aberdeen, p.32.

[2] Devine, T.M. 1994. *The Transformation of Rural Scotland: Social Change and the Agrarian Economy, 1660 – 1815*, Edinburgh, p.53.

[3] Fenton, A. 1994. Field Systems and Cultivating Implements. *In*: Foster, S. & Smout, T.C. (eds.) *The History of Soils and Field Systems*, Aberdeen, pp.75-6.

[4] Dixon, P. 1994. Field-Systems, Rigs and Other Cultivation Remains in Scotland: The Field Evidence, p.27.

[5] *ibid*. There are lease-records from Glentanar that indicate this practice on-going in the early eighteenth century. See National Archives of Scotland GD181/233 - Vouchers and accounts, mainly relating to Alexander Gordon of Comrie, factor on estate of Aboyne.

[6] Steven, H.M. & Carlisle, A. 1959. *The Native Pinewoods of Scotland*. Edinburgh, p.97.

[7] Caird, J.B. 1964. The Making of the Scottish Rural Landscape, p.72.

[8] Caird, J.B. 1964. The Making of the Scottish Rural Landscape, p.73.

crops.[9] Contemporary observers were very critical of the 'barbarous system' of outfields which were often divided into 'folds' and faughs, the former being lightly manured and cultivated continuously for oats over four or five years before lying in fallow for five or six under a crop of grass, whilst the latter was not fertilised at all and was maintained under rotating crops of oats and grass until the soil nutrients were exhausted.[10]

It has been observed that population growth in the Highlands led to the intensifying cultivation of outfields; Fenton highlights the fact that it was outfields that were the first areas to undergo 'improvement', infields being too valuable for subsistence purposes to risk experimentation.[11] Large scale population growth post-1745, however, forced the adoption of new forms of agriculture regardless of the risk. Furthermore, Hodd argues that there were significant changes to social structure in the 18th century from that which had supported communal farming towards more individualistic approaches; a necessary precursor to agricultural revolution.[12] Ultimately, the traditional infields, outfields and associated short-term leases were seen as impediments to improving agriculture along with the Highlanders' general ignorance, inadequate tools and the poor variety of crops available.[13]

Completing the agricultural landscape, kirktouns and fermtouns accommodated the majority of the Highland populace.[14] Kirktouns were constructed at easily reachable sites and acted as parochial and regional service centres whilst fermtouns were located around positive geographical features that did not interfere with cultivable land. Caird's analysis of late 17th century poll-tax data also identifies soil-type and drainage capabilities as defining factors.[15] Distance from milns may also have been a decisive factor, for example, Aviemore's Milltown in 1770 was surrounded by smallholdings and a straggling formation of buildings with easy access from the dabhachs of Bulladern, Aviemore, Grenish and Delfabre. Constructed from readily available materials, an average turf-built dwelling has been estimated to have consumed as much as an acre of surface turf.[16] Traditionally houses were arranged around midden heaps and yards where much of the fertiliser used on infields was collected. Fermtouns where subject to much criticism from commentators such as James Robertson who described instances where '*a number of farmers linked together about the same ploughgate of land' was indicative of the 'low state of agriculture in that country'.*[17] The tacksman of a fermtoun was the principal tenant who sub-let to small-unit farmers.

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[9] Keith, G.S. 1811. *A General View of the Agriculture of Aberdeenshire: Drawn up Under the Direction of the Board of Agriculture*. Aberdeen, p.496; Grant, I.F. 1924. The Income of Tenants on a Scotch Open field Farm in the Eighteenth Century. *The Economic Journal,* 34:133 (March), p.89.

[10] Anderson, J. 1794. *General View of the Agriculture and Rural Economy of the County of Aberdeen, With Observations on the Means of its Improvement.* Edinburgh, pp.55-7.

[11] Dixon, P. 1994. Field-Systems, Rigs and Other Cultivation Remains in Scotland: The Field Evidence, p.32; Fenton, A. 1994. Field Systems and Cultivating Implements, p.79.

[12] Whittington, G. 1970. The Problem of Runrig, pp.70-3; Hodd, A.N.L. 1974. Runrig, pp.130-33.

[13] Kay, G. 1962. The Landscape of Improvement, p.101; Mitchison, R. 1962. *Agricultural Sir John: The Life of Sir John Sinclair of Ulbster, 1754-1835*. London, p.103.

[14] Kay, G. 1962. The Landscape of Improvement: A Case Study of Agricultural Change in North-East Scotland. *Scottish Geographical Magazine,* 78:2, pp.100-02.

[15] Caird, J.B. 1964. The Making of the Scottish Rural Landscape, pp.72-77.

[16] Noble, R. 2003. Earth Buildings in the Central Highlands: Research and Reconstruction. *Medieval or Later Rural Settlement in Scotland: 10 Years On*. Edinburgh, p.48. Smoke from burning peat within provided a coating of tar in the roofing of each house, preserving them and also provided a layer of insulation and waterproofing.

[17] Robertson, J. 1813. *General View of the Agriculture of the County of Inverness; with Observations on the Means of its Improvements. Drawn up for the Consideration of the Board of Agriculture and Internal Improvement*. London, p. 73.

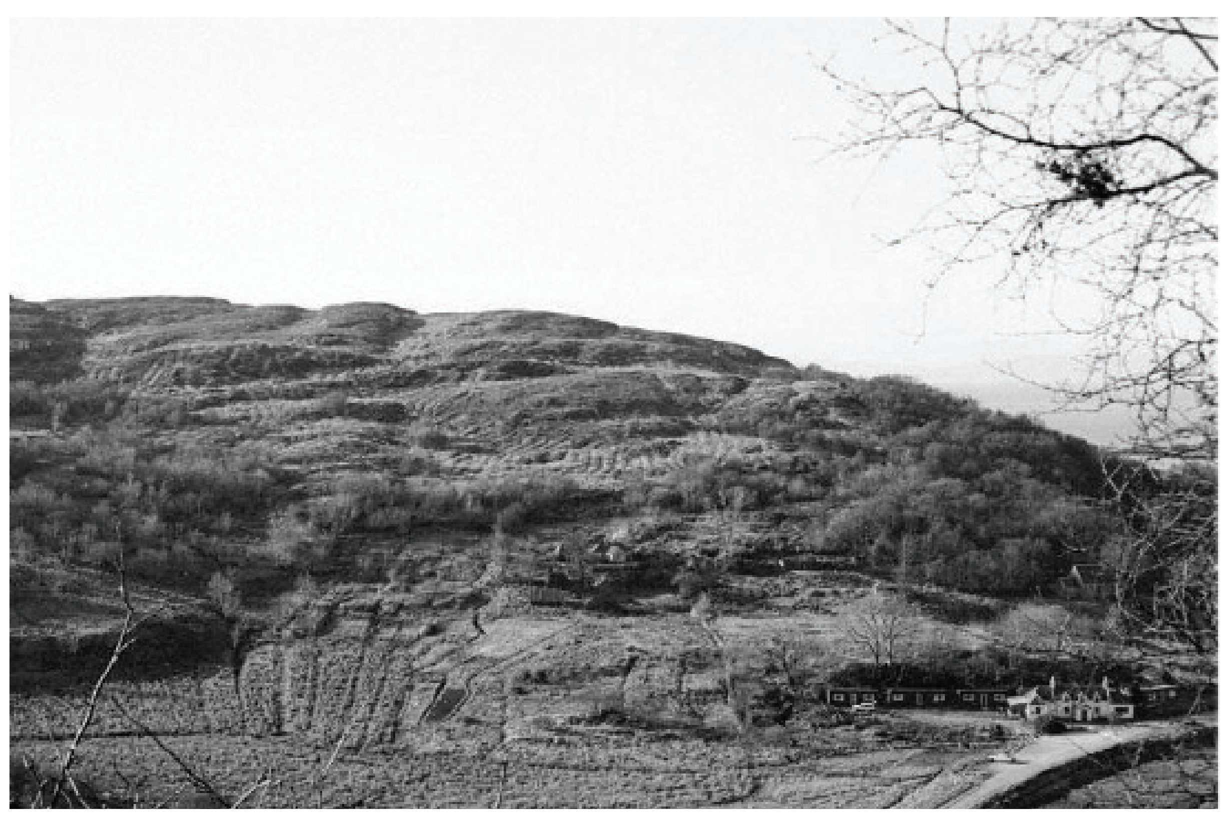

Figure 1. The remains of old field systems in Glenuig, Inverness-shire, in 1982. © National Museums Scotland. Licensor www.scran.ac.uk.

Figure 2. Example of a shieling in Glenuig, Invernes-shire in 1982. © National Museums of Scotland. Licensor www.scran.ac.uk.

Tacks of land bound the Highlanders to their proprietor and by the conditions of their leases they were required to perform certain duties throughout the year, principally arriage, working the Laird's land; bonnage, harvesting the Laird's land, and; carriage, cutting and collecting fuel for the Laird.[18] In addition, tenants were also subject to thirlage duties or the obligation to process grain at a particular mill from which the miller extracted his payment or multure, as specified in their lease. The multure due to the mill at Braeloine in Glentanar in 1756 from the thirlage of all the farms in the glen amounted to sixteen pecks (0.2116 m^3 / kg in model imperial unit) of barley.[19] Anderson's report on the agriculture of Aberdeenshire in 1794 notes a peculiarity of the practice of thirlage in that county whereby tenants were bound not only to transport a portion of their grain equal to the needs of the tenant's family and the expectations of the miller but were required to bring their entire crop for grinding, allowing millers a greater monopoly over the rural economy; a source of considerable grievance as Keith noted in 1811.[20] Consequently, the value of mills was considerably greater than normal tacks as seen at Mill of Glentanar where the lease was worth £874 26s/ (Scots) in 1772 compared to nearby Woodend which valued £56 13s/ 2d.[21]

Livestock were vital to pre-Improvement society. Black cattle, goats and sheep comprised a significant aspect of the Highland economy and sustained rural families in their day-to-day lives. Farmers were dependent on the production of manure to fertilise their fields so there was a close relationship between the numbers of livestock present and the extent of cultivated land in pre-Improvement Scotland.[22] The requirements of the animals also determined seasonal movements and incurred grazing pressures across large areas with notable consequences. The traditional system of transhumance divided the year broadly into summer and winter months, with the summer pasturing of livestock in upland regions, and their removal to more sheltered parts when climatic conditions declined. Given the prevalence of summer shielings (**Figure 2**) included in Glentanar's tacks, the cover provided by the forest and the poor quality of its soil, pastoralism was a dominant feature of the landscape.[23]

Before the growth of relevant markets in the 18th century, a tenant's usual priority concerning livestock was one of subsistence rather than market value. Aside from black cattle and oxen, the majority of typical 18th century sub-tenants in the Badenoch region kept milk cows, Highland ponies for transporting peat and meal, and a few sheep to provide wool for clothing.[24] Furthermore, prior to the rise of extensive sheep farms in the 1790s, flocks of goats were maintained for their milk and skins.[25] In Glentanar, a pint of goat's milk could be sold for 4-6d. and the cheese made by tenants was reputed to be of a high quality.[26] It was

[18] Devine, T.M. 1994. *The Transformation of Rural Scotland*, p.63.

[19] *National Archives of Scotland* GD181/129. Weight of multure calculated by the standard set at Linlithgow: 1peck = 13.229ltr. See Robinson, M. (ed.) 1991. *The Concise Scots Dictionary*. Aberdeen, p818. Braeloine was located at the current site of St Lesmos church at GD478961

[20] Anderson, J. 1794. *General View*, pp.45-49; Smith, R. 2001. *Land of the Lost: Exploring the Vanished Townships of the North-East of Scotland*. Edinburgh, p.97; Keith, G.S. 1811. A General View of the Agriculture of Aberdeenshire, p.617.

[21] *National Archives of Scotland* GD181/207 - Aboyne rental, crop 1772.

[22] Dodgshon, R.A. 1998. Livestock Production in the Scottish Highlands Before and After the Clearances. *Rural History*, 9:1, p.19-20.

[23] *National Archives of Scotland* GD181/73 - Writs of Glentanar and Glenmuick, 1723 – 1839.

[24] Grant, I.F. 1924. The Income of Tenants, p.86.

[25] In 1698 a total of 100,000 goats and kid skins were transported south to English markets from Scotland. See Smout, T.C. 1997. Highland Land-Use Before 1800: Misconceptions, Evidence and Realities. *In*: Smout, T.C. (ed.) *Scottish Woodland History*. Edinburgh, p.18.

[26] *Old Statistical Accounts of Scotland*, the Account of 1791-99, Volume 19: Aboyne, County of Aberdeen, p.301.

not until the 1850s that goats were finally replaced in numbers by sheep but there were still an estimated 7,000 grazing in the glen in the 1840s.[27]

Traditionally, the quantity of livestock kept by any one farmer was closely controlled by the practice of stenting or souming by which the area of land necessary to support a single animal was calculated to the pasture available and was regulated by the converse capacity for the same area to support livestock through the winter.[28] Before new crops were introduced to sustain them through the cold months, excess livestock were slaughtered leaving breeding stock only. In Mar the availability of water was also a decisive factor, reflecting the region's liability to drought. Souming again relied on communal support to avoid an abuse of the available resources that could have resulted in the over-exploitation of the land and localised crises. The commercialisation of agriculture forced a departure from such historic controls and initiated a period of uncontrolled grazing pressures. Until Darling's seminal work in the 1950s, little had been understood regarding the importance of such mediation.[29] As shall be discussed, it was the shift from this traditionally balanced interaction with the landscape that most defines the era of agricultural Improvement and which continues to characterise the Cairngorms to this day. Bearing all these factors in mind the history of the two sites introduced below highlight the differing processes by which the Scottish landscape was transformed into what it is today. Complementing the historical research are maps showing environmental data for the sites in question, which help to visualise the distribution of pressures upon the land.

1.1.1 Site 1: Aviemore (see Annex 1)

This small town was chosen for its status as the foremost tourist destination within the Cairngorms and the site of considerable transformation as can be seen when compared against historical maps. During the period in question, particular events initiated and accompanied the evolution of recreation in Scotland and the research concerning Aviemore allows a discussion of the methods by which this came to be realised in the Cairngorms. In this study it shall be shown how and why the village grew and transformed from relative obscurity, and to what changing circumstances it was forced to adapt. A brief review of General Roy's survey of the area (**Figure 3**) reveals the extent of Aviemore's transformation. As this study is concerned with the evolution of the landscape, there will be little discussion of the proprietary Grant (and later Seafield) family, though their input is recognised as a significant factor.

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[27] Beesly, A.H. 1873. Deer Forests and Culpable Luxury. *In:* Morley, J. (ed.) *Fortnight Review.* 13:78 (June), p.744; Fouin, F.L.P. 2010. *Glentanar, Valley of Echoes and hidden Treasures.* Inverurie, p.103.

[28] Devine, T.M. 2006. *Clearance and Improvement: Land, power and People in Scotland, 1700 – 1900.* Glasgow, p.4; Ross, A. 2006. Scottish Environmental History and the (mis)use of Soums. T*he Agricultural History Review,* 54:2, pp.213-4. In 1770 it was the case that *'[e]ach Tennant in Avymore [sic.] keeps from 40 to 70 sheep and no Goats accept from Stuart who keeps 15*'. Furthermore, '[*Mr] Grant in Balladrin [sic.] may keep eight milk cows upon Balladrin. John Grant in Avymore may keep six cows'.* These figures represent the total soum but were shared between the tenant, sub-tenants and cottars. In 1797-8 Farm Horse Tax rolls show that there were at least 21 horses kept in Glentanar itself probably for ploughing. See *National Archives of Scotland* RHP98363 - Plan of davoch of Aviemore, Inverness-shire; *National Archives of Scotland* E326/10/1 – Farm Horse Tax, 1797-1798 (Volume I), f.95-6

[29] Darling, F.F. (ed.) 1955. *West Highland Survey: An Essay in Human Ecology*, Chapter IV: The Ecology of Land Use. Oxford.

Figure 3. General Roy's Military survey (1747 -1755), Aviemore © British Library Board, C.9.b 26/4f.

1.1.2 Site 2: Glentanar (see Annex 2)

Glentanar might be regarded as an archetypical Victorian shooting estate. Located in Royal Deeside south of Aboyne, it offers a regional comparison to discussion of Speyside. Its defining feature is its extensive semi-natural forest of Scots Pine that has influenced much of its environmental history and dominates Roy's survey of the glen (**Figure 4**). Further contrasts with Aviemore exist given the glen's relatively small population over time and how agriculture was accordingly developed, the impact of concentrating land-management priorities towards the conservation of game and the visible legacies of the wealthy sportsmen who came to the glen.[30] As a significant droving route even in the 1920s from Deeside over the Mounth and Firmounth paths to Brechin and the Perthshire towns, Glentanar has been strongly characterised by a cattle-based pastoral agriculture economy from an early age.[31] In fact, much of the glen supported the passing traffic afforded by the

[30] For an idea of population statistics from the seventeenth century, see Hay, W. 1844. *List of Pollable Persons Within the Shire of Aberdeen (Volume First)*. Aberdeen.
[31] *National Archives of Scotland* GD335/8/13, f.4-5 - Glen Tannar, Aberdeenshire

movement of cattle. A '*very good'* inn is mentioned existing at Bordland in 1725, at Braeloine and Knockieside there were a number of trades present including a shoemaker's, and somewhere in that locality was the Alehouse Croft that supported another inn.[32] From the beginning of the study period the glen was subjected gradually to fewer agricultural pressures, given its smaller population, poor soils and evolving woodland management. Regardless, there are certain features that indicate the importance of farming in particular areas. The existence of the Bordland (etymologically derived from 'table-land') at the entrance to Glentanar indicates that the farm there was dedicated to production of food specifically for a local laird's household, in this case for a family named Gairdyne.[33]

Figure 4. General Roy's Military survey (1747 -1755), Glentanar © British Library Board, C.9.b 19/1b, C.9b 19/1c, C.9b 19/1e, C.9b 19/1f.

[32] Mitchel, Sir A. & Clark, J.T. (eds.) 1906. *Geographical Collections Relating to Scotland Made by Walter MacFarlane, Volume I* Edinburgh, p.107; Smith, R . 2001. *Land of the Lost*, p.100. Bordland used to exist somewhere by the river in GD4896.
[33] Winchester, A.J.L. 1986. The Distribution of 'Bordland' in Medieval Britain. *The Agricultural History Review* 34:2, p.129.

2. AGRICULTURE

2.1 The 'improvement' era (Phase 1) and the transformation of the Cairngorms

It is argued here that the pivotal event of the 18th century with regards to changing agricultural land management was the failed Jacobite uprising of 1745-46 and the Government impositions on the Clans and Forfeited Estates thereafter.[34] Commissioners to the confiscated lands were appointed in 1755 charged with compiling detailed statistical reports concerning the Highlanders, their education, woodland plantations and livestock.[35] Their initial focus was to enforce control over the lands and to restore Scottish and Government finances, 'ploughing money' back into the British economy, according to Colley.[36] By 1765, however, the Commissioners were receiving instructions to '*consider of and report proper methods of introducing Improvements in agriculture and manufactures*'.[37]

It was the case, admittedly, that changes enacted after the rebellion simply speeded up a process of improving agriculture that had been developing since the 17th century anyway.[38] Traditionally, tenants could have expected the *ischay* of their leased holdings, that is the 'enjoyment' of its resources, and access to specific quantities of peat, wood and grazing land from shared commonties as stated in their tacks. However, legislation such as the 1695 Division of Commonties Act had allowed landowners to break the mould of traditional farming and the establishment of the Society for Improving in the Knowledge of Agriculture in 1723 reflected the desire amongst the landed elite to reap greater profitability from their tenants.[39]

Through the efforts of the Commissioners new forms of agriculture and forestry were introduced, establishing a model that was followed enthusiastically by the Highland landowners who had survived the rebellion with their lives and lands intact. The modification of land management was complemented greatly by the on-going efforts of the British Government to demilitarise Scotland. In 1746 the Heritable Jurisdictions (Scotland) Act was passed, stripping the Clan chiefs of many of their rights and privileges (including tenant's services) and also in 1746 the Tenures Abolition Act forced the conversion of the traditional military ward leases into blanch or feu holdings, simplifying the process of establishing and collecting rent, and dismantling the martial structure of the Clans.[40]
Accompanying the military domination of Scotland by the Hanoverian Government was a sense of horror of a country gone to waste. Stemming from an understanding of the world

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[34] Wills, V. (ed.) 1973. *Reports on the Annexed Estates, 1755 – 1769: From the Records of the Forfeited Estates Preserved in the Scottish Record Office*. Edinburgh, p.57. 'Instructions by the Commissioners for Managing the Annexed Estates to their General Inspector' 4th March 1767. Within the Cairngorm National Park region the Monaltrie estate was one that came under new management at this time.

[35] *Statistics of the Annexed Estates 1755 – 1756* (Edinburgh, 1973), v.

[36] Colley, L. 2005. *Britons, Forging the Nation 1707 – 1837*. Reading, p.119.

[37] Wills, V. (ed.) 1973. *Reports on the Annexed Estates,* p.57.

[38] Smout explains that the desire to 'improve' the land grew from the liberating work of eminent seventeenth century notables such as Francis Bacon and Isaac Newton who fostered a world-view where the physical environment could be controlled and bettered for the benefit of mankind. See. Smout, T.C 2000. *Nature Contested: Environmental History in Scotland and Northern England Since 1600*. Edinburgh, p.20.

[39] Devine, T.M. 1994. *The Transformation of Rural Scotland*, p.30.; Simmons, I.G. 2001. *An Environmental History of Great Britain,* p.123.

[40] Heritable Jurisdictions (Scotland) Act 1746 - http://www.legislation.gov.uk/apgb/Geo2/20/43/introduction#text%3Dscotland; Devine, T.M. 1994. *The Transformation of Rural Scotland*, p50.; Tenures Abolition Act 1746 - http://www.legislation.gov.uk/apgb/Geo2/20/50/introduction#text%3Dscotland; *National Archives of Scotland* GD112/47/1 Roads and Bridges-General Papers c 1733-1746

still heavily governed by the natural order of Christianity, the Scottish landscape appeared as a barren wilderness. As Dr Johnson's oft-quoted passage reads:

> *An eye accustomed to flowery pastures and waving harvests is astonished and repelled by this wide extent of hopeless sterility.*[41]

To draw the Highlanders away from their supposed faults one Commissioner argued the necessity of establishing planned villages *'so that manufacturies of different kinds may be carried on…& would be a mean to lead the inhabitants…from their idle and wicked practices to commerce and trade'.*[42] On these lands it was even suggested that 'colonies' of discharged Government soldiers could be founded and that they could receive monetary incentives for starting families and introducing new forms of husbandry.[43] Settlements like Deeside's Monaltrie were founded after 1745 to retain trusted forces in certain areas and to ensure that they would not find employment as mercenaries abroad.[44]

The first stage of 'Improvement' was initiated by the surveying and mapping of estate lands, an early sign of attempts to controlling the land.[45] There are few examples of professional land surveyors before 1740 but from the mid-18th century there was a steady increase of educated men, mainly drawn from the literate ranks of schoolmasters, engaging themselves in this emerging market.[46] According to Adams they were the 'professional backbone' of the early agricultural revolution in Scotland.[47] As many of them came from England the process of transferring to the Highlands agricultural practices being exercised in the south was significantly hastened.

It has been remarked from Roy's maps that the modernisation of field-systems apparently began in the areas surrounding lairds' houses and larger settlements before becoming more widespread, indicating that the first areas to begin developing were those with the capital to do so (**Figure 5**).[48] Aviemore was not notably wealthy, being only a small fermtoun with an inn as its only defining feature. The introduction of new methods was not a quick event and Devine reflects on the length of time it took for the system of duties and servitudes to be removed following the legislative end to Heritable Jurisdiction as a sign of slow 'rural

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[41] Johnson, Dr S. 1816. *A Journey to the Western Islands of Scotland (New Edition)*. London, p.45. The belief that Scottish society and agriculture was inherently barbaric can be identified in much of the contemporary reports. As one unknown observer recorded, the administration of the land was one where '*slavish servitude and short leases' were common place and the martial society of the Clans meant that 'all attempts to civilise and introduce industry amongst the inhabitants will prove vain'.* See *National Archives of Scotland* GD112/47/1

[42] Wills, V. (ed.). 1973. *Reports on the Annexed Estates,* p.55.

[43] *National Archives of Scotland* GD112/47/1

[44] Caird, J.B.. 1964. The Making of the Scottish Rural Landscape, p.79.

[45] Lambert, R.A. 2002. *Contested Mountains: Nature, Development and Environment in the Cairngorms Region of Scotland, 1880-1980.* Cambridge, p.18.

[46] Adams, I.H. 1968. The Land Surveyor and His Influence on the Scottish Rural Landscape. *Scottish Geographical Magazine,* 84:3, pp.248-255.

[47] *ibid*, p.254.

[48] Caird, J.B. 1964. The Making of the Scottish Rural Landscape, p.73; Whittington G. & Gibson A.J.S. 1986. The Military Survey of Scotland, p.55; Whyte, I. 1986. Agriculture in Aberdeenshire in the Seventeenth and Early Eighteenth Centuries: Continuity and Change. *In:* Stevenson, D. (ed.), *From Lairds to Louns: Country and Burgh Life in Aberdeen, 1600 – 1800*, Aberdeen, p.16; McLean, Rev., J, 1813. *General View of the Agriculture of the County of Inverness*, p.404 – Appendix No. III, 'A Dissertation Relative to the Agriculture of Badenoch and Strathspey'. From Roy's map of Glentanar it can be seen that some enclosures existed around Braeloine and Bordland, both owned by relatively wealthy families the rest of the glen, though, was one of the poorest areas in Deeside. See Gibson, A J S & Smout, T.C. 1994. *Prices, Food and Wages in Scotland, 1550 – 1780*. Cambridge, p.293.

transformation' suggesting that landowners themselves could have been a source of hindrance for continuing to impose them.[49]

Figure 5. Detail from General Roy's Military survey Glentanar, showing enclosures around 'Balemore' and the extent of runring in the surrounding landscape. © British Library Board, C.9.b 19/1b, C.9b 19/1c, C.9b 19/1e, C.9b 19/1f.

The definitive period for introducing new management into the Grants' Strathspey estate was the brief tenure of William Lorimer as factor to Sir James Grant of Grant from 1762 until his untimely death in 1765.[50] Whilst structured 'Improvement' tacks were being issued on the estate as early as 1735, the processes of change intensified significantly in the early 1760s to the extent that the services and duties of tenants were re-introduced in 1763 to provide an 'Improvement' workforce. As tutor to the future Laird, Sir James, Lorimer and his pupil travelled to Cambridge in 1755 pausing on route to view the 'Norfolk Method' of farming noted for its crop rotations, highlighting their early interest in and exposure to the English Agricultural Revolution. Later, whilst the young James was enrolled in his studies, Lorimer travelled to the Americas and visited a number of frontier plantations where innovative

[49] Devine, T.M. 1994. *The Transformation of Rural Scotland*. P.63; Thirlage Act 1799, http://www.legislation.gov.uk/apgb/Geo3/39/55?text=scotland

[50] Dixon, G.A. 1975. William Lorimer on Forestry in the Central Highlands in the 1760s. *Scottish Forestry* 29, p.191-2; Ross, A. 2011. Improvements on the Grant Estates in Strathspey in the Eighteen Century: Theory, Practice and Failure? *In:* Hoyle, R.W. (ed.), *Custom, Improvement and Landscape in Early Modern Britain.* Oxon, pp.289-295.

management regimes were practised.[51] Certain of his later initiatives can be directly attributed to his time abroad.

Through a regime of vigorous surveying, enclosing and consequent displacement of the population the first period of 'Improvement' was inaugurated and continued until the end of the century. Shielings and other lands not cultivated or under wood in Speyside were surveyed in 1762 leading to the designation of certain areas for possible improvement (usually through improved planting rotations and crop variety) thereby removing them from the common land shared by co-tenants. This period of enclosing was the beginning of the end for the traditional system of agriculture in the Highlands and arguably changed the Scottish landscape far more than any other introduction of the era.[52] Enclosing allowed greater control over the farming of specific areas, the focusing of particular crops and after the gradual introduction of Small's swing plough (**Figure 6**) from 1765 the characteristic landscape of curved runrig was gradually straightened, narrowed and took on a more orderly appearance.[53] Surveys from 1770 of the *dabhach* lands of Bulladerin[sic.], Aviemore and Delfabre show that the agricultural landscape was definitely undergoing significant alterations from the traditional runrig cultivation to enclosed field systems thus making landscape divisions appear more geometrical **(Figure 7)**.[54]

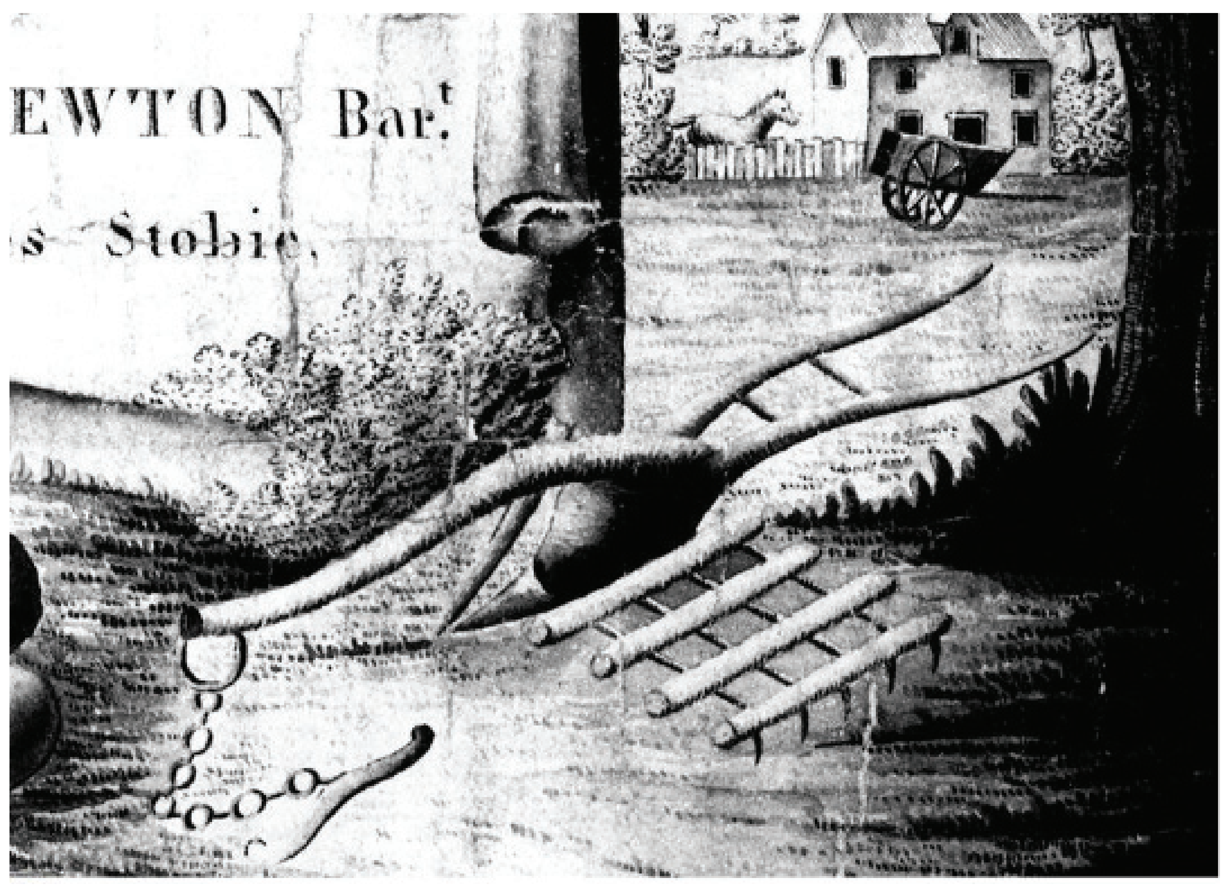

Figure 6. Detail taken from a late 18th century illustration showing James Small's 1763 swing plough. © Scottish Life Archive, National Museums of Scotland. Licensor www.scran.ac.uk.

[51] *ibid*, p.294.
[52] Devine, T.M. 1994.*The Transformation of Rural Scotland,* p.51.
[53] Whittington, G. 1970. The Problem of Runrig, p.71; Dixon, P. 1994. Field-Systems, Rigs and Other Cultivation, p.32; Fenton, A. 1994. Field Systems and Cultivating Implement, p.76.
[54] *National Archives of Scotland* RHP98361 - Sketch plans of davoch of Balladern (Balladrin); *National Archives of Scotland* RHP98363 - Plan of davoch of Aviemore, Inverness-shire See (*fig. 7*)

Figure 7. Donald Stuart's 1770 survey of the davoch of Bulladern (Modern-day Aviemore) © National Archives of Scotland RHP98361; National Archives of Scotland RHP98363.

In 1762 and again in 1763 Lorimer toured through Scotland and England, meeting with landowners and their factors to discuss new and developing techniques of agriculture and forestry widely practised in the Lowlands as well as some that were unique to specific Highland areas. Many of Lorimer's observations were dispatched to Sir James who received them enthusiastically. There is a pleasant link between the two study-sites when Lorimer met with the Earl of Aboyne's former head forester, David Cummings, who disclosed not only the current management practices in the woods of Glentanar but also the form and functions of tenant's leases and rights of access to resource materials, arguing that if tenants were given greater rights of possession they would be more inclined towards improvements. Significantly, Cummings recommended systems of enclosures around yards and experimentation with '*Torneeps, Potatoes and Ryegrass'*.[55] One of the great developments of Scottish agriculture in the 18th century was the introduction of turnips after 1760.[56] These produced a winter yield of fodder for livestock and it was beneficial for the annual rotation of crops. Early in the period they were rarely planted outside of the farms of landowners or the wealthiest tenants until a severe crop failure in 1782, after which the additional crop supported the growth of Black Cattle herds as markets grew in the south.[57] The demand for black cattle in Lowland markets between 1720 and 1815 led such an expansion of Highland herds that the volume of exported livestock quadrupled during this time.[58]

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[55] Dixon, G.A. 1975. William Lorimer on Forestry in the Central Highlands in the 1760s, p.208.
[56] Handley, J.E. 1953. *Scottish Farming in the Eighteenth Century.* London, p.203; Adams, D.G. 1996. *Bothy Nichts and Days: Farm Bothy Life in Angus and the Mearns*. Edinburgh, pp.4-5.
[57] Keith, G.S. 1811. A General View of the Agricuture of Aderdeenshire, p.236.
[58] Simmons, I.G. 2001. *An Environmental History of Great Britain,* p.128.

Galvanised into action, Lorimer immediately redefined the terms of tacks upon his return to Speyside by encouraging enclosures and imposing conditions upon tenants that required specific improvements to be completed within a structured period of nineteen years, a far-cry from the previously limiting annual leases.[59] Interestingly he was strongly opposed to the amalgamation of smallholdings into large single-unit farms which Sir James later favoured and which, popularly practised elsewhere in the Cairngorms: that approach led to the displacement of many tenants. Rising cattle prices, however, forced rentals higher and caused many small-unit tenants to abandon their leases.[60] Grantown-on-Spey was founded in 1765 initially as a regional centre for markets, goods and craftwork but was largely populated by dispossessed Highlanders for whom 'Improvement' had meant the end of their farms and traditional livelihoods.[61] According to Caird, nearly all examples of amalgamating multiple tenancies corresponded with the nearby building of planned villages.[62]

Figure 8. George Brown's 1809 survey of Speyside, detail of Bulladern and Aviemore inn. © National Archives of Scotland RHP13927.

[59] Ross, A. 2011. Improvements on the Grant Estates in Strathspey*,* p.296. Similarly in Glentanar the average length of lease from at least the 1750s was nineteen years. See *National Archives of Scotland* GD181/208/2.
[60] Devine, T.M. 2006. *The Scottish Nation 1700 – 2007*. London, p.176.
[61] Geddes, A. 1945. The Foundation of Grantown-On-Spey, 1765. *Scottish Geographical Magazine,* 61:1, pp.19-22; Maudlin, D. 2007. Robert Mylne, Thomas Telford and the architecture of improvement: the planned villages of the British Fisheries Society, 1786–1817. *Urban History,* 34:3, p.457.
[62] Caird, J.B. 1964. The Making of Scottish Rural Landscape, p.80.

The construction of the Inn of Aviemore in 1765 marks a watershed in the history of the region.[63] The valuable and costly lease of the inn included conditions as to its upkeep and also elevated its tenant to tacksman.[64] The 1770 map indicates that the lands immediately attached to the inn were categorised as 'improving' and from the early 1780s the tenant was required to enclose a garden measuring two acres to protect produce intended for the inn's guests. This garden is recognisable in George Brown's 1809 map (**Figure 8**).[65] It is probable that Sir James and his factor hoped improvements could be introduced by example as well as by conditions of lease. Furthermore, visitors to the region obliged to stay at the inn through necessity would have first-hand evidence of the Grant estate's modernisation reflecting well upon its proprietary family.

In the case of Glentanar, due to the importance attributed to its woodland and the poor quality of its soil the fervour to 'improve' did not have much impact, even by the turn of the 19th century. It is observable that the decreasing area of farmland through the 18th century coincided with the glen's declining population, primarily due to the growing focus on woodland management. Characteristic of the period though, and the result of a degree of lawlessness post-1745 many remote parts of Glentanar were covertly cultivated to provide grain for the numerous illicit whisky stills in the forest.[66] A short review of the crop returns from 1768-9 show that whilst rents were generally increasing, a number of the farms and fermtouns that appear in earlier writs were not mentioned.[67] Regardless, the Earl of Aboyne was valiantly trying to encourage his tenants towards the practice of enclosing their farmland by employing large numbers of them to fence and work his fields under the supervision of over-seers from more agriculturally advanced regions.[68] Given that labour was cheap and abundant, it is evident that there was a growing landless population due probably to the amalgamation of local smallholdings. Despite best efforts of successive Earls a visitor to the glen in 1843 noted that there was still only a limited portion being cultivated and that timber operations dominated the landscape.[69]

2.2 Obstacles to 'improvement' and marginalisation

Efforts to introduce improvements into Strathspey was a slow process due to various environmental and economic factors experienced across the Cairngorms and which were the cause of great disruptions to the traditional rural landscape.[70] Ross has made a case study of the introduction and relative successes and failures of improved management on the Grant family's Strathspey estates and it is observable that whilst the determination to establish more profitable forms of farming did exist amongst tenants, they were ultimately undermined by forces outwith their control.[71]

The closing decades of the 18th century were fraught with climatic disturbance - such as flooding in the early 1770s that caused much damage to farmland - that proved disastrous

[63] *National Archives of Scotland* GD248/448/2 Miscellaneous estate papers.
[64] *National Archives of Scotland* GD248/533/5/31 Estate papers, tacks, Inverness-shire, parish of Duthil and Rothiemurchus: Scroll conditions of tack of Inn of Aviemore and lands of Easter and Wester Bulladern [parish of Duthil and Rothiemurchus, Inverness-shire; *National Archives of Scotland* GD248/483/2 Miscellaneous estate papers including tacks, petitions and offers for tacks.
[65] *National Archives of Scotland* RHP13927. Plan of Pulladern (Bulladern), Aviemore and Granish (Grenish): 1809. See (*fig. 8*).
[66] Fouin, F.L.P. 2010. *Glentanar, Valley of Echoes and hidden treasures*, p.103.
[67] *National Archives of Scotland* GD181/208/2.
[68] *Old Statistical Accounts of Scotland*, the Account of 1791-99, Volume 19: Aboyne, County of Aberdeen, p.302-3.
[69] Lankester, E. (ed.) 1855. *The Natural History of Deeside and Braemar – W. MacGillivray* London, p.293.
[70] Devine, T.M. 2006. *The Scottish Nation 1700-2007*, p.170-8.
[71] Ross, A. 2011. Improvements on the Grant Estates in Strathspey, chapter 10.

for any existing yet fragile improvements.[72] Early frosts in 1782 further depopulated the region through consequent food shortages on such a scale that despite Sir James's efforts to import supplies there was a genuine fear that many of the poorest Highlanders, those who had recently been marginalised, would perish.[73] The year 1783 became known as the 'Year of White Peas' and was enshrined in folk memory as a time of severe shortages that led to the shipping of meal to Inverness and Aberdeen to feed the entire Cairngorm region.[74] Following the disastrous failure of the Scottish small oat at this time, several alternative varieties were widely introduced.[75]
Compounding the damage of flooding, poverty and harsh winters was the 1783-4 eruption of Iceland's Laki volcano whose ash-cloud spread across northern Europe reducing annual temperatures and impacting on growing seasons; the consequences were devastating to rural communities.[76]

Whilst the region was suffering from cyclical climatic disasters in the late 18th century that impacted upon tenants' ability to pay rents, further economic factors also came into play that caused disruptions within Scotland. During the 18th century Scotland's landed gentry had inherited and amassed a considerable amount of debt; a reflection of growing domestic and estate expenses. The cost of improvements for landlord and tenant alike grew as trends changed and markets shifted. Places such as Aviemore and Glentanar were no exception.[77] Similarly but on a greater scale, the Earl of Aboyne's debts were so extensive that he was almost forced to forsake his estate and Scotland entirely.[78] Devine argues that for most indebted landowners the trick of survival was to ensure that their estates returned enough capital to cover the interest on money owed and trouble ensued only when that balance was tipped.[79] There was, therefore, great pressure placed on tenants to maximise the production of the land.

Legislation in 1770 allowing landlords to issue receipts of credit to their tenants for a maximum of four years' payment suggests that conditions in general were poorer and a short step away from widespread financial crisis.[80] By 1775, Sir James had been forced to reduce the value of rents by as much as 85% for his Speyside estate.[81] A growing Highland population led to the increasing price of grain, adding to the desperate situation already faced by many tenants. The collapse of the black cattle market in 1772-3 and again in 1783-4, caused in part by the failure of winter crops, was an economic catastrophe.[82] Circumstances were such that an article printed in 1775 described the meeting of around

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[72] Ross, A. 2011. Improvements on the Grant Estates in Strathspey, pp.300-1.
[73] *Old Statistical Accounts of Scotland*, the Account of 1791-99, Volume 19: Duthil and Rothiemurchus, County of Inverness, pp.315-6.
[74] Frazer-MacKintosh, C. 1890. *Letters of Two Centuries, Chiefly Connected with Inverness and the Highlands, From 1616 to 1815.* Inverness, pp.303-5; Grant, I.F. 1924. *The Income of Tenants*, p.89. Similar experiences are noted in Aberdeenshire where almost 94% of the 1782-83 harvest failed, leading to the importing of 80,000 bolls of meal into the county. See Alexander, W. 1877 *Notes and Sketches Illustrative of Northern Rural Life in the Eighteenth Century*. Edinburgh, p.53.
[75] Keith, G.S. 1811. A General View of the Agriculture of Aberdeenshire, pp.244-7.
[76] Grattan, J. & Brayshay, M. 1995. An Amazing and Portentous Summer: Environmental and Social Responses in Britain to the 1783 Eruption of an Iceland Volcano. *The Geographic Journal*, 161:2, p.126.
[77] For Aviemore see *National Archives of Scotland* GD248/458/2
[78] *Old Statistical Accounts of Scotland*, the Account of 1791-99, Volume 19: Duthil and Rothiemurchus, County of Inverness, p.302.
[79] Devine, T.M. 1998. *Clanship to Crofters' War: The Social Transformation of the Scottish Highlands*. Glasgow, p.69.
[80] Devine, T.M. 1994. *The Transformation of Rural Scotland*, p.52, pp.61-4.
[81] Ross, A. 2011. Improvements on the Grant Estates in Strathspey, p.300.
[82] Devine, T.M 2006. *The Scottish Nation 1700-2007,* p.140 & p.176.

200 migrants at Aviemore before beginning the long journey to the Americas.[83] As is discussed below, the expense of improvements was beyond the capabilities of most farmers and financial weaknesses created stagnated conditions, stalling the expansion of early agricultural innovations. In Glentanar it was noted that mounting competition for smaller farms amongst rising numbers of landless agricultural workers was driving up rental values, adding weight to current economic woes.[84] Set against a backdrop of increasing landowners' debts and growing numbers of tenants in arrears, the process of amalgamating smallholdings into larger unit farms became a popular substitute for financially embarrassed lairds and the decision by Sir James to begin clearing his land of tenants into marginal areas was reached in favour of capitalist farmers capable of paying higher rents.[85] From 1809 it is observable that in terms of the field systems present, the area surrounding the Inn of Aviemore contained 18 individual enclosed fields whereas the survey of 1770 had shown well over 30 units of ridges, woodland and pasture, exhibiting the end result of the most recent process of merging tenancies and amalgamating smallholdings initiated by the Grant estate in the 1790s.[86] Similarly, whilst the Milltown of Aviemore had formerly exhibited a seemingly random scatter of fields of all sizes, by 1809 they had been re-ordered.

The inability to respond effectively to climatic distress was a constant failure of the old Scottish agricultural system, a problem exacerbated by disruption to the balance of arable and pastoral farming arising from early improvements. Increasing socio-economic marginalisation caused by expanding farms and decreasing tenancies often forced Highlanders to migrate in search of seasonal work. Men travelled for service in fisheries and kelping areas, and women could be engaged as domestic servants or in Lowland farms.[87] Collins argues that Highland men in the late 18th and early 19th centuries would typically engage as farm labourers only if nothing else was available.[88] Yet adoption of new high-input farming methods generated a substantial market for short-term employment. Farms that adhered to the characteristic Norfolk four-shift rotation of crops or similar practices required at least a 40% increase in labour and generated employment throughout the year rather than just for planting and harvesting.[89] Moreover, but only to a limited extent, the Revolutionary and Napoleonic wars provided an outlet for draining the Highlands of a large portion of its young male population into the army and navy.

Ultimately, the end-result of this period of upheaval in the Parish of Duthil (within which Aviemore was located) was large-scale depopulation as people were forced away in search of work, food and shelter. Between 1755 and the 1790s the parish's population decreased 53.5% from 1,785 to 830.[90] Given the climatic and economic factors discussed, however, Devine is right to disagree with labelling the event as a Malthusian crisis.[91] By the late 18th

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[83] "News" *Middlesex Journal and Evening Advertiser* (London, England), June 3, 1775; Issue 966; Gale Documents Number: ZZ000773391.
[84] *New Statistical Accounts of Scotland*, Accounts of 1834-45, Volume 12: County of StA S.2.12.1.M.Aberdeen, p.1064.
[85] Kay, G. 1962. The Landscape of Improvement, p.104; Ross, A. 2011. Improvements on the Grant Estates in Strathspey, p.302.
[86] Ross, A. 2011. Improvements on the Grant Estates in Strathspey, p.299.
[87] Collins, E.J.T. 1976. Migrant Labour in British Agriculture in the Nineteenth Century. *The Economic History Review* New Series, 29:1 (Feb), p.47; Devine, T M, 1998. *Clanship to Crofters' War*, pp.135-7.
[88] Collins, E.J.T. 1976. Migrant Labour in British Agriculture in the Nineteenth Century, p.38.
[89] *ibid*. The Norfolk four-shift rotation of crops was a system of crop regulation developed in the seventeenth century. Over the course of four years, wheat (grain), turnips, barley, leguminous species (usually clover) and ryegrass were planted and a fallow year was not required. Turnips and legumes were planted and eventually fed to livestock, improving both the quality of manure and soil content.
[90] Gray, J. (ed.). 1952. *Scottish Population Statistics: including Webster's Analysis of Population 1755*. Edinburgh, p.58; *Old Statistical Accounts of Scotland*, the Account of 1791-99, Volume 19: Duthil and Rothiemurchus, County of Inverness, p.310.
[91] Devine, T.M. 2006. *Clearance and Improvement*, p.177.

century much of the Cairngorms area was exceedingly vulnerable to various climatic and economic variables after the first phase of improvements and many earlier initiatives such as enclosures were abandoned. Highland Scotland, therefore, was ripe for the next wave of rural transformation as the 19th century was ushered in.

2.3 The 1790s and the advent of sheep

A letter from the great agriculturalist Sir John Sinclair to Sir James dated 18 August 1791 marks the introduction of this new agricultural element to Speyside:

> *The [Highland and Island Agricultural Society] send north 50 Tups & 100 Ewes, of the real hardy fine woolled Cheviot breed, that their superiority over every other may be ascertained. I have put you down for 1 Tup & 2 Ewes, to be delivered at Aviemore…I consider them to be the greatest treasure ever sent to the highlands.*[92]

In response to the initial failure of improvements and mounting debts, Sir James turned to the marketability of sheep farms as so many other Highland landowners did, a decision made easier by the declining value of cattle. As the viability of such farms required that they be run on a large scale the result was further marginalisation, interference with the remaining arable land and growing competition for grazing resources between tenants' black cattle and the incoming flocks.[93] The preference for the Cheviot variety stems from their ability to cope with the Scottish climate whilst producing more meat and finer grade of wool than the smaller native breeds. In Inverness-shire, contemporary reports estimated the number of sheep to have doubled from roughly 25,000 in the 1790s to over 50,000 by 1813.[94] Part of the reason for this early expansion was demand created by the war with Revolutionary and Napoleonic France. Brown's map records the woodland surrounding Aviemore as being used for sheep pasture suggesting that many had been introduced to the landscape, but also indicating that further changes had been made in land management.

The land's total carrying capacity of sheep was initially estimated from the ancient practice of souming but it was ultimately limited to the level of a given area's ability to over-winter livestock. Dodgshon discusses the desire of new sheep farms to '*close the gap'* between the number of sheep that could be sustained in summer and winter, a desire that required the exploitation of cultivated or wooded low ground, leading to the further displacement of existing tenants and cottars.[95] Compared to the infamous Sutherland clearances, the experience of the Cairngorms and the southern Highlands in general was significantly different as it was more often the case that a broader variety of livestock was retained and a greater amount of land kept in cultivation to provide winter foggage.[96]

At its maximum, Glentanar maintained roughly 7,000 sheep but there was still a continuing priority given to its woodland.[97] In the small farm of Dalwhing at the mouth of the glen, the 'Waukmiln' or fulling mill (a medieval Scottish water-powered device for thickening wool by beating it) reflected the important position sheep had to the local economy.[98] Until Glentanar was dedicated as a hunting preserve in the 1840s, sheep continued to play a significant albeit not pivotal role in its agricultural management.

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[92] *National Archives of Scotland* GD248/521/2 - Correspondence of Sir James Grant of Grant
[93] Devine, T.M. 2006. *Clearance and Improvement*, p.176.
[94] Robertson, J. 1813. *General View of the Agriculture of the County of Inverness*, pp.252-3.
[95] Dodgshon, R.A. 1998. Livestock Production, p.28.
[96] *ibid*, pp.30-4.
[97] Smout, T.C. & Watson, F. 1997. Exploiting Semi-Natural Woods, 1600-1800. *In*: Smout, T.C. (ed.), *Scottish Woodland History.* Edinburgh, p.94; "Letters to the Editor" *Glasgow Herald* (Glasgow, Scotland), Tuesday, September 10, 1872; Issue 10202; Gale Document Number: BA3207571016.
[98] *National Archives of Scotland* GD181/74/3(1-4).

Centuries of cattle grazing and manuring had created an ideal environment for sheep farms and the profitability of mutton and wool markets encouraged their establishment.[99] Increasing flock sizes instigated an unparalleled shift in grazing patterns and pressures, notably, the favouring of certain vegetation by sheep affected the land-cover of Scotland in those localities where sheep were densest. The widespread introduction of large commercial sheep farms in the 1790s began what Fenton called the bracken menace where heather-dominated landscapes were gradually replaced by mat grass.[100] The difference in the manner of grazing between sheep and cattle has compounded over time with increasing pressure. The result was that the natural competition of Highland flora declined with extensive impacts for soil stability, fertility and pH. Although there is no conclusive research on the matter, the tread, manure and 'pull' of grass by cattle are believed to be more beneficial to the land.[101] There remains scope for debate over the various impacts of different grazing patterns and the influence of cattle to sheep ratios on the variety of local flora and fauna, but it has been claimed that a mixture of livestock was beneficial at least for a number of bird species.[102] Hanley *et al.* discuss the existence of a close relationship between market prices, stocking policies and their subsequent impact on local biodiversity. Furthermore, large sheep farms required distinct forms of management to support flock-numbers. Burning strips of heather encouraged sheep's preferred grazing but were also damaging and wasteful. '*The coming of the sheep*' Darling wrote '*caused a revolution in Natural History*' where the ratio of sheep to cattle was rapidly altered and exacerbated the problems of grazing pressures in areas like the Cairngorms.[103]

2.4 Improvement (Phase 2): Experimentation, fertilisation and migration

At the start of the 19th century the agricultural transformations of the Cairngorms changed notably. The market conditions generated by the Napoleonic war encouraged wool production on a large scale and peaks in the kelp industry facilitated further displacement and the resettlement of many Highlanders to coastal towns. Scientific experimentation with the land in Badenoch and Speyside, and the cultivation of moorland also increased in pace.[104] Damaging climatic factors were still a present issue and Sir James was obliged to import food whenever harvests failed.[105] During climatic crises such as in the summers of 1816 and 1817 it was reported that 'many families subsisted for several successive weeks on the tops of nettles, mugwort, turnip thinnings, and milk, without any corn food' leading, in certain cases, to outbreaks of diseases such as tuberculosis.[106] In this case the experience was suffered across the globe in response to the 1815 eruption of Tambora in Indonesia which caused widespread surface cooling in the northern hemisphere and caused poor harvests in Speyside that lasted until the early 1820s.[107] Additionally, the 'muckle spate' that impacted across the Cairngorm region in 1829 was a catastrophic event that destroyed farmland and bridges.[108] It is observable, however, that in contrast to the depopulation noted

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[99] Wigan, M. 1998. *The Scottish Highland Estate: Preserving an Environment.* Shrewsbury, p.16.

[100] Fenton, E.W. 1937. The Influence of Sheep on the Vegetation of Hill Grazings in Scotland. *Journal of Ecology,* 25:2 (Aug), pp.424-6.

[101] Darling, F.F. (ed.) 1955. *West Highland Survey*, pp.168-9; Hanley, N., Davies, A., Angelpoulos, K., Hamilton, A., Ross, A., Tinch, D. & Watson, F. 2008. Economic Determinants of Biodiversity Change over a 400-year Period in the Scottish Uplands. *Journal of Applied Ecology,* 45, p.1564.

[102] Hanley, N. *et al.* 2008. Economic Determinants of Biodiversity Change over a 400-year Period in the Scottish Uplands, pp.1563-4.

[103] Darling, F.F. (ed.) 1955. *West Highland Survey*, pp.167-8.

[104] Somers, R. 1985. *Letters from the Highlands (After the Great Potato Famine of 1846).* Inverness, pp.28-32.

[105] *New Statistical Accounts of Scotland*, Accounts of 1834-45, Volume 13: Duthil, County of StA S.2.13.406.M.Elgin, p.133.

[106] *ibid*, p.125.

[107] Büntgen, U., Esper, J., Frank, D.C., Nicollusi, K. & Schmidhalter, M. 2005. A 1052-year tree-ring proxy for Alpine summer temperatures. *Climate Dynamics,* 25, p.144.

[108] Anon. 1803. *The Gazetteer of Scotland*. Dundee, p.30.

in the 18th century and despite subsistence crises and climatic distress, Duthil's population increases, contributing to the Highlands' recorded maximum in the census of 1841 and signifying increasing agricultural yields.[109]

The Speyside landscape that Robertson observed around 1813 was a mixture of improved and unimproved strips of land interwoven with each other, where fermtouns were overshadowed by the 'well-constructed and substantially-built' farm buildings of the landowners and their wealthier tenants, consistent with the distribution of improvements earlier in the 18th century.[110] It is apparent in the case of Aviemore that there were no other farm buildings beyond the immediate vicinity of the inn, suggesting that in this regard the locality was categorically 'improving' at a faster rate than many others in the region. Admittedly the area surrounding the Milltown was still chequered with buildings scattered between enclosed fields. Evidence for amalgamation of smallholdings can be seen in the disappearance by 1809 of the fermtoun at Tomantoul below Loch Pulladern. As discussed below, however, many improvements already in effect in the Lowlands had yet to reach the Cairngorms. One notable example was the relative absence of improved management of soil fertility, specifically the application of lime that was popular in the South until construction of a new road between Aviemore and Forres in 1811 allowed the easy transportation of bulk supplies from newly opened works at Cothall.[111]

The practice of improving soil was historically an act of trial and error but was traditionally conducted by spreading dung across infields and 'fallowing' was a significant aspect of pre-improvement farming that allowed at least the partial recovery of exhausted land. From the 1750s to the 1830s, however, a distinct increase in the developments of fertilising soil has been noted from the variety of methods employed for that purpose.[112] Applying lime to acidic soil improved crop yields provided it was applied in moderation; excessive use sterilised farmland. Draining lochs in the late-18th century provided large quantities of rich marl that contributed to the texture and structure of soil and guano was imported from South America on an enormous scale to the farms of Europe after the benefits of its phosphorous-rich content were recognised in the first decade of the 1800s.[113] In 1829 a warehouse opened in Aberdeen producing a mixture of ground-up bone and gypsum for the farms of Deeside which it announced was of great benefit to corn, hay and turnips.[114] Crushed bone was such a success for Britain's farms that the country resorted to stripping European battlefields of dead soldiers.[115]

The fertilisation of soil changed further after 1840 when the German chemist Justus von Liebig established the close relationship between vegetation and the nutrient property of soil or its 'chemical constituents' as he called it.[116] Following his work, the chemical waste

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[109] *New Statistical Accounts of Scotland,* Accounts of 1834-45, Volume 13: Duthil, County of StA S.2.13.406.M.Elgin, p.133. Population figures for Duthil Parish are listed as: 1792 = 830, 1801 = 1,113, 1821 = 1154, 1831 = 1309; Devine, T.M. 2006. *Clearance and Improvement*, p.175.
[110] Robertson, J. 1813. *General View of the Agriculture of the County of Inverness*, pp.55-6.
[111] "Advertisements & Notices" *The Aberdeen Journal* (Aberdeen, Scotland), Wednesday, August 21, 1811; Issue: 3319; Gale Document Number: BA3205618153.
[112] Smout, T.C. 2000. *Nature Contested*, pp.69-70.
[113] Shaw, J. 1994. Manuring and Fertilising the Lowlands 1650 – 1850. *In:* Foster, S. & Smout, T.C. (eds) *The History of Soils and Field Systems.* Aberdeen, p.115; Woodward, D. 1994. Gooding the Earth: Manuring Practices in Britain 1500 – 1800. *In:* Foster, S. & Smout, T.C. (eds) *The History of Soils and Field Systems*. Aberdeen, p.101.
[114] *National Register of Archives for Scotland* 771/Bundle 607
[115] Thompson, F.M.L. 1968. The Second Agricultural Revolution, 1815-1880. *The Economic History Review, New Series,* 21:1 (Apr.), pp.68-9.
[116] Playfair, L. (ed.), 1842. *Chemistry in its Application to Agriculture and Physiology by Justus Liebig (Second Edition).* London, p.154; Simmons, I.G. 2001. *An Environmental History of Great Britain*, p.154.

produced by heavy industrialisation was identified as a source of beneficial nutrients and was applied liberally to the land, negating the practice of fallowing. Such has been the scale of adding to the soil since the 18th century that Smout argues the nutrient content of Scottish soils today is entirely artificial whilst other studies have concluded that soil carbon and nitrogen contents have risen dramatically following the intensification of agriculture.[117]

Furthermore, most early attempts to mechanise or revolutionise the agricultural practices of the Highlands had little impact before the latter half of the 19th century. In East Linton, Andrew Meikle's invention of a successful threshing machine in 1786 was a significant milestone but it had limited impact outside of south-east and eastern counties.[118] As late as 1848, the Strathspey Factor, a 'farmer of a very old school,' was criticised for adhering to traditional practices with Somers complaining that *'[h]e cuts down his corn with a curved saw, thrashes it with a flail, and waits for a stormy day to blow away the chaff'*.[119] Advancements to the process of cutting and collecting grain were also hindered by the continued existence in many areas of runrig agriculture. Due to the expense of ploughing over ridges and the issue of drainage that had yet to be addressed successfully, few subsistence-level farmers had been inclined to demolish their rigs. The invention of sub-soil clay pipes in the 19th century allowed for the first time a viable alternative to traditional farming yet it was not until low-interest Government loans were offered in 1846 to compensate for the costly process of flattening ridges and remodelling fields that their introduction north of the Lowlands was spurred on.[120] Devine credits this development as the definitive catalyst for the widespread expansion of turnips and potatoes.

From its establishment in 1784 the Highland and Agricultural Society had offered prizes and awards for technological innovations to benefit Scottish farmers and in 1803 it turned its attentions towards improving methods of reaping grain.[121] Revolutionary machines powered by one or two horses were demonstrated by the famous James Smith of Deanston, inventor of the sub-soil plough, and Archibald Kerr between 1811 and 1815, but it was not until 1826 that Reverend Patrick Bell's Reaping Machine (**Figure 9**) began mass production in Dundee that the concept was spread across Scotland.[122] Again though, until rigs were flattened, areas of baulk filled and fields cleared of stones, Bell's invention could not be manoeuvred and so had limited impact. Having recognised this impediment, the Highland Agricultural Society exhibited the use of Flemish scythes in 1825 which it determined to be a suitable alternative. Consequently the New Statistical Accounts for Aboyne and Glentanar notes that sickles were no longer widely in use, possibly phased out in conjunction with development in the 1830s of improved models in Aberdeen.[123] As the use of the scythe demanded greater exertion than the sickle, its introduction also substantially altered the demographics of agricultural employment with increasing numbers of men being recruited rather than women. From an environmental viewpoint, the adoption of reaping machines and scythes reduced the amount of grain stubble remaining at the end of harvests. The stubble habitat was important for certain bird species and its loss subsequently impacted on the biodiversity and ecology of the Cairngorms.[124]

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[117] Smout, T.C. 2000. *Nature Contested*, p.69; Dupony, J.L., Dambrine, E., Laffite, J.D. & Moares, C. 2002. Irreversible Impact of Past Land Use on Forest Soils and Biodiversity. *Ecology,* 83:11, p.2981.
[118] MacDonald, S.T. 1975. The Progress of the Early Threshing Machine. *The Agricultural History Review,* 23:1, pp.66-7.
[119] Somers, R. 1958. *Letters from the Highlands*, p.36.
[120] Devine, T.M. 2006. *The Scottish Nation 1700 - 2007*, pp.450-1.
[121] Handley, J.E. 1963.*The Agricultural Revolution in Scotland*. Glasgow, pp.73-9.
[122] *ibid*, pp.80-2.
[123] *New Statistical Accounts of Scotland*, Accounts of 1834-45, Volume 12: County of StA S.2.12.1.M.Aberdeen, 1064, p.459.
[124] MacDonald, S.T 1975. The Progress of Early Threshing Machine, p.461; Wigan, M. 1998. The Scottish Highland Estate*,* p.20.

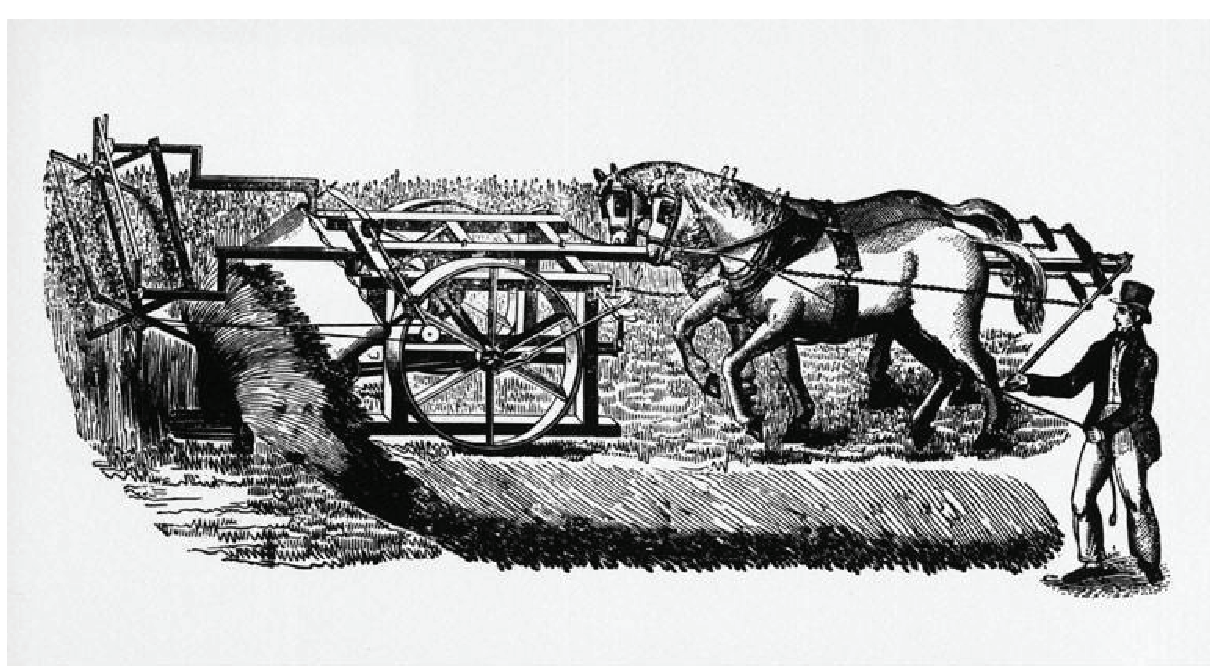

Figure 9. Illustration of Rev. Patrick Bell's reaping machine, invented in 1827 © National Museums of Scotland. Licensor www.scran.ac.uk

When Somers visited Strathspey in 1848 he observed that wherever he went he saw '*a great many farms turned into one large one*' with consequences for the '*physical conditions*' of the people as well as the availability of resources.[125] The cultural impact of the incoming capitalist Lowland farmers was such that it was observed in the New Statistical Accounts that Gaelic was being replaced by English.[126] By the time of the first edition of OS maps in the 1860s, the number of enclosed fields surrounding what was by then Aviemore House had decreased to less than ten. The combination of the consolidation of farms that continued to produce a disproportionate farm/labour force and the successive years of poor harvests at this time fuelled the culture of seasonal employment that led, by 1841, to the mass migration of the majority of Badenoch and Strathspey's men to the Lowlands in search of work.[127] Due to the fluidity of the working population's movements throughout Scotland, facilitated by the ever-improving roads and expanding railways, the Highlands could often be devoid of life outwith the peak season of late August to early October.[128]When he passed through Aviemore on 11 April 1838, Lord Cockburn noted the quiet roads between there and Dunkeld, as well as the empty fields and lack of people outside of Kingussie and Newtonmore, and valuations of the inn's farm property from 1826 show the presence of accommodation for seasonal labourers.[129]

In the early decades of the 19th century many areas of Speyside had been identified for potential agriculture and the process began of cultivating land that had once been classified

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[125] Somers, R. 1958. *Letters from the Highlands*, p.33.

[126] *New Statistical Accounts of Scotland*, Accounts of 1834-45, Volume 13: Duthil, County of StA S.2.13.406.M.Elgin, p.133.

[127] Somers, R, 1958. *Letters from the Highlands,* p.37; Devine, T.M. 2006. *Clearance and Improvement*, p.185.

[128] Robertson, J. 1813. *General View of the Agriculture of the County of Inverness*, pp.148-9. By 1851 it has been shown that the majority of Scotland's urban population were migrants from the Highlands combined with growing numbers from Ireland. The number of Irish immigrants was estimated to have increased from 6-8,000 per year in the early 1820s to over 25,000 in the 1840s. See Devine, T.M. 2006. *The Scottish Nation 1700 to 2007, p*.108; Collins, E.J.T. 1976. Migrant Labour, p.50.

[129] Cockburn, Lord H. 1888. *Circuit Journeys.* Edinburgh, p.39; *National Archives of Scotland* GD248/489/3 - Papers relating to valuation of properties in Aviemore -1806-1851.

as waste or set aside for pasture. Usually this meant cutting and burning large areas of peat or moorland before tilling the broken surface preparatory to planting.[130] Early efforts to improve soil in Strathspey bore some results and from 1827 to 1834 the parish of Duthil experienced a period of abundance where harvests produced enough for export at a high market value.[131]As much of this bounty was cultivated in the 'high ground', an initial peak in returns from reclaimed former 'waste' land can be recognised. However, in most cases the success of newly cultivated moorland was often short-lived as the process of reclamation was particularly damaging to the soil.[132] Results were consequently cyclical, with crop failures in 1835-7, but the process of expanding onto such land continued in Strathspey and evidently bore some fruit in 1848 despite the recent outbreak of the potato blight, an event which had relatively less impact in the Cairngorm region than it did elsewhere.[133]

Figure 10. Example of 19th century stone cottage from Argyll. Evidence of agricultural improvement. © Newsquest (Herald & Times). Licensor www.scran.ac.uk.

The latter part of the 1830s possibly witnessed a return to instances of harvest failures caused by early frosts but reports indicate that Speyside was irreversibly within the grips of 'Improvement'. In addition, developing transport networks lessened the impact of such events by easing the process of conveying foodstuff across the country. In fact, after poor harvests in 1822, the Grant estate was never again required to provide food for its tenants on a large scale.[134] In the 1840s, the parish of Duthil was at a transitional moment in the

[130] Smout, T.C. 2000. *Nature Contested,* p.74.
[131] *New Statistical Accounts of Scotland*, Accounts of 1834-45, Volume 13: Duthil, County of StA S.2.13.406.M.Elgin, p.134
[132] Smout, T.C. 2000. *Nature Contested,* p.74.
[133] *New Statistical Accounts of Scotland*, Accounts of 1834-45, Volume 13: Duthil, County of StA S.2.13.406.M.Elgin, p.134; Somers, R, 1958. *Letters from the Highland,* pp.33-4.
[134] *Report of Her Majesty's Commissioners of Enquiry into the Condition of the Crofters and Cottars in the Highlands and Islands of Scotland. With Appendices. 1884.* Edinburgh, p.3004. The Commission assembled under Lord Napier to address the growing unrest in crofters and cottar communities in 1883 became colloquially known as the Napier Commission.

region's development suggested not only by improved crop rotations and the introduction of fertiliser; but the replacing of the traditional Highland turf houses with '*stone and lime cottages [with] white-washed walls, and straw-thatched roofs*' (**Figure 10**) that were symbolic of the new landscape of agriculture and social structure existent through the 19th century.[135]

2.5 Moving away from agriculture

In the 1840s the portion of Glentanar south of the River Tanar was cleared of tenants to allow the establishment of a deer forest. Records of the agricultural conditions of the glen are vague but it is not unreasonable to see this event as the end of traditional forms of agriculture in the glen which had supported its tenants and their families. The corn mill at Braeloine survived this episode presumably to process the grain reaped from those farms remaining north of the river. The closing of the Fir Mounth road through the glen, however, disrupted and for a brief time ended the seasonal drovers' route from Deeside to Brechin.[136]

The impact of that decade on the inhabitants of the area is stark, with a noted decline between the census records in 1841 and 1851. A description published in 1865 notes the ruinous state of the farm steadings on the south side of the river, the glen's population less than half what it had been twenty years previously.[137] Yet in 1873 the shooting tenant, Sir William Cunliffe Brooks, claimed that there had been a 17% increase in the glen's population since he took over the lease in 1870.[138] A review of local pupil statistics confirm that average attendance for the School of Glentanar began increasing slowly in the 1880s and then dramatically after Brooks purchased the estate in 1890. This suggests an increasing population of young families employed in the glen to manage Brooks' 'model estate'. Furthermore, whilst the agricultural focus of the glen may have moved away from supporting sheep or a subsistence lifestyle, Brooks developed the farm at Bellastreen extensively, servicing its needs with an artificial dam and sluice, eventually renaming it 'Home Farm'. In January 1881 he opened a new waterwheel for powering a threshing machine at the entrance to the glen.[139] By 1900 sewage fertilisation was in practice in the lands around Braeloine converting formerly barren land to productive pasture and capable of supporting higher numbers of cattle than previously possible.[140]

Both study sites experienced the development of certain aspects of agricultural land management at the expense of their traditional regimes but to very different ends. In 1853 a new Commissioner for the Seafield estates came to Speyside in the personage of Thomas Charles Bruce.[141] In the time between his arrival and the renewing of leases in 1863/4 he concluded that the entirety of the lands surrounding Aviemore extending south to Glenfeshie was better suited for woodland plantations, being too gravelly to support profitable numbers of livestock. He therefore had lease agreements rewritten so as not to '*attach to the summer grazing an importance which it did not deserve*'.[142] In short he had them removed and the remaining commons divided amongst local tenants. Whilst land accessible to tenants and their livestock was reduced, there also began a programme of rebuilding tenant's houses costing the estate £85,000 over twenty years. Wood and slate were supplied by the Earl of

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[135] *New Statistical Accounts of Scotland*, Accounts of 1834-45, Volume 13: Duthil, County of StA S.2.13.406.M.Elgin, p.134.
[136] *National Archives of Scotland* GD335/8/13/3.
[137] Dinnie, R. 1865. *An Account of the Parish of Birse; Historical, Statistical, & Antiquarian; Also Brief Notices of the Surrounding Parishes.* Aberdeen, p.163.
[138] Beesly, A.H. 1873. Deer Forests, p.743.
[139] 'New Farm Steadings at Glentanar' *Aberdeen Weekly Journal* (Aberdeen. Scotland), Saturday, Januaryy 22, 1881; Issue 6940; Gale Document Number: BA3205741808
[140] McConnochie, A.I. 1972. *Deeside* (From the 3rd Edition Published Aberdeen, 1900). Menston, p.112.
[141] *Report of Her Majesty's Commissioners* 1884, p.3004.
[142] *ibid*, p.3005.

Seafield to complement the stones they were able to find to hand. It is debatable, however, as to the extent to which this effort was philanthropic or, as was more likely, an attempt to prettify the region for the benefit of the increasing numbers of visitors.

Marches around Aviemore were surveyed in 1863/4, their extents renegotiated and all improvable land allotted to an adjoining farm leading to the clearance of between 20 and 30 'occupiers' who were relocated onto uncultivated moorland.[143] Francis MacBean, a representative from Strathspey, complained to the *Commissioners of Enquiry into the Condition of the Crofters and Cottars in the Highlands and Islands of Scotland* (otherwise known as the Napier Commission) that due to these surveys and the abundance of sheep farms, extending woodland plantations and the growing number of deer forests, small-unit tenants were struggling to support themselves in times of climatic distress because they no longer had the livestock that had supplemented their forefather's farms.[144] Due to current forestry operations, wire fencing had been stretched across the back of many tenants' properties above Aviemore, cutting off access to common grazing land entirely and denying farmers the use of those areas for winter shelter.[145] Moreover, rentals were not amended to account for the reduced access but remained at their previous value. The list of grievances brought before the Napier Commission from Speyside tenants focused particularly on the removal of summer grazing and the disruption of the remaining pasture by forestry activities.[146] As McBean complained, land given over to woodland was '*waste to the farmers and to the crofters*'.[147]

The result of this process was almost an ironic parody of the first wave of improvements in the 18th century where the numbers of farms had been reduced leading to a declining population; from the 1860s to the 1880s the reality in Strathspey was one where '*the number of farms has increased, but the general population has done what […] it has done in every rural district of Britain – it has decreased*'.[148] That pattern of emptying the Highlands would continue long into the 20th century but, as shall be explained below, the population of Aviemore responded to the seasonal influx of tourists following the opening of the Great Highland Railway in 1863. The land around the village from this time also declined in its focus on agriculture, being given over instead to holiday makers' villas and sporting uses.
In 1875 Britain was opened to foreign markets ending the process of high-input agricultural development that had begun in the 18th century.[149] Agricultural depression ensued although its effects were cushioned in Scotland by outbreaks of disease amongst English livestock.[150] Thompson argues that this economic collapse marked the end of a distinct phase of agricultural development as few farms retained the financial capabilities to fund labour-intensive methods or large work forces.[151]

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[143] Somers, R, 1958. *Letters from the Highland, p*.37.
[144] *Report of Her Majesty's Commissioners* 1884, pp.2992-3.
[145] Smout, T.C. & F Watson, F. 1997. Exploiting Semi-Natural Woods, 1600-1800, p.92.
[146] *Report of Her Majesty's Commissioners* 1884, p.2994.
[147] *ibid*, p.2996.
[148] *ibid*¸ p.3014.
[149] Smout, T.C. 2000. *Nature Contested*, p.128.
[150] Wigan, M. 1998. The Scottish Highland Estate, p.22; Devine, T.M. 2006. Clearance and Improvement, p.23.
[151] Thompson, F.M.L. 1968. The Second Agricultural Revolution, p.65.

3. FORESTRY

3.1 Early 18th century woodland and its management

Estimating the historic extent of the Cairngorm's woodland is difficult as there are no reliable maps and few accurate sources but it can be shown that in the case of Glentanar, General Roy's military survey (1747-1755) that depicts a heavily forested landscape beyond Bellastreen (Balestreen) was exaggerated, most likely because neither he nor his surveyors ventured far enough to gain an accurate view and were happy with only presenting a 'symbolic representation' of its defining features.[152] At the beginning of the period in question woodland resources were strictly protected by 16th century legislation that enforced monetary fines on those who cut down trees illegally.[153] It was often the case, however, that the punishments for damaging or endangering woodland were considerably more draconian, reflecting the importance associated with the resource as well as its decline in some parts. Coppicing and pollarding were widely practised forms of woodland management that allowed the maximum to be extracted from dwindling resources.[154] The first technique saw trees felled on a rotational basis but with their stumps preserved to encourage regrowth; the latter saw pruning regimes carried out to protect trees from grazing, to produce leaf fodder for livestock and boughs for tools.[155] Full-time foresters were first employed by the Earl of Aboyne in 1686 either in recognition of the forest's ailing condition or, as is more probable, the realisation of its marketability.[156] From later observations it appears that one forester was usually based at Bordland, conveniently situated at the entrance to the glen.[157]

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[152] Whittington, G. & Gibson, A.J.S. 1986. The Military Survey of Scotland 1747-1755: A Critique. *Historical Geography Research Series,* 18 (Jul), p.44. In 1725 the forest was observed to be '*very large in extent and 10 or 12 miles in circumference*'; in the 1840s the forest is estimated to have measured about 4,500 acres and by 1882 it had grown to 6,000 acres. Today the SSSI that encompasses the semi-native woodland area of Glentanar equals 10,329 acres. See Mitchel, Sir A. & Clark, J.T. (eds) 1906. *Geographical Collections Relating to Scotland*, p.106; *New Statistical Accounts of Scotland*, Accounts of 1834-45, Volume 12: County of StA S.2.12.1.M.Aberdeen, 1053; Rev. Wilson, J. 1896. *Gazetteer of Scotland (2nd Edition).* Edinburgh, p.31. At its southern-most extent, remote Etnach no longer has any wood-cover and it is unlikely to have had much remaining during the survey's conception, although it may have done so in the early seventeenth century when there are references to pasturage in the 'Forest of Etnich [sic.]' The name 'Etnach' itself means 'Juniper thicket' in Scots Gaelic signifying that the area was once defined by such but it was almost certainly cleared by the late eighteenth century at which time it was predominantly smallholdings and enclosed parkland for foggage, that is the grass grown for winter grazing. One possible factor that is worth noting, Juniper does not survive muirburning commonly practised by shepherds and game keepers alike suggesting a possibility that either the glen's sheep farms or its hunting management were to blame for its barren appearance today. Comparatively, the northern extent of the forest is perhaps easier to trace and there is some significance to the name of the former farm 'Woodend' that can be seen in John Thomas' Atlas of 1832. See Charles, Huntly, XI Marquis of, 1894. *the Records of Huntly: MCCXXX – MDCLXXXI,* Aberdeen, p.351; Alexander, W.M. 1952. *The Place-Names of Aberdeenshire.* Aberdeen, pp.272-3; *National Archives of Scotland* GD312/37/8 – 6 April 1776; Darling, F.F. (ed.) 1955. *West Highland Survey: An Essay in Human Ecology.* Oxford, p.168.

[153] *National Archives of Scotland* GD181/216/1. A summons from 1662 notes the penalties for 'cutting of [growing] wood' as: 1st offence = £10 (Scots), 2nd offence = £20 (Scots), 3rd offence = £40 (Scots). In other circumstances, penalties increased in value depending on the age of the tree as well as the number of prior offences.

[154] Quelch, P.R. 1997. Ancient Trees in Scotland. *In:* Smout T.C. (ed.), *Scottish Woodland History*. Edinburgh, pp.27-30.

[155] Rackham, O. 1988. Trees and Woodland in a Crowded Landscape – The Cultural Landscape of the British Isles. *In:* Birks, H.H., Birks, H.J.B., Kaland, P.E. & Moe, D. (eds) *The Cultural Landscape: Past, Present and Future.* Cambridge, pp.59-60.

[156] Fouin, F.L.P. 2010. *Glentanar, Valley of Echoes and Hidden Treasures,* p.99.

[157] Mitchel, Sir A. & Clark, J.T. (eds) 1906. *Geographical Collections,* p.107; *National Archives of Scotland* GD312/37/4.

Areas of extensive woodland like Glentanar were often at the forefront of contemporary Highland forestry management and were thus of significant importance for the transferral of techniques from the deforested Lowlands, and dispersing them throughout the Cairngorms. Rapid deforestation in the Lowlands had inspired stringent controls earlier in the Highlands, but after centuries of uncontrolled exploitation, many Highland areas of woodland were also suffering in the 18th century. In 1710 the 'Schem of Orders & Rules of Management for the Firr & Birk Woods Belonging to the Earl of Aboyne' was written, its principal aim being that '*the Forrest of Glentanner [sic.] is to be keept & preserved effectually and that methods may be fallen on how the Samen shall be done'.*[158] The finished articles were replicated and sent to all the schoolmasters and ministers in the area so that they could be publicised throughout the parish.

There are few eye-witness accounts of the woodland at this time but Whyte has noted the rise in Braemar's timber sales around 1707 due to previously intensive felling in Glentanar and the lack of replanting there.[159] From 1710 onwards it was ruled that the glen's timber could only be sold to its tenants provided they agreed to supply the markets at Aboyne with sufficient quantities to serve the needs of the Earl's other tenants. Such terms of access afforded locals a monopoly over the trade of woodland resources and the opportunity to complement their rent of goods in kind. One of the more significant transitions of rural conditions in the first half of the 18th century was the increased exposure of tenants to market economies rather than through their landlords as had been the norm.[160] The Earl of Aboyne's Schemes facilitated this process and is one reason why there was such a focus on the sale of timber over agriculture amongst the glen's tenants.

Amid the stipulations of the 1710 articles certain preservation measures were initiated reflecting the desire to protect future timber supplies. It was stated that the sale of birch trees was to be concluded by the number of individual trunks rather than the area of ground they covered and that 'no young trees be touched'.[161] This allowed for the careful selection of specific trees to be felled leaving younger trees to ensure future crops. Coppicing was encouraged and there was even an insistence on the swing of axes near the roots of trees, the Earl requiring that '*the buyers…cut the birk timber w[ith] the axe up, and leave at least halfe a foot of the root above ground & not touch the bark [there]of*'. Not doing so was observed to discourage future growth and to chop downwards upon the roots allowed water to collect and stagnate, damaging chances of regeneration. The roots of felled trees were also to be coated with a sugary substance, protecting them from mould and bacterial degradation. In all of these, the foresters of Glentanar were imitating methods then being carried out on the Earl of Rothes' woodland in Fife revealing a transferral of ideas from the more advanced south.

Clearly there was a conscious effort to preserve the future of the forest albeit primarily to safeguard its potential for economic exploitation in light of failing reserves elsewhere. Tacks were rewritten to recognise each tenant's responsibility to plant trees annually, probably for domestic use and to remove pressure from the larger tracts of woodland.[162] Furthermore, increased and compulsory access to 'mosses' indicates that the woodland resource was protected from being harvested as a source of fuel.[163] The Earl's Schemes were a break

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[158] *National Archives of Scotland* GD181/218 – Schem of Regula[tions] for the Earl of Aboynes Woods, 12 December 1710.
[159] Whyte, I. 1986. Agriculture in Aberdeenshire, p.17.
[160] Devine, T.M. 1994. *The Transformation of Rural Scotland*, p.23.
[161] *National Archives of Scotland* GD181/218
[161] Devine, T.M. 1994. *The Transformation of Rural Scotland* (1994) Edinburgh
[162] In the case of Margrat Thomson who leased Waternadie for nineteen years in 1722, she agreed to '*plant yearly upon the ground…the number of ten trees and doe her utmost…to nurse and preserve them'* with financial penalties in the instance of failure. *National Archives of Scotland* GD181/216/4
[163] *National Archives of Scotland* GD181/73/2(1-2)

from tradition but were characteristic of certain changing conditions. The 1695 Division of the Commonties legislation marked an end to the historic distribution of common resources and the articles of 1710 seem to reflect this by removing free access in Glentanar and controlling the extraction of lumber.[164] According to Devine, the 1695 Act was one of the definitive events influencing rural and agricultural revolution though he argues that it was not widely enforced until the latter half of the 18th century.[165]

Arrangements such as these may have served for a time to limit the level of deforestation but the cover and biodiversity of the woodland suffered regardless. A description from 1725 reveals that the glen's tenants were '*living more by traffiquing in timber than husbandry, this timber they have from the wood of Glentanar'* which was '*very large in extent…tho' not full in all places*'.[166] Seemingly, the opportunity for tenants to profit from the forest had led to further exploitation, leaving some areas devoid of cover completely.

In 1738 John Gairdyne, Laird of Bellamore, successfully contested the Earl of Aboyne's efforts to enforce controls on his lands and tenants.[167] In doing so he enforced his rights to the duties owed him by his tenants, potentially threatening the protective management of the Earl's foresters. In 1754 Gairdyne claimed the servitude of the '*whole lands of Bellamore and Braelyne on the woods of Glentanor [sic.]*', that is, he claimed his rights of access to the resource.[168] Sometime between 1733 and 1754, Gairdyne had the woodland of Braeloine clear-felled. Consequently General Roy's survey shows the fermtoun 'Balemore' surrounded by a thin, unnatural square of trees amidst an otherwise cleared landscape (**Figure 11**).[169] Although Roy's map can be shown to be incorrect so far as Glentanar's woodland extent is concerned, there is a neat visual contrast between the two forms of management propagated by the Earl of Aboyne, whose woods are shown to be full, and the almost non-existent forest surrounding Gairdyne's property.

3.2 The commercialisation of woodland management

The management of Glentanar's woodland was, from an early time, conducted in recognition that it was an economic resource to be preserved. Its value ensured its protection but the commercial possibilities of the forest were not just limited to the cutting and selling of wood. A receipt dated 17 November 1714 for £24 (Scots) to be paid to William Jamieson in return for '*six pownds weight of firr seed*' demonstrates that there was a market for such items.[170] From the late 1680s the Earl of Aboyne had taken to surrounding Aboyne Castle with fir trees grown from seeds collected in the glen so it is possible that his operations were continuing.[171] The collection and transportation of seeds from Deeside began in 1621 when James I invited the Earl of Mar to help restore English woodland from his northern estate.[172] Additionally, in 1762 a stone of birch bark was worth a shilling in Aberdeen where it was

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[164] Division of the Commonties Act 1695 - http://www.legislation.gov.uk/aosp/1695/69; *National Archives of Scotland GD181/218*, article 1

[165] Devine, T.M. 1994. *The Transformation of Rural Scotland*, p1-2.

[166] Robertson, W. 1906. Description of the Kinkardine-Oneil Parish, Aboyne and Glentanar Parishes in Aberdeenshire 1725. *In:* Mitchel, Sir A. & Clark, J.T. (eds) *Geographical Collections*. Edinburgh, p.106.

[167] *National Archives of Scotland* GD181/129 – 11th February 1756: Inventary of Writes Produced for John Gairdyne of Bellamore in ye Submission with the Earl of Aboyne – And Observes & Remarks thereon.

[168] *National Archives of Scotland* GD181/129/14(2) – Claim of John Gardyne of Bellamore to be given into the Arbiters – 1754; Heritable Jurisdictions Act 1747 - http://www.legislation.gov.uk/apgb/Geo2/20/43/introduction#text%3Dscotland

[169] *National Archives of Scotland* GD181/129/14(2). (See **Figure 1**)

[170] *National Archives of Scotland* GD44/51/543/11 – Firr Seeds from Glentanar, 17 November 1714

[171] Fouin, F.L.P. 2010. *Glentanar, Valley of Echoes and hidden Treasures*, p.99.

[172] Steven, H.M. & Carlisle, A. 1959. *Native Pinewoods,* p.92; Tuley, G. 1987. Forestry and Land Use Near Aberdeen in North-East Scotland. *Forestry,* 60:1, p141.

consumed by the city's tanneries; ferns growing naturally in the region of the forest were a popular ingredient in soap, earning an average £30 a year.[173]

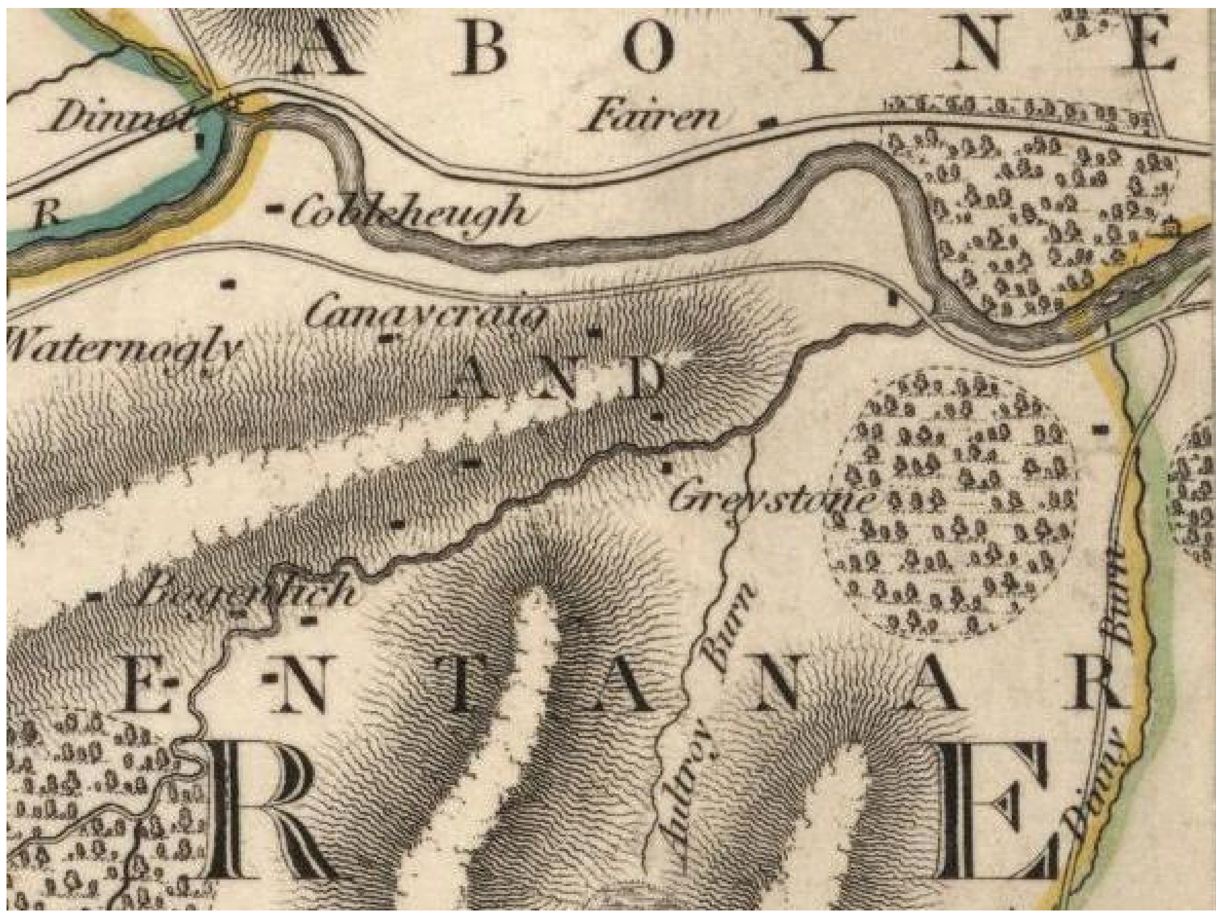

Figure 11. Detail from John Thomson's 1832 Atlas of Scotland showing enclosed plantations at the head of Glentanar. © British Library Board EMS.s712(22).

The expense of transporting timber was often noted and is one of the principal reasons that any woodland remains to this day.[174] Extracting the timber resources was a constant difficulty, the river Tanar not being deep enough to float logs down from further in the forest. An analysis of the available maps shows that the majority of 18th and 19th century plantations and woodland operations were restricted to the entrance of Glentanar.[175] Permission for the construction of a sawmill had been granted as early as 1638 on the lands of Bellamore '*with an house for keeping of timber*' and as the proprietary Gairdynes also had rights to the lands of Braeloyne in Glentanar they were in a position to advance the deforestation of the forest considerably.[176] In 1732 Peter Couts of Balmoral was commissioned to build a sawmill somewhere near the high ground of Allachy but, it does not appear to have lasted through the century as one observer notes in the 1790s that felled timber received no more manufacturing than that carried out roughly by the foresters.[177] In

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[173] Dixon, G.A. 1975. William Lorimer, p.201.

[174] *Old Statistical Accounts of Scotland* ,the Account of 1791-99, Volume 19: Aboyne, County of Aberdeen, 299; Wilson, Rev. J. 1896. *Gazetteer,* p.31.

[175] A canal was actually proposed sometime in the 1790s to stretch between Aberdeen and Aboyne to be funded by local landowners but nothing came of it.

[176] Charles, Huntly, XI Marquis of, 1894. *Records, pp.*286-93.

[177] *National Archives of Scotland* GD181/191/12; *National Archives of Scotland* GD181/191/17; *Old Statistical Accounts of Scotland*, the Account of 1791-99, Volume 19: Aboyne, County of Aberdeen, 298-9. Receipts from Peter Couts note the presence of '*wheals and spouts to the saw muiln built by*

the 1760s there were six or seven axe-men employed for the purposes of cutting and transporting timber from Glentanar but that number grew progressively over the years, peaking at particular times when extraction was at its height.[178] As is evident, however, the method of transportation still relied heavily on manual labour and horse-drawn carts (**Figure 12**), though by 1845 a small 'wood railway' had been constructed '*from the Woods to Auldroy*' as part of the large-scale timber-felling operations earlier in the decade.[179] Even in the 20th century, the heavily mechanised felling conducted by the Canadian Forestry Corps in WWII proved to be something of a revelation to the area.[180]

Figure 12. Photo taken in 1908 of timber being transported by horse-power in Selkirk © Robert D Clapperton Photographic Trust. Licensor www.scran.ac.uk.

According to Dixon it was not until the 1750s and '60s that significant changes were made to woodland management in the Scottish Highlands, pioneered by the Earls of Aboyne and Fife.[181] In the case of Glentanar, management became more conservative at the start of the 18th century in response to the increasingly desperate situation for the future of the forest caused by unrelenting extraction discussed above. Not only was the woodland suffering from over-exploitation but in June 1748 parts of the forest were intentionally set alight and '*burnt in a violent Manner for ten Days'* destroying an estimated 30,000 merks worth of

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me in the Forrest of Glentanner' and *'three gudgeons'* presumably for the workings of the miln; Fouin, F.L.P. 2010. *Glentanar, Valley of Echoes and Hidden Treasures*, p.101.

[178] Smout, T.C., MacDonald, A.R. & Watson, F. 2005. *A History of the Native Woodlands of Scotland, 1500 – 1920.* Edinburgh, p.222.

[179] "Advertisements & Notices" *The Aberdeen Journal* (Aberdeen, Scotland), Wednesday, 25th March, 1845; Issue 5072; Gale Document Number: BA3205649558

[180] Fouin, F.L.P. 2004.*The Early Life & Times of a Glentanar Exile: Memoirs of an Anglo-French Scot*. Kinloss, p.106.

[181] Dixon, G.A. 1975. William Lorimer, p.191.

timber over a three mile area.[182] Ever-expanding access to southern markets and improving transport to Aberdeen along military roads, however, encouraged the commercialisation of woodland management in the region (as in Strathspey) on a growing scale resulting in a revolution of forest management.

David Cummings observed to William Lorimer in 1762 that in his lifetime of 50 years he had seen the same area of woodland felled three times.[183] It seems then that the foresters of Glentanar were at times felling on a dangerously exuberant scale. Interestingly Cummings insisted that fir trees be planted in quantity and in close proximity to each other without any thinning regimes, believing that they could be sustained by their neighbours and that nature would follow its course to ensure that only the strongest survived. In addition, firs were planted amongst heather in the belief that they would be nurtured until they matured, at which point the heather was ‘destroyed’. Compared to later forms of management, Glentanar’s earlier commercial operations must have produced an inferior merchandise due to such poor husbandry.

As landowners leaned towards more profitable uses for their woodland, tenants were discouraged or denied access to the resource, disrupting grazing patterns, drover’s routes and increasing the demand for alternative fuel sources such as peat.[184] In many ways this process began in Glentanar in 1710, earlier than most areas of large semi-natural woodland, but it took until the mid-18th century to be completely and successfully enforced. Enclosure of woodland plantations restricted access to one source of fuel and the later burning of peat to improve soil fertility reduced another.[185] Consequently, peat had to be sourced from more distant reaches, with extensive consequences for surrounding landscapes, increasing in extent with population growth, or alternatively coal had to be transported at great expense. These issues were exacerbated by the lingering Little Ice Age that continued to influence temperatures into the early 19th century.[186] Aviemore’s moss road depicted in Brown’s 1809 map stretches from the Milltown to the south-western slope of CarnMór (**Figure 4**).[187]

Cummings admitted that it was more common to allow pine woods 80-100 years to mature and that once felled, an area of woodland was fenced with ‘garthing’ to protect it from grazing damage.[188] Unless enclosed, regeneration could not occur when livestock were pastured on the land.[189] In recognition of grazing pressures, restrictions were imposed in 1766 on the construction of shielings and the overwintering of livestock in Glentanar’s forest.[190] Throughout the Cairngorms, woodland was increasingly protected from livestock as well as from any harm or neglect to enclosures present, though the extent to which such protection was successful is debatable.[191]

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[182] General Evening Post (London, England), June 25, 1748 – June 28, 1748; Issue 2304; Gale Document Number: Z2000435676; Turref, G. 1859. *Antiquarian Gleanings from Aberdeen Shire Records.* Aberdeen, p.254. Evaluation of 30,000 marks was approximately £109,090, contemporary. Calculated where 1 merk = 13 shillings and 4 pence.
[183] Dixon, G.A. 1975. William Lorimer, p.201.
[184] Smout, T.C. & Watson, F. 1997. Exploiting Semi-Natural Woods, 1600-1800, p.95.
[185] Whyte, I. 1986. Agriculture in Aberdeenshire, p.16.
[186] Simmons, I.G. 2001. *An Environmental History of Great Britain,* p.121.
[187] Incidentally, the old moss road is now an established walker’s path into Kinveachy Forest. The ‘Moss of Aviemore’ appears to have been located somewhere in Grid Reference 8714 (Landranger 36).
[188] Dixon, G.A. 1975. William Lorimer, pp.200-1.
[189] Stewart, M. 2005. Using the Woods, p.120; Oliver, F. 1969. Deeside. *Forestry,* 42:1, p.10.
[190] Fouin, F.L.P. 2010. *Glentanar, Valley of Echoes and hidden Treasures*, p.103.
[191] Monteath, R.1827. *Miscellaneous Reports on Woods and Plantations, In a Letter.* Dundee, pp.61-3.

Due to the greater extent of woodland in the Highlands compared to the Lowlands where their preservation was more important, however, enclosures were rarely enforced.[192] Subsequently and despite localised efforts, much of Deeside and Strathspey was left barren as livestock were allowed access to felled land, though Mason *et al.* claim that large tracts of native woodland like Rothiemurchus and Abernethy survived early in the period because of the lack of grazing livestock and deer.[193] In many parts of the Cairngorms this form of protection was not widespread until the 19th century which, in conjunction with spreading sheep farms, contributed to a decline of woodland cover. Records of enclosing in Glentanar reveal that establishing plantations for future supply was in full effect, earlier than in many other localities. From the middle of the 18th century, the glen was dominated by woodland management and the commercial production of timber for transport to Aberdeen and beyond.

3.3 Woodland enterprises and the changing Cairngorm landscape

Roy's map of Strathspey makes it evident that in the mid-18th century the priority for land-use was cultivation and pasture. However, Lorimer's tour of Britain in 1762-3 and his explicit references to specific areas such as Aviemore reveal that the Grant estate intended to develop certain places for plantations. To witness the best contemporary examples of Highland woodland management he travelled to Deeside because he believed that:

> *In the knowledge of and care of Woods the people of Strathspey seem to be as far behind those of Braemar and Glentanner [sic.], as the Spaniards are behind the rest of Europe in knowledge in general.*[194]

The significance of Lorimer's tour for the woodland of Strathspey was for the regulation and restriction of tenants' access by enforcing punishments for exploitation, rewarding tenants who informed on their neighbour's illicit deeds and employing full-time foresters to protect timber. Certainly, it seems to be through contact in 1762 with David Cummings that the notion of enclosing recently felled land to protect regrowth from grazing pressures was conveyed to Speyside. The reintroduction of tenant's service duties on the estate in 1763 coincided with Lorimer's suggestion that locals be instructed to build dykes '*to inclose the Moor near Aviemore where fine Birch-Woods will grow, if properly managed*'.[195]

Through the close protection of woodland at the expense of tenant's rights of access, the forest-cover of Strathspey in the 18th century increased. In the 1790s it was claimed that the wooded area of Duthil covered at least a third of the entire parish amounting to over 26,000 acres, comprised of a mixture of semi-natural woodland and a few commercial plantations.[196] The first mercantile planting of Scots pine in Speyside occurred at Cairn Lucht, near Castle Grant, after Lorimer's return in 1763.[197] Due to its location at the confluence of the rivers Druie and Spey, Aviemore witnessed the growth of the timber industry and the floating of logs from Glenfeshie, Glenmore and Rothiemurchus. Sir James and his factors must have observed and maybe been inspired by the scale of activities that accompanied the sale of wood from Glenmore to Osborne and Dodsworth of Kingston-upon-Hull in 1783.[198] As there was an estimated 20,000 to 30,000 trees available for extraction it

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[192] Smout, T.C. & Watson, F. 1997. Exploiting Semi-Natural Woods, p.92.
[193] Mason, W.L., Hampson, A. & Edwards, C. (eds) *Managing the Pinewoods of Scotland.* Edinburgh, pp.46-8.
[194] Dixon, G.A. 1975. William Lorimer, p.192.
[195] Ross, A. 2011. *Improvements on the Grant Estates in Strathspey*, p.297; Dixon, G.A. 1975. William Lorimer.
[196] *Old Statistical Accounts of Scotland*, the Account of 1791-99, Volume 19: Duthil and Rothiemurchus, County of Inverness, p.311.
[197] Mason, W.L., Hampson, A. & Edwards, C. (eds) 2004. *Managing the Pinewoods of Scotland,* p.43.
[198] Steven, H.M. & Carlisle, A. 1959. *Native Pinewoods,* p.125.

was recommended that the river Druie be adapted for floating and a proper road be constructed from the Spey to the forest to ease operations.[199] The period of felling following the granting of this contract lasted from 1784 to 1805 and required the development of sluices at the mouth of Loch Morlich and the efforts of horse teams to transport timber to the Spey.

The use of the Spey to move wood developed in the late 18th century and became a common feature of the river until the expansion of the railways provided a faster alternative. Waterways were widely developed where necessary so as to generate artificial floods that could carry large quantities of timber.[200] Floating was not always met by success and complaints made to the factor at Glenfeshie throughout the 1790s from irate farmers whose lands had been flooded led to the suspension of logging activities for a time.[201] In 1812 the Bridge at Potarch on the River Dee was destroyed by the large quantity of timber being transported, leading to the 1813 Bridges (Scotland) Act by which merchants were held accountable for any damages incurred during operations.[202] Whether or not similar episodes of damage occurred at Aviemore, the emphasis on woodland management for the whole region continued to increase. Beginning in the early years of the 19th century, Sir James began establishing large plantations of predominantly birch and alder and later Douglas fir, along the 'barren' northern banks of the Spey.[203] Birch is now the most common species of tree in the area. Tenants were offered financial incentives to plant and enclose with dykes, oak, ash and elm on their property.[204] According to Thomas Bruce there were no further attempts to increase the area of plantations until the 1850s yet within them Sir James' successor Colonel Sir Francis William Grant continued his father's work and in 1847 he was honoured by the Highland and Agricultural Society of Scotland in recognition of planting over 31 million individual trees.[205] By that time, wood that was not floated was being processed at either of the two saw-mills powered by the Dulnainriver.[206]

In Glentanar the sale of timber produced a steady income for the Earl of Aboyne, increasing from £300 annually in 1762, £4-500 in the 1790s to £5-600 by 1803.[207] By the latter part of the century, the extraction of timber was still limited primarily to the mouth of the glen and a

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[199] *National Archives of Scotland* GD44/43/275/12

[200] *National Archives of Scotland* GD248/709/5/51. The practice is probably best described by Elizabeth Grant in her memoirs concerning Rothiemurchus in 1812: '*The logs prepared by the loppers had to be drawn by horses to the nearest running water, and there left in large quantities till the proper time for sending them down the streams[…]. This driving lasted till sufficient timber was collected to render the opening of the sluices profitable. Formerly small saw-mills had been erected wherever there was sufficient water-power, near the part of the forest where the felling was going on, and the deals when cut were carted down to the Spey. […] A concentration of labour was, however, found to be more advantageous to the wood-merchant; they were finding out that it answered better to send the logs down nearer to the Spey by floating them, than the deals by carting them*'. See Smith, E.G. 1911. *Memoirs of a Highland lady; the autobiography of Elizabeth Grant of Rothiemurchus, afterwards Mrs. Smith of Baltiboys, 1797-1830.* London, p.219-20.

[201] *National Register of Archives for Scotland* 771/Bundle 203; *National Register of Archives for Scotland* 771/Bundle 571.

[202] Smout, T.C., MacDonald, A.R. & Watson, F. 2005. *A History of the Native Woodlands of Scotland.* p221.

[203] *New Statistical Accounts of Scotland*, Accounts of 1834-45, Volume 13: Duthil, County of StA S.2.13.406.M.Elgin, 128; *Report of Her Majesty's Commissioners.* 1884, p.3011.

[204] *National Archives of Scotland* GD248/489/3

[205] *Report of Her Majesty's Commissioners* 1884, pp.3007-14; Cassilis, Earl of 1911. *The Rulers of Strathspey: A History of the Lairds of Grant and Earls of Seafield*. Inverness, p.158.

[206] *New Statistical Accounts of Scotland*, Accounts of 1834-45, Volume 13: Duthil, County of StA S.2.13.406.M.Elgin, p.128.

[207] *Old Statistical Account of Scotland, the Account of 1791-99*, Volume 19: Aboyne, County of Aberdeen, 298; Anon., *The Gazetteer of Scotland* (Dundee, 1803), ABE-AD

second forest fire in 1788 damaged many young trees.[208] In the 1790s it was normal for a cubic foot of rough-hewn wood to be sold for 4d. if the timber was cut by lots or 5d. for individually selected trees, making a conservative estimate of the amount of wood being extracted at the turn of the 19th century, some 120,000 cubic feet per year.[209] The war with Revolutionary and then Napoleonic France prompted the utilisation of many remaining areas of unexploited Scottish woodland and escalating market prices encouraged the further increase in woodland operations on those estates already engaged in the trade.[210] The extraction of existing Speyside forests by the Grant estate intensified on such a scale that in 1808 as much as 100-150 tonnes of cut timber from Sir James' estate was being loaded at once onto ships at Garmouth.[211] This period of felling, Stewart argues, was the most intense that Scottish pinewoods would ever experience as the decline of English forests focused national attentions on Scotland's most accessible reserves. Glentanar was no exception and in addition to continuing felling, a 150 tonne Brigantine was constructed in 1795 from the glen's still existent oak woods and in 1811 a second ship was built from fir wood.[212] To have produced enough timber for two ships is evidence of the enormous scale of extraction occurring at the turn of the century. Compounding the effects of early 19th century deforestation was the large-scale introduction of new, larger breeds of sheep from the 1790s as described above. In light of the competition between sheep farmers and other tenants for pasture, the land exposed by felling invited pressure for increased grazing.

Further damage to the forest resulted from a particularly ferocious storm in 1808 when many trees were blown down, sparking a large effort to gather and process them before they rotted, leading to a rapid increase of foresters employed in the glen.[213] By 1809 there was a woodcutters' community of 50 occupied huts, with the proposed sale of some 8,000 pine trees from a plantation named 'My Lord's Bush'.[214] Damage to Glentanar's woodland increased due to constant felling and a forest fire in 1810 led to the further loss of almost 300 acres.[215] The pace of extraction continued to grow even after the end of the Napoleonic Wars such that the sale of wood between 1824 and 1825 generated almost £5000 (Scots) equivalent today to over 3 Millions pounds.[216]

3.4 The over-exploitation of Scottish woodland

In 1841 the first episode of clear-cutting Glentanar's forest was initiated.[217] The mid-19th century market generated by the expansion of railways produced a potentially valuable opportunity for woodland enterprises and so the timber was advertised as '*admirably adapted for Railway Sleepers' as well as 'Street Paving, Ship building, and for Country*

[208] *St James' Chronicle or the British Evening Post* (London, England), June 14, 1788 – June 17, 1788; Issue 4228; Gale Document Number: ZZ001309728
[209] Amount of timber estimated for an annual value of £500 (Scots)
[210] Stewart, M. 2005. Using the Woods, 1600-1850 (2) Managing for Profit. *In:* Smout, T.C. (ed.) *People and Woods in Scotland: A History.* Edinburgh, p.105.
[211] *National Archives of Scotland* GD248/709/5/51
[212] Bulloch, J.M. 1908. *The Earls of Aboyne,* p.24; "Advertisements & Notices" *The Aberdeen Journal* (Aberdeen, Scotland), Wednesday, August 7, 1811; Issue 3317; Gale Document Number: BA3205618127 – The Brigantine, named 'the Countess of Aboyne,' was captured in 1797 by the French.
[213] "Advertisements & Notices" *The Aberdeen Journal* (Aberdeen, Scotland), Wednesday, November 30, 1808; Issue 3177; Gale Document Number: BA3205616416; Smout, T.C. *et al.* 2005. *Native Woodlands of Scotland*, pp.221-2.
[214] *The Morning Chronicle* (London, England), Tuesday, February 28, 1809; Issue 12418; Gale Document Number: BB3207105826
[215] *Caledonian Mercury* (Edinburgh, Scotland), Thursday, June 14, 1810; Issue 13804; Gale Document Number: BB3205356543
[216] *National Archives of Scotland* GD312/37/1
[217] Wilson, Rev. J. 1896. Gazetteer, p.31.

purposes'.[218] It was at this time that the 'wood railway' was constructed from Auldroy to the forest. It is probable that such a course of action was the result of George, 5th Earl of Aboyne and 11th Marquis of Huntly, having being sequestered in 1839 and forced to leave the running of the Aboyne estate to a board of Trustees, who began a number of ruthless initiatives to restore its tattered finances.[219] Elsewhere in the country, the expansion of railway networks granted access to previously un-reachable tracts of woodland with substantial benefits for their owners but with disastrous consequence for the total forest cover of Scotland.[220] If the Trustee's aim was to revive the Marquis' capital they were unsuccessful as the added expense of transportation cost nearly as much as the whole venture generated.[221] Reviewing the estimated age of plantations in a report from 1878, the areas of Glentanar cleared in the early 1840s were around Craigendinnie hill, Knockie hill and Bush, all of which were noted as being around forty years old at the time of the account and notably situated near the mouth of the glen.[222] As an indication of the level of operations a year later in 1842, *the Aberdeen Journal* announced that two saw-millers were urgently needed, as well as 20 or 30 draught horses and an unspecified number of sawyers, all of whom were to be housed in specially-built accommodation.[223]

Visiting in September 1843, William MacGillivray was disappointed to note that little remained of Glentanar's famed pinewoods.[224] Similarly, the New Statistical Accounts noted that a great deal of the glen's former woodland was very open but held the potential to regenerate given the proper conditions such as enclosing felled land.[225] The activities surrounding the clear-cutting of Glentanar lasted until 1845, when it was made known that all the equipment and the '*substantial-built Wood Cottages with brick chimneys, now standing at the Saw Mills*' would be sold at auction later that year.[226]

Throughout Speyside the extraction of timber from the surrounding woodland became a principal industry and wood merchants were sold pre-agreed numbers of standing trees generating employment amongst local men as extraction teams.[227] Estate commissioner, Thomas Bruce estimated that upon his arrival in Strathspey in 1853 only a tenth of the estate's former woodland still existed, the rest having been cut down by the 7th Earl of Seafield. Accounts from the 1850s note that all easily accessible timber had been cleared by that time and mobile steam-powered sawmills were widely used in the area.[228] It is significant of the Speyside region's and the Seafield family's position within Scotland's woodland history, that when the Scottish Arboricultural Society was founded in 1854, Francis-William Grant was named its first President and its opening address was made by the estate's Wood Commissioner, James Brown, who supported experimentation with new

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[218] "Advertisements & Notices" *The Aberdeen Journal* (Aberdeen, Scotland), Wednesday, February 24, 1841; Issue 4859; Gale Document Number: BA320564479

[219] Bulloch, J.M. 1908. *The Earls of Aboyne,* p.31; Beesly, A.H. 1873. Deer Forests, p.744 – Accusations against the Trustees originated in the Aberdeen Free Press.

[220] Foot, D. 2003. The Twentieth Century: Forestry Takes Off. *In:* Smout T.C. (ed.), *People and Woods in Scotland: A History.* Edinburgh, p.159.

[221] Wilson, Rev. J. 1896. Gazetteer, p.31.

[222] *National Archives of Scotland* GD312/12/15, f.10 – (copy) Report by Mr. A. Edmond on Certain Matters Connected with the Aboyne Estates, December 1878

[223] "Advertisements & Notices" *The Aberdeen Journal* (Aberdeen, Scotland), Wednesday, April 6, 1842; Issue 4917; Gale Document Number: BA3205646028

[224] Lankester, E. (ed.) 1855. *Natural History of Dee Side,* pp.293-4.

[225] *New Statistical Accounts of Scotland*, Accounts of 1834-45, Volume 12: County of StA S.2.12.1.M.Aberdeen, p.1053.

[226] "Advertisements & Notices" *The Aberdeen Journal* (Aberdeen, Scotland), Wednesday, 25th March, 1845; Issue 5072; Gale Document Number: BA3205649558

[227] Dunlop, B.M.S. 1997. The Woods of Strathspey in the Nineteenth and Twentieth Centuries. *In:* Smout T.C. (ed.) *Scottish Woodland History.* Edinburgh, p.178; *Report of Her Majesty's Commissioners* 1884, p.3012.

[228] Dunlop, B.M.S. 1997. The Woods of Strathspey, p.177.

species.[229] When the Forestry Commission was established in 1919 it drew much of its early management policies from those developed by the society since the 1850s.[230] From early in the 19th century, introduction of new species such as the Sitka Spruce and the Douglas Fir by David Douglas following his return from the Americas in 1827, were milestone events for Scottish forestry as they came to dominate Scottish woodland management in the 20th century given the species' productivity and ability to survive the harsh climate and acidic soils.[231]

As noted above (p29), Bruce concluded that the lands flanking the Spey were better suited to plantations rather than agriculture and so had new plantations enclosed and ordered that the remaining semi-natural woodland be completely replaced by closely managed monocultures.[232] From 1853, sheep were excluded to protect planted trees until they reached 12-15 feet in height; thinning every five or six years controlled competition for nutrients, affecting the quality of timber. It is observable that by enclosing plantations or natural forests of birch or pinewood, natural regeneration declines once sufficient canopy has been established due to the level of competition for resources.[233] Furthermore, restricting grazing pressures within young plantations impacted adversely on shrub communities. Because of its estate, Glentanar's woodland received less protection from grazing, sheep were granted considerably more access to reserves. There is, therefore, little evidence of regeneration within the woodland before sheep were evicted alongside tenants in the 1840s.[234] Thereafter increasing red deer numbers continued to restrict regrowth until they were expelled in 1936.

Over 30 years £83,000 was spent on planting and enclosing woodland near Aviemore, generating some £200,000 in return. A newspaper article published in October 1883 proudly claims the plantation of Aviemore as '*undoubtedly the largest enclosed plantation in Scotland, if not in the world'* containing twenty million trees spread across 24,000 acres.[235]A comparison of Brown's map where Aviemore's Milltown is entirely devoid of trees and later OS publications show a truly remarkable transformation of the village's wood cover; testament to the scale of planting. It is understandable that the estate should have enthusiastically supported planting in the 1850s. Not only were they beginning to see a profitable income from the maturing crops established by Sir James earlier in the century but expanding railway networks provided an unprecedented market for timber.[236] Due to the route chosen for the Perth to Inverness line of the Great Highland Railway, following the line of General Wade's road north, the landowners of Badenoch and Strathspey were guaranteed a monopoly over trade whilst construction was underway in those districts. The

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[229] Foot, D. 2003. Forestry Takes Off, p.159; Lawson G. (ed.), 1858. *Transactions of the Scottish Arbocultural Society (Vol. I)*. Edinburgh, pp.1-7.

[230] In his opening address Brown advocated drawing on the knowledge of foresters from across Britain to aid study of best-practice economic woodland management, concentrating on topics from thinning and pruning to drainage and experimentation with new species such as the Deodar Cedar, the Douglas Fir, the Morinda Spruce, the Corsican Pine, the Monterey Pine and the Monkey Puzzle Tree.

[231] House, S. & C. Dingwall, C. 2005. A Nation of Planters': Introducing the New Trees, 1650 – 1900. *In:* Smout, T.C. (ed.) *People and Woods in Scotland: A History.* Edinburgh, pp.147-8.

[232] *Report of Her Majesty's Commissioners* 1884, p.3007.

[233] MacKenzie, N.A. & Callander, R.F. 1997. Birchwoods in a Deeside Parish. *In:* Smout, T.C. (ed.), *Scottish Woodland History*. Edinburgh, p.143; Brown I.R. & Wightman, A.D. 1988. The Birch Woodlands of Deeside, 1947-1985 – A Declining Resource? *Scottish Forestry,* 42, p.93.

[234] Steven, H.M. & Carlisle, A. 1959. *Native Pinewoods,* p.99.

[235] "Among the Trees of Strathspey" *Aberdeen Weekly Journal* (Aberdeen, Scotland), Friday, October 26, 1883; Issue 8956; Gale Document Number: BA3205765741

[236] Dunlop, B.M.S. 1997. The Woods of Strathspey, p.178.

construction of railways across Scotland from coast to coast entirely replaced the act of floating as the principal means for transporting timber.[237]

Despite attempts to protect British woodland for commercial enterprise, economic and environmental conditions were deteriorating, culminating in the Government's decision in 1866 to remove the duty on foreign timber imports, drastically reducing the value of existing Scottish plantations.[238] As imports from the Americas and the Baltic in particular were cheaper to transport by ship than native stock was by train, the preservation of British woodland declined, opening it to threats from which it had previously been protected.[239] From this time the growth of shooting estates in Scotland increased substantially, and forestry became a lesser concern amongst the pursuits of Highland gentlemen to the extent that for a short time the floating of timber between 15 May and 26 August was banned by Act of Parliament to avoid interference with anglers.[240] Smout argues that this decline in the value of British woodland was more destructive to the forest-cover of Scotland than any previous exploitation at the hands of timber merchants and sheep farmers.[241]

Due to the scale of felling in the 1840s there are few developments of note concerning the woodland management of Glentanar until the 1880s by which point the restored plantations had 40 years' growth and were of a marketable age. The aforementioned 1878 report admits that the '*market at present offers no inducement for disposing of wood*' and an 1881 survey raised further concerns that the conditions of the current shooting lease of Glentanar limited the period and value of felling.[242] Despite these issues, the surveyor recommended '*the clearing of the wood in Glen Tanar which extends to many hundred acres of natural fir of various kinds*', a decision almost certainly supported by the heavily indentured Marquis of Huntly. In previous years, issues of transporting the timber had proven overly expensive and slow but when the glen was clear-felled for a second time in 1882 the Deeside Railway was operating between Aboyne and Aberdeen, allowing for a swift and simple extraction.[243] In the end 130,000 trees were sold to Messrs A. & G. Paterson from Glasgow.[244]

After this second case of clear-felling, the glen's focus on economic exploitation of woodland shifted to that of game preservation, the yearly rental from Sir William Cunliffe Brooks' long-term lease of Woodend Farm and the hunting Forest of Glentanar amounting to more than the regular sale of timber could ever hope to achieve.[245] In view of the Marquis of Huntly's gambling debts, renting the Forest was a better alternative. From his first visit, to his eventual purchasing of the Glentanar estate in 1890, Brooks initiated vast modifications to

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[237] Foot, D. 2003. Forestry Takes Off, p.159.
[238] Dunlop, B.M.S. 1997. The Woods of Strathspey, p.178.
[239] Mason, W.L., Hampson, A. & Edwards, C. (eds) 2004. *Managing the Pinewoods of Scotland,* p.47.
[240] Dunlop, B.M.S. 1997. The Woods of Strathspey, p.180. Floating was actually banned entirely when Lord Seafield was in residence at Castle Grant. Furthermore, the slow reduction in naval contracts began after the inaugural use of iron-clad ships in the American Civil War and the failure of charcoal and tanbark markets in the latter nineteenth century meant an end for the management of oakwoods. See Simmons, I.G. 2001. *An Environmental History of Great Britain,* p.153; Smout, T.C. & Watson, F. 1997. Exploiting Semi-Natural Woods, p.95.
[241] Smout, T.C. 1997. Highland Land-Use Before 1800, p.17.
[242] *National Archives of Scotland* GD312/12/15, *Report on the Woods Growing on the Estate of Aboyne*, f.10; *National Archives of Scotland* GD312/12/1 – Report on the Woods Growing on the Estate of Aboyne by I.G. Thomson, September 1881, f.1-14
[243] "Brechin" *The Dundee Courier & Angus and Northern Warder* (Dundee, Scotland), Tuesday, April 04, 1882; Issue 8958; Gale Document Number: R3213012482; Foot, D. 2003. Forestry Takes Off, p.159.
[244] "Brechin" *The Dundee Courier & Angus and Northern Warder* (Dundee, Scotland), Tuesday, April 04, 1882; Issue 8958; Gale Document Number: R3213012482
[245] In 1878 that tenancy was worth £2003, whereas the best estimates for the complete extraction of the glen's timber could only have reached a one-off £4,755 considering all of the restrictions noted.

the glen and its management.[246] The woods, however, were increasingly seen as the backdrop or the setting to the Highland Gentleman's retreat that he was building. It appears that Brooks was happy to recognise the significance that woodland management played in the estate's history but, true to the nature of the times he distorted that image into a romantic idyll. His sentiment was possibly inspired by Queen Victoria's decision to purchase the woods of Ballochbuie in 1878 to save it from destruction.[247] Waterparks and woodland walks were constructed, exotic trees were planted and for a time the commercial management of Glentanar's timber resources dwindled to nought.[248]

3.5 The Forestry Commission and two World Wars

At the turn of the 20th century woodland covered less than 5% of Scotland having suffered from centuries of abuse and necessitating radical management in the ensuing century.[249] Foot describes the period as one of 'neglect, exploitation, controversy, investment, politics and people'.[250] After Britain was opened to foreign imports in 1866, the pressure on native woodland had declined and the country became increasingly dependent on overseas stock, particularly from Russia, Sweden and France.[251] Disruptions to shipping lanes during the First World War returned the focus to Scotland's forests, many of which had suffered from the grazing of sheep and deer. The war effort consumed Scottish woodland regardless and forced the expansion of forestry into the last remaining reserves. Over 5,000 acres alone were felled from the Grant's Strathspey estate, with German prisoners employed as a labour force, and a further 1,000 acres were accidently burnt during the process.[252] The desperate shortage of British timber supplies in World War I was so acute that it prompted the establishment of the Forestry Commission in 1919 following the recommendations of the 1918 Acland Committee.[253] In recognition of the history of its woodland management, a number of Scottish forestry experts were included in its evolution. Immediately following its founding, the Commission began to purchase estates such as Glenmore in 1923 for its afforestation schemes, a task made cheaper by the economic depression of the 1920s.[254]

The activities of the Commission prior to 1945 came to dominate the rural landscape and its focus on swift reforestation took priority over environmentally sensitive approaches. Kirby accuses the Commission of abandoning popular forms of management that had been developed over the preceding centuries for schemes that supported fast growing

[246] Fouin, F.L.P. 2004. *Glentanar Exile,* p.85.

[247] Steven, H.M. & Carlisle, A. 1959. *Native Pinewoods,* p.93. Shortly before it was felled in 1882, the surveyor wrote of the plantation at Knockie wood that to *'cut what is mature and leave the thriving portions would present unseemly gaps and thus interfere with the beauty of the glen...'* See *National Archives of Scotland* GD312/12/1, f. 2

[248] Land Use Consultants, *An Inventory of Gardens and Designed Landscapes in Scotland : a report to Countryside Commission for Scotland and Historic Buildings and Monuments Directorate, Volume 3: Highlands, Orkney and Grampian (Perth, 1987)*, p.229.

[249] Mackey, E.C. 2002. Scotland in a European Context: Environmental and Natural heritage Trends. *In:* Usher, M.B., Mackey, E.C. & Curran, J.C. (eds) *The State of Scotland's Environment and Natural Heritage*. Edinburgh, p.12.

[250] Foot, D. 2003. Forestry Takes Off, p.158.

[251] Ministry of Reconstruction: Reconstruction Committee; Forestry Sub-Committee; Final Report (London, 1918), pp.14-7.

[252] Dunlop, B.M.S. 1997. The Woods of Strathspey. p181; Barron, H. (ed.) 1985. *The Third Statistical Account of Scotland: the County of Inverness*. Edinburgh, p.273.

[253] Foot, D. 2003. Forestry Takes Off, pp.163-4.; Ministry of Reconstruction: Reconstruction Committee; Forestry Sub-Committee; Final Report (1918).

[254] Foot, D. 2003. Forestry Takes Off, p.165; Mason, W.L., Hampson, A. & Edwards, C. (eds) 2004. *Managing the Pinewoods of Scotland,* p.57. Many of the early purchases by the Forestry Commission were of estates with much existing woodland.

plantations.[255] The Forestry Commission began operating in Aberdeenshire in the 1920s employing 200 men in the process.[256] Due to its poor soils, Deeside was planted predominantly with Scots pine in contrast to the neighbouring Donside, where spruces and larches were favoured. Reserves were many years from being mature enough for practical purposes when war loomed in the 1930s, but a small measure for increasing the rate of regeneration was initiated in Glentanar when deer were excluded from the pinewoods in 1936 via an extensive fence network.[257]

Following the death of George Coat (1st Baron Glentanar and owner of Glentanar after Brooks), his son, Thomas, inherited an estate that was arguably at the fore of contemporary Highland woodland management and he was quick to take responsibility for safeguarding the forest's future.[258] Despite the conditions of the forest at the turn of the 20th century and the damage caused by forest fire in 1920, an estimated two million cubic feet of timber were identified for the war effort in the 1930s and in 1941 the 4th Unit of the Canadian Forestry Corps was dispatched to Glentanar to harvest it all.[259] By the time they were finished 3,155 tonnes of wood had been cut and removed primarily from the historic plantations rather than the native pinewoods.[260] Once the Canadian's had cleared an area, local boys were employed to collect fallen pinecones to help with the reforestation of those parts and Fouin describes Italian prisoners of war brought to the glen to work on the estate nursery.[261] At the height of extraction, a train load of timber is supposed to have left Deeside daily for Aberdeen.[262] In Strathspey a further 16,131 acres were felled between 1939 and 1945 adding to the enormous amount consumed by the Second World War.[263] Increasingly, however, following the First and then Second World War there was a realisation of the extent of the damage done to Scottish forests. The move towards the preservation and promotion of woodland cover in the latter half of the 20th century went through many phases but the identification of its perilous state was a strong driving force. '*Our land is so devastated that we might as well have been in a battlefield'* Frank Fraser Darling wrote in 1949, *'see the wreck of Glenfeshie, the Rothiemurchus that is no more…That is what deforestation has meant in our time'.*[264]

[255] Kirby, K.J. 1988. Conservation in British Woodland – Adopting Traditional Management to Modern Needs. *In:* Birks, H.H., Birks, H.J.B., Kaland, P.E. & Moe, D. (eds) *The Cultural Landscape: Past, Present and Future*. Cambridge, p.81.
[256] Hamilton, H. (ed.) 1960. The Third Statistical Account of Scotland, the County of Aberdeen. Glasgow, p.67.
[257] Steven, H.M. & Carlisle, A. 1959. *Native Pinewoods,* p.96.
[258] Thomas' leadership was quickly put to the test in 1920 when fire devastated Glentanar for eleven days and initiated an extensive regional response. Spreading from the nearby muirburn, around 4,000 acres of woodland were destroyed over two days, estimated at causing £100,000 worth of damage. At the height of the blaze, a strip of the Knockie Wood plantation was intentionally burnt to halt the progress of the main inferno from reaching the old scots pinewoods around Craigendinnie. See Hamilton, H. (ed.) 1960. *The Third Statistical Accounts of Scotland, the County of Aberdeen*. Glasgow, p.424; *Commons Sitting of Thursday, 17th June, 1920*, Fifth Series, Volume 130; Columns: p1417-1624; Land Use Consultants, 1987. *An Inventory,* p.229; "Deeside Forest Fire" *the Times* (London, England), Wednesday, June 16, 1920; Issue 42438; Gale Document Number: CS219877072; "25 Miles of Forest Ablaze" *the Times* (London, England), Thursday, June 17, 1920; Issue 42439; Gale Document Number: CS154603217; "Firefighters in Gas Masks" *the Times* (London, England), Friday, June 18, 1920; Issue 42440; Gale Document Number: CS219614930
[259] Wonders, W.C. 1991. *The 'Sawdust Fusiliers': the Canadian Forestry Corps In the Scottish Highlands in World War Two,* Montreal, p.22; Fouin, F.L.P. 2004. *Glentanar Exile,* p.106.
[260] Steven, H.M. & Carlisle, A. 1959. *Native Pinewoods,* p.96; Wonders, W.C. 1991. *Sawdust Fusiliers,* p.107 - Appendix C.
[261] Fouin, F.L.P. 2004. *Glentanar Exile,* p.128.
[262] Oliver, F. 1969. Deeside, p.10.
[263] Dunlop, B. M.S. 1997. The Woods of Strathspey, p.182.
[264] Foot, D. 2003. The Twentieth Century, p.175.

4. RECREATION

4.1 From ignorant barbarians to noble savages

Before the advent of the great Highland shooting estates that dominated the Victorian Scottish landscape, there are two significant themes in the 18th century that facilitated the development of tourism in the next: first, the construction of military roads that spread throughout upland Scotland, and second, the evolution of how the Highlands came to be viewed by outsiders. These two events formed the foundation for travel on the one hand and the social acceptability and fashion for enjoying the landscape of the erstwhile rebellious country on the other.

The construction of General Wade's military roads that connected Government outposts throughout the Highland region began in the 1720s and increased in scope and scale from the 1730s.[265] Lessons learnt following the 1745 Jacobite rebellion encouraged further building programmes that expanded the network of roads further into the Cairngorms and Grampian uplands, a feat that necessitated and which was complemented by the accurate and tactical mapping of the Highlands by General Roy.[266] The expansion of these military roads improved the level of access to formerly remote regions, including Braemar and western Deeside, and increased the flow of people, money and tradable goods into those areas. A Memorandum from 1746 for the post-rebellion development of Scotland noted that:

> *…the heads of the Shires of Banff and Aberdeen are surrounded with mountains and at present inaccessible to troops but by the Sea Coasts, a Road from Avemore thro the Grants country…to join the Aberdeen Road to Castletown at Charlestown of Aboyne would be of service.* [267]

The suggested course allowed for the navigation of the entire Cairngorm region and facilitated the spread of Government authority as well as modernising ideas and technology. Further proposals shortened the existing routes between the Lowlands and the Highlands allowing for faster movement of troops. By 1790 these roads are described as '*much improved and having grown populous*' so much so that it was believed they could be cared for by the shires they serviced '*without any further Expense to the Public*'.[268] The military roads were an enormous undertaking that saw lines of communication and transport criss-cross the entire Highland zone. The route from Inverness to Crieff through the Aviemore corridor alone covered 120 miles and included 270 bridges by 1798.

A more complicated transition was that which allowed the Highlands of Scotland to be accepted into mainstream Britain as anything other than barbaric and hostile. Much work has been produced regarding this shift and it is argued here that the defining event which initiated this period of changing opinions was, ironically, events in the aftermath of the Jacobite Rebellion itself.[269] Wade's military roads (**Figure 13**) symbolised the dominance and power of the Hanovarian government which, combined with post-1745 alarm and efforts to demilitarise the Clans, nearly destroyed the unique identity of the Highlands within a few

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[265] Smout, T.C. 2009. *Exploring Environmental History: Selected Essays.* Edinburgh, p.21; *Further Proceedings of the Lords Commissioners of His Majesty's Treasury, or in Consequence of Directions from them, Respecting Several Offices Concerned in the Receipt and Expenditure of the Public Money: In Addition to the Paper Presented to the House of Commons on the 12th January and 19th January 1798* (18th June 1799), p.39.

[266] Whittington, G. & Gibson, A.J.S. 1986. the Military Survey of Scotland, pp.6-10.

[267] *National Archives of Scotland* GD112/47/1/5 – *Memorandums Concerning the Highlands of Scotland, 1746.*

[268] *Further Proceedings* 1799, p.39.

[269] Burnett, J.A. 2011. *The Making of the Modern Scottish Highlands, 1939 – 1965.* Dublin, Chapters 2 and 3; Devine, T.M. 1998. *Clanship to Crofters' War.* Chapter 6.

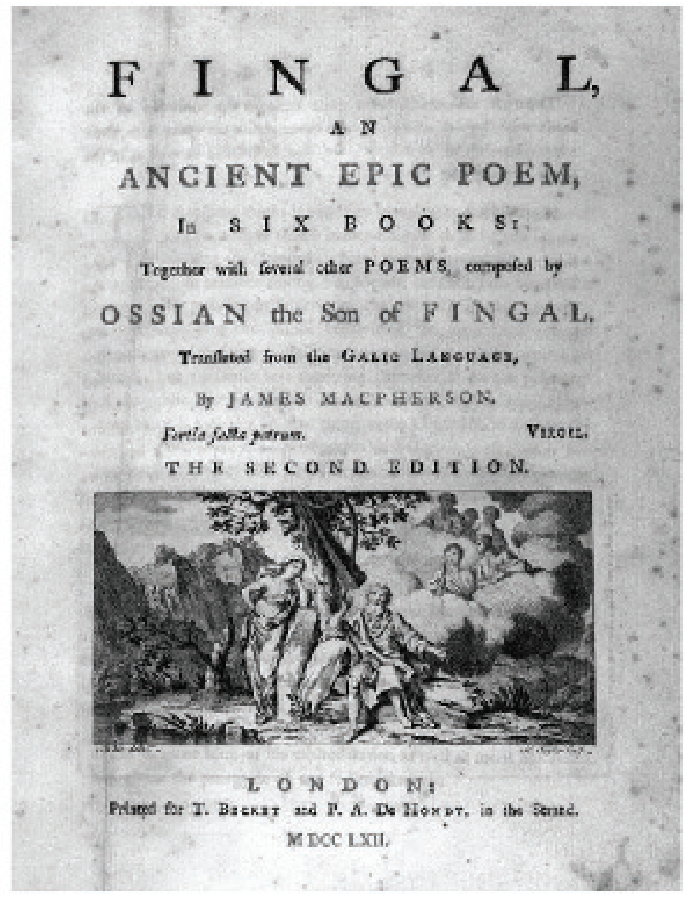
generations.[270] The roads did, however, facilitate growing volumes of traffic with all of its associated consequences. In many regards, Scotland and the Scottish people became the antithesis of contemporary notions of civilization; a view propagated by the visits of certain notable individuals who publicised their prejudiced descriptions of life and people in the countryside. In 1775, the famous Dr. Johnson described '*primitive manners*' occurring where '*the primitive language is spoken'*.[271] Burnett attributes much of this Scotophobia to the psychological desire to promote the supposed superiority of the Anglo-Saxon over the Celt.[272] As discussed above, this negative image also applied to the Highland scenery as the indigenous Highlanders were associated with their surroundings, the faults of one resonating in the other.

Figure 13. Invercauld Bridge was the largest of the military road bridges. Built in 1752 by General Wade's successor, Major William Caulfield. © Royal Commission on the Ancient and Historical Monuments of Scotland. Licensor www.scran.ac.uk.

The transformation of this view was occasioned by the revolution of attitudes towards the entire British countryside beginning in the early 18th century. The perceived simplicities of rural life presented an environment in contrast to the realities of increasing urbanisation and early industrialisation.[273] As it came into increasing levels of comparison with European examples, a result of growing numbers of British aristocracy touring through the continent, the Scottish "wilderness" was identified as a native equivalent. *'[S]ince I saw the Alps'* Thomas Gray wrote of his time in the Perthshire Highlands in 1765 *I have seen nothing*

[270] Colley, L. 2005. *Britons, Forging the Nation 1707 – 1837.* Reading, pp.119-20. It is worth noting, however, as Colley does that whilst the Clans were dismantled, an effort was made to foster their martial traditions in the service of the British crown.
[271] Johnson, Dr S. 1816. *A Journey*, pp.51-2.
[272] Burnett, J.A. 2011. *the Modern Scottish Highlands,* p.79.
[273] Andrews, M. 1990. *The Search for the Picturesque: Landscape Aesthetics and Tourism in Britain, 1760 – 1800.* Aldershot, p.5.

sublime till now'.[274] Complementing and fuelling the early development of Romantic writing and the desire to experience the Scottish landscape first-hand, was the supposed 'discovery' of Ossianic verse (**Figure 14**) by James MacPherson in 1760.[275] The so-called Homer of the Highlands produced a romantic but fictitious vision of the Highlands where men hunted and fought and were ennobled by their environment. This was an era supposedly akin to classical antiquity that had been lost to history. As Andrews argues, the evocation of a fictitious 'Golden Age' inspired the emerging generation of Romantics to travel in search of its remnants in Britain; due to their, remoteness many parts of Scotland were quickly identified and explored.[276]



FINGAL,
AN
ANCIENT EPIC POEM,
In SIX BOOKS:
Together with several other POEMS, composed by
OSSIAN the Son of FINGAL.
Translated from the GALIC LANGUAGE,
By JAMES MACPHERSON.
Fortia facta patrum. VIRGIL.
THE SECOND EDITION.

LONDON:
Printed for T. BECKET and P. A. DE HONDT, in the Strand.
MDCCLXII.

Figure 13. Front cover of the second edition of James MacPherson's Ossianic poem © Gaidhiel Alba / National Archives of Scotland. Licensor www.scran.ac.uk.

The development of the language used to describe the Scottish landscape indicates that attitudes were indeed changing. Writers such as Pennant in 1769 and Stoddart in 1801 sought to build bridges between the Scots and the English.[277] Concepts of appreciation were also introduced to the British public through the writings of the early Romantics. Reverend William Gilpin's*Three Essays*, published in 1792, concerning the identification of areas of scenic beauty and travel was a great success, the simple legacy of which can be observed through the common use of 'picturesque' to this day.[278] Similarly, Edmund Burke's writings in

[274] Mitford, Rev. J. (ed.), 1765. *The Works of Thomas Gray (Volume IV): Letters* (London, 1836), p.61. Thomas Gray to Dr. Wharton, September.

[275] MacPherson, J. 1881. *Fragments of Ancient Poetry Collected in the Highlands of Scotland, and Translated from the Gaelic or Erse Language: 1760.* Edinburgh.

[276] Andrews, M. 1990. *The Search for the Picturesque*, p.5.

[277] Pennant, T. 1776. *A Tour in Scotland (Fourth Edition).* London; Stoddart, J. 1801. *Remarks on Local Scenery and manners in Scotland During the years 1799 and 1800 (Volume I and II).* London.

[278] Gilpin, W. 1792. *Three Essays: on picturesque beauty; on picturesque travel; and on sketching landscape:to which is added a poem, on landscape painting.* London.

1756 inspired his generation to regard nature as 'sublime' in itself, independent from the activities of man.[279] He advocated that beauty was inherent in the fear that the natural world could generate, a theme that was subscribed to in varying forms throughout the 19th century. In time, the Highlands of Scotland came to be viewed not as a barren landscape but with a sense of awe and majesty, exemplified again by Gray:

> *I am returned from Scotland charmed with my expedition, it is of the Highlands I speak; the Lowlands are worth seeing once, but the mountains are ecstatic, and ought to be visited in pilgrimage once a year. None but these monstrous creatures of God know how to join so much beauty with so much horror.* [280]

To such admiration was added an element of mysticism that complemented the notion of lost grandeur. Dorothy Wordsworth recounted the views of her brother after their sighting of a young boy in 1803, wrapped in simple plaid calling his cattle home from misty hills as '*containing in itself the whole history of the Highlander's life – his melancholy, his simplicity, his poverty, his superstition, and above all, that visionariness which results from a communion with the otherworldliness of nature'*.[281] In the space of half a century, southern views of the Highlanders transformed from that of the lazy barbarian and his barren landscape towards that of the noble savage and his beautiful wilderness. Although anthropogenic studies of the Highlands continued into the 19th century, arguing that some parts of Scotland were experiencing social degeneration, there was a revolution of southern opinions, which were enthusiastically supported by former Clan Chiefs seeking to distance themselves from any negative associations.[282]

As the number of publications concerning the delights of the Highlands increased, so too did the general public's desire for more, and the inspiration for the wealthy to explore Scotland grow. The visits of certain contemporary celebrities acted as a model for future travelers, such as Robert Burns, who passed through Speyside in 1787, describing Aviemore as a 'wild spot'; and Lord Byron who wrote in the 1820s of his childhood at Ballaterach in Deeside, near Glentanar, where he lived in the 1790s.[283] Novels by Sir Walter Scott and paintings by artists such as Turner added further embellishments to the projected image of Scotland. The *pièce de résistance*, as it were, was the tartan mania that accompanied the royal visit of George IV to Edinburgh in 1822 which marked decisively the acceptance of Highland culture and all its trappings, including its mythical landscape, into the British sphere.[284] Thereafter southern visitors travelled by coach or by ferry northwards to experience this mystic environment for themselves.

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[279] Smout, T.C. 2000. *Nature Contested*, pp.21-2.

[280] Mitford, Rev. J. (ed.) 1853. *The Correspondence of Thomas Gray and William Mason, To Which are Added Some Letters Addressed by Gray to the Rev. James Brown, DD*. London, Thomas Gray to William Mason, undated [1765], p.348.

[281] Knight, W. (ed.), 1904. *Journals of Dorothy Wordsworth (Volume II.* London, pp.13-4.

[282] Dalglish, C. 2002. Highland Rural Settlement Studies: A Critical History. *Proceeds of the Society of Antiquities of Scotland*, 132, p.478.

[283] Fraser, W. 1883. *The Chiefs of Grant (Volume I. Memoirs)*. Edinburgh, p.452-3; Fouin, F.L.P. 2010. *Glentanar, Valley of Echoes and Hidden Treasures*, p.122-3

[284] Burnett, J.A. 2011. *The Making of the Modern Scottish highlands,* p.65-6.

4.2 The 'antlered monarch'

It was such romantic images that drew early travelers to Scotland, usually Highland Perthshire, and which generated the early interest in sporting pursuits. Hunting came to symbolize the mastery of mankind over nature in much the same manner as 'improved' agriculture demonstrated his control. The initial penetration of such culture into the Cairngorms was through the interest of Colonel Thomas Thornton who first visited Rothiemurchus in either 1783 or 1784 as a guest of its owner, where he was delighted at the abundance of game and the freedom to pursue it.[285] Over the ensuing years, Thornton travelled to Strathspey many times with parties of friends and once his accounts were published in 1804 he is recognised as probably the first to generate interest in the Highlands' sporting potential amongst the wider public.[286] Before this occurrence, the concept of hunting as a paid-for sporting pleasure rather than either a necessity or an aristocratic right was unknown; 'novel' is how Wigan describes the concept.[287] Regardless, stalking deer, driving grouse and fishing for salmon became symbolic of the Highland gentry, an image that endures today. Sporting literature such as Scrope's 1839 *The Art of Hunting* was popular with British readers and was a means of sharing stories, management regimes and spreading the fashion.[288] Furthermore, advancements in gun technology, such as the first generation of breech loading shotguns in 1861, were significant steps in the development of Highland shooting.

Early in the 1800s the Earl of Aboyne followed the fashion for establishing hunting forests to cater to southern tastes.[289] However, the transformation of Glentanar from a traditionally mixed rural economy to one that revolved around recreational pursuits was slow and reflected strong financial incentives. Previously deer were protected in the glen but there was little effort to initiate changes to their management towards commercial intents.[290] Until forestry reserves were exhausted, the previously discussed level of woodland extraction was prioritised over any other land-use. It was not until the 1840s that Glentanar underwent the conclusive transition into a dedicated deer preserve and consolidated the landscape that survives today.

That transformation occurred under the guidance of the 9th Marquis of Huntly's Trustees.[291] Having been sequestered in 1839, the Marquis was forced to relinquish his superiority to his Executor Donald Lindsay in 1843 and the timing of events indicates that the economic returns from leasing the shooting rights were the decisive incentive for change.[292] It is

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[285] Lambert, R.A. 2001 *Contested Mountains*, pp.8-11; Lambert, R.A. 1999. In Search of Wilderness, Nature and Sport: the Visitor to Rothiemurchus, 1780 – 2000. *In:* Smout, T.C. & Lambert, R.A. (eds.) *Rothiemurchus: Nature and People on a Highland Estate, 1500 – 2000.* Dalkeith, pp.35-7.

[286] Thornton, Col. T. 1804. *A Sporting Tour Through the Northern Parts of England, and Great Part of the Highlands of Scotland.* London.

[287] Wigan, M. 1998. *The Scottish Highland Estate,* p.21. Prior to the privation of the landscape and its game, tenants were often allowed to kill a certain number of deer each year.

[288] Scrope, W. 1839. *The art of deer-stalking: illustrated by a narrative of a few days' sport in the forest of Atholl, with some account of the nature and habits of red deer, and a short description of the Scottish forests, legends, superstitions, stories of poachers and freebooters, &c. &c.* London.

[289] Fouin, F.L.P. 2010. *Glentanar*; *Valley of Echoes and Hidden Treasures*, p.104.

[290] Keith, G.S. 1811. *A General View*, p.395.

[291] Beesly, A.H. 1873. *Deer Forests,* p.744; Bulloch, J.M. 1908. *The Earls of Aboyn,* p.31. Bulloch describes the Marquis as a '*fine old bean of the Regency, carefully dressed to the last, and a good deal "made up"*' suggesting that he may well have desired to follow fashions of the day and establish a shooting estate in Glentanar (p.32).

[292] *National Archives of Scotland* GD181/74/5. A supposed eye-witness recounted in 1924 that: *'Lord Huntly, desiring a to extend his deer forest, constructed the road along the north bank of the Tanar, from a point near the Bridge of Ess as far as the shooting lodge, situated as at present. He then evicted all the tenants on the south side of the Tanar and sought to close the road on that side'.* See

unknown how many individual farms existed at this time but a number of crofts are described '*here and there all along the glen as far as Etnach and Corryvreagh*' and farms that remain on the south side of that forest today are only echoes of the fermtouns from which they draw their names. Few sources relating to these clearances survive but the Aberdeen Free Press reported that 'not fewer than forty families' were removed once their tenancies expired, along with an estimated 7,000 sheep, 7,000 goats, 200 cattle, and 28 horses.[293] Criticism in 1872 estimated that for a pair of deer to be shot on an annual basis '*50 sheep, four cattle, and a human family [had] to be dispossessed*'.[294] The remote farm at Etnach was used as a base of operations for shooting parties riding from Aboyne Castle with a road to transport carcasses back down the glen.[295] The head keeper, Robert Milne, described large parties with as many as 15 ponies loaded with panniers to carry dead game off the hills. When Queen Victoria travelled down the glen on 21 September 1861 she described Etnachas as a very lonely place despite the historic reality that it had once been a busy settlement.[296]

The developing fashion for hunting was assisted in the late 18th and early 19th century by climatic deterioration and the economic decline of rural communities described above. Due to contemporary fashions and significant market fluctuations, the number of Scottish deer forests increased rapidly from nine in the 1790s (including Cairngorms' Invercauld and Mar estates) to 99 in 1883 and peaked at 203 in 1912.[297] As the number of shooting estates increased to provide a 'playground' for Britain's elite, access to the land was reduced and an environment of exclusivity came to dominate the countryside.[298] To preserve such privileged activities, vigorous regimes of heather burning were conducted to foster suitable breeding conditions for game birds, predator control protected stock numbers and fences were constructed to control the movement of deer.[299] Consequently these landscapes are distinctly anthropogenic.

To promote the desired image of Highlandism, many landlords chose to redistribute their tenants into specially constructed villages. Clearing the landscape of people and agriculture allowed for an entirely controlled environment, one that was more consistent with the mythical image of Golden Age Scotland but which also protected game from any interference. A prominent example of this constructed ideal was the Duchess of Bedford's development of Glenfeshie in the 1830s into a secret retreat.[300] Under her instruction a programme of road building was initiated and the glen was dotted with small '*wooden and turf huts…among splendid fir-trees*' that were admired by many, including Queen Victoria.[301] Indulging in contemporary fashions to emulate perceived Scottish traditions, rowan trees

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National Archives of Scotland GD335/8/13 – *Copy of a Letter of 4th May 1924 from P. Harper, Esq., Aboyne to A.W. Russel, Esq., Edinburgh re Glen Tannar. 1924*, f. 2.

[293] Beesly, A.H. 1873 *Deer Forests*. p.744.

[294] "Letters to the Editor" *Glasgow Herald* (Glasgow, Scotland), Tuesday, September 10, 1872; Issue 10202; Gale Document Number: BA3207571016.

[295] *National Archives of Scotland* GD335/8/13/2 – *Notes by Mr Robert Milne, Queen's Road West: Aberdeen*, f. 1.

[296] Helps, A. (ed.), 1877. *Leaves from the Journal of Our Life in the Highlands, from 1848 to 1861 – Queen Victoria*. London, pp.150-1.

[297] Innes, J.L. 1983. Landuse Changes in the Scottish Highlands During the 19th Century: The Role of Pasture Degeneration. *Scottish Geographical Magazine,* 99:3, p.141; Wigan, M. 1998. *The Scottish Highland Estate*, p.20.

[298] Wightman, A., Higgans, P., Jarvie, G. & Nicol, P. 2002. The Cultural Politics of Hunting: Sporting Estates and Recreational Land Use in the Highlands and Islands of Scotland. *Culture, Sport, Society* 5:1, pp.54-5.

[299] Smout, T.C. 2000. *Nature Contested,* p.134; Richards, C. 2004. Grouse Shooting and its Landscape: the Management of Grouse Moors in Britain. *Anthropology Today,* 20:4, (Aug), p.12.

[300] Lambert, R.A. 2001. *Contested Mountains*, p.13.

[301] Helps, A. (ed.), 1868. *Leaves From the Journal of Our Life in the highlands, from 1848 to 1861 [&c. By Queen Victoria].* London, p.191.

were planted to ward off evil.[302] Elsewhere during the early 19th century, heavily indebted landowners were forced to sell their estates to the emerging nouveau rich from the industrialised south who, without the breeding to support their identity, conformed to the image of Highland gentry with gusto.[303] Due to the level of debt inherent within the Scottish aristocracy, land ownership in the 19th century underwent a dramatic over-haul with some 7,500 individual proprietors in the early decades reduced to 1,500 by 1870.[304]

Whilst it is notable that the establishment of a hunting preserve usually led to the eviction of local tenants, it is a point of interest whether these 'deer' clearances were induced by social, economic or ecological factors. One argument concerning the spread of deer forests in the late 1850s maintained that '*the proprietor of a deer forest has a moral right to turn his grounds to the use for which nature and situation adapt them'*, a stance typical of the Victorian psychology that demanded proper order and control but which also reflects the deterioration of existing agricultural and forestry conditions.[305] An article from 1872 argued that heather expansion onto grassland earlier in the century was to blame for the necessity of replacing sheep flocks and cattle herds.[306] However, Palmer *et al.* discuss the relationship between high densities of grazers such as sheep or deer and certain favourable vegetation noting that heather actually suffers when located near pastures by encouraging the expansion of mat-grasses.[307] Innes argues that possible ecological degeneration brought about by increased grazing pressures from sheep could not have occurred on a scale necessitating their removal, concluding instead that the reasons for these conversions were either social or economic.[308]

In the 1860s the sporting rental of the Scottish Highlands surpassed the value of its sheep farms and in 1874 Scotland's wool market collapsed followed a decade later by mutton and preceding a continuing decline in prices to the end of the century.[309] Improved refrigeration technology allowed imports from Australia and New Zealand to flood British markets undermining native produce.[310] Furthermore, policy that required the cost of building deer fences to protect crops on land shared between sporting tenants and farmers was often too expensive for the latter and forced many to abandon their leases. Beginning in the early 1880s the total area of deer forests increased from less than 2 millions acres to nearly 3.5 millions in 1912 supporting an estimated stock of 180,000 deer.[311]

Through the 1870s, the focus of Glentanar's management was unquestionably to preserve and promote the existence of game. Following the identification of vermin such as wildlife that interfered with hunters' experiences, species such as the pine marten were eradicated between 1870 and 1880.[312] Removing such species had consequences on local ecosystems

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[302] Fraser-Mackintosh, C. 1897. *Antiquarian Notes, Historical, Geological, and Social (Second Series): Inverness-shire Parish by Parish.* Inverness, p.408.
[303] Devine, T.M. 2006. *Clearance and Improvement*, p.226.
[304] Devine, T.M. 1994. *The Transformation of Rural Scotland*, p.30; Simmons, I.G. 2001. *An Environmental History of Great Britain,* p.62.
[305]Stewart, W.G. 1860. *Lectures on the Mountains; or, the Highlanders As They Were and as They Are*. London, p.258.
[306] "Latest News" *The Aberdeen Journal* (Aberdeen, Scotland), Wednesday, June 19, 1872; Issue 6493; Gale Document Number: BA3205705879.
[307] Palmer, S.C.F., Hester, A.J., Elston, D.A., Gordon I.J. & Hartley, S.E. 2003. The Perils of Having Tasty Neighbours: Grazing Impacts of Large Herbivores at Vegetation Boundaries. *Ecology,* 84:1, (Nov.), p.2884.
[308] Innes, J.L. 1983. Landuse Changes, pp.141-8.
[309] Wigan, M. 1998. *The Scottish Highland Estate.* p22; Smout, T.C. 2009. *Exploring environmental history,* p.27.
[310] Innes, J.L. 1983.Landuse Changes, pp.142-4.
[311] Darling, F.F. (ed.) 1955. *West Highland Survey.* p.178.
[312] Steven, H.M. & Carlisle, A. 1959. *Native Pinewoods,* pp.98-9.

and the decline of pine martens reduced pressure on their natural prey, red squirrels, which in turn increased the level of pine bark peeled by the squirrels for food with damaging effects for woodland health. To control the movements of the 'antlered monarch' and to protect farmland and plantations, an extensive line of wire fences was established in 1871 around the north, east and southern extremities of the forest.[313] In August 1873, following three days of shooting grouse, Glentanar was dubbed the most productive shooting estate in the north of Scotland for that year with a bag of 548½ brace and in September the glen was lauded as the best part of the Dee catchment for salmon fishing.[314]

Many Highland estates also complemented their emphasis on game preservation with sheep farming.[315] Combining the pressures of sheep and deer on isolated landscapes raises certain issues. Muirburning is one of the principal duties of shepherds and keepers alike but it is observable that as sheep favour young heather growth, the principal focus of their presence must be felt where gamekeepers and shepherds have been active, impacting on the preferred habitat of the grouse. It is estimated that the number of red-grouse shot between 1890 and 1990 dropped by 40%, a reduction that reflects declining conditions, expanding grassland and forestry activity.[316] Whilst deer forests were increasing rapidly at the turn of the 20th century their numbers began to decline after the First World War as many upland areas were restocked with livestock to provide for the war effort, starting a trend that continued beyond the 1940s.[317]

4.3 Balmorality and the Highland myth

In addition to hunters, the powerful combination of art, literature, prose, sport and recreation fuelled the fashion for Highland travel amongst wealthy, usually southern, visitors as Lord Cockburn observed in 1840:

> *The number of foreign, but chiefly of English, travellers is extraordinary. They fill every conveyance, and every inn, attracted by scenery, curiosity, superfluous time and wealth, and the fascination of Scott, while, attracted by grouse, the mansion-houses of half of our poor devils of Highland lairds are occupied by rich and titled Southrons. Even the students of Oxford and Cambridge come to the remote villages of Scotland in autumn to study!* [318]

Due to the improved road network, by the 1830s regular coach services were running from Edinburgh to Inverness carrying not just hunting parties but also groups of geologists and botanists too.[319]

The increasingly fashionable custom of travelling to the Highlands was given a significant Royal endorsement by the visit of Queen Victoria and Prince Albert to Blair Atholl in 1844,

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[313] "Glentanner" *The Aberdeen Journal* (Aberdeen, Scotland), Wednesday, May 17, 1871; Issue 6436; Gale Document Number: BA3205703502; Fouin, F.L.P. 2010. *Glentanar*, *Valley of Echoes and Hidden Treasures*, p.113.

[314] "The Moors" *The Aberdeen Journal* (Aberdeen, Scotland), Wednesday, August 20, 1873; issue 6554; Gale Document Number: BA3205708421; "Things in General" *The Aberdeen Journal* (Aberdeen, Scotland), Wednesday, 24 September, 1973; Issue 6559; Gale Document Number: BA3205708672.

[315] Wigan, M. 1998. *The Scottish Highland Estate,* p.53.

[316] Smout, T.C. 2000. *Nature Contested,* p.121, p.124.

[317] Wigan, M. 1998. *The Scottish Highland Estate*, p.23; Innes, J.L. 1983. Landuse Changes, p.141.

[318] Cockburn, Lord H. 1888. *Circuit Journeys,* p.83-4.

[319] Lambert, R.A. 2001. *Contested Mountains,* p.7. Reflecting popular Highland imagery, the coaches running through the Aviemore corridor in the early 1840s were named *Victor*, *Defiance*, *Rapid*, *RobRoy* and *LadyoftheLake*. See "Advertisements & Notices", *the Aberdeen Journal* (Aberdeen, Scotland), Wednesday, June 27, 1843; Issue 4407 – Gale Document Number: BA3205635914.

and the purchasing of Balmoral in 1852 as their summer residence consolidated the romantic 'Highland Myth'.[320] Their reconstruction of the castle set an example followed by many landowners. Royal patronage of Sir Edwin Landseer from 1849 supported the production of notable works of art that further propagated the image of an invented Highland landscape, contributing, as Pringle argues, to a distortion of Scotland's identity.[321] Such was its effectiveness that instances where the reality contradicted this image were often disbelieved or, at most, met with disappointment. These efforts were part of an attempt to revise historical prejudices lingering from the Jacobite Rebellion a century before but they produced a stereotypical 'shortbread tin' version of Scotland that lingers to this day. A quote from Victoria's journal regarding a commissioned painting reveals her approval of this glossed vision:

> *The Solitude, the sport, the Highlanders…will be, as Landseer says, a beautiful exemplification of peaceful times…It is quite a new conception, & I think the manner in which he has composed it, will be singularly dignified, poetical & totally novel, for no other Queen has ever enjoyed, what I am fortunate enough to enjoy in our peaceful happy life here.* [322]

To conform with fashions, many Highland landowners promoted 'cultural inventions' such as tartans, bagpipes and hunting.[323] With the Royal family modelling the new sense of 'Balmorality', the British elite, the nouveau rich and wealthy foreign magnates enshrined themselves in similar Highland estates, nested within an environment of isolation and newly-created traditions.[324]

4.4 Highland Inns, Houses and Retreats

It was because of the initial increased volume of traffic, following the expansion of military roads north, that Sir James Grant commissioned the construction of Aviemore inn in 1765.[325] Through the changing of attitudes and the development of deer forests and Highland retreats, the Inn grew to match the increasing number of visitors, and the use of the surrounding landscape changed accordingly. The inn depicted in 1770 (**Figure 15**) reflects the farming landscape surrounding it where the buildings were constructed around a central yard. By conditions of its lease in 1781, two acres were enclosed for the production of foodstuffs for guests and are depicted in the map from 1809.[326] Reflecting growing numbers of guests, a sketch plan from 1787 shows additions had been made to the original structure in the form of a large room and a new kitchen, increasing its ability to accommodate visitors.[327] Until the fashion for owning rural retreats remodelled the Highland landscape, early waves of visitors had to make do with the accommodation afforded by invitation from friendly lairds, inns, shepherd's houses and even summer shielings.[328] Conditions were

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[320] Wigan, M. 1998. *The Scottish Highland Estate,* p.21; Burnett, J.A. 2011. *The Making of the Modern Scottish Highlands, 1939 – 1965*. Dublin, pp.68-9. Burnett makes an interesting observation on the experience of Scotland in comparison to the rest of Europe in the mid-nineteenth century; that whereas revolution swept across the continent in1848, Britain experienced a benchmark of its ability to control it image and population. See also Pringle, T.R. 1988. The Privation of history: Landseer, Victoria and the Highland Myth. *In:* Cosgrove, D. & Daniels, S. (eds) *The Iconography of Landscape: Essays on the Symbolic Representation, Design and Use of Past Environments.* Cambridge, pp.142-57.

[321] Pringle, T.R. 1988. The Privation of history, p.143.

[322] Extract from the Journal of Queen Victoria transcribed in Pringle, T.R. 1988. The Privation of history, p.144.

[323] Wightman, A., Higgans, P., Jarvie, G. & Nicol, R. 2002. The Cultural Politics of Hunting, p.55.

[324] Burnett, J.A. 2011. *the Modern Scottish Highlands,* p.69.

[325] *National Archives of Scotland* GD248/448/2.

[326] *National Archives of Scotland* GD248/483/2.

[327] *National Archives of Scotland* GD248/355/3.

[328] Lambert, R.A. 2001. *Contested Mountains,* p.92.

crude and in the late 1790s the well-travelled Mrs Murray of Kensington described her experience at Aviemore:

> *… no sooner had I put my foot within the walls of that horrible house, then my heart sank; and I was glad to escape from its filth and smoke very early the next morning.* [329]

Figure 14. Detail of the Inn at Aviemore taken from Donald Stuart's 1770 survey of the Davoch of Bulladern.

When the lease was advertised in 1806, the area of land included for the supply of the inn's guests had increased to 340 acres.[330] On 31 October, Hugh Mackenzie, former butler to John Peter Grant of Rothiemurchus, and his wife took over the lease and refurbished the inn. Judging by the stocking of 'neat wines, foreign spirits & malt liquors of the best quality' their expected clientele included those with a taste for fine living.[331] Despite financial difficulties, the inn was passed to Hugh MacKenzie's son William and in 1842 it is described in one guide as comfortable, ideal for sportsmen and anglers as well as for tourists.[332]

When Lord Cockburn travelled through Aviemore in April 1839 he commented that the greatest improvement to the area would be a stately house.[333] In 1843 Charles Waterston, Manager of the Inverness-based Caledonian Banking Company replaced William MacKenzie as tenant of the inn and it is evident that under his direction efforts were made to shift the focus of land-use towards a privatisation of the countryside, providing for wealthy visitors.[334]

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[329] Murray, A. 1799. *A Companion and Useful Guide to the Beauties of Scotland*. London, p.212.
[330] "Advertisements & Notices", *Caledonian Mercury* (Edinburgh, Scotland), Thursday, march 13, 1806; Issue 13132; Gale Document Number: BB3205349167.
[331] "Advertisements & Notices", *Caledonian Mercury* (Edinburgh, Scotland), Thursday, July 24, 1806; Issue 13191; Gale Document Number: BB3205349699; *National Archives of Scotland* GD248/489/3.
[332] Anderson, G. & Anderson, P. 1842. *A Guide to the Highlands and Islands of Scotland.* Edinburgh, p.151.
[333] Cockburn, Lord H. 1889. *Circuit Journeys.,* pp.39-40.
[334] *National Archives of Scotland* GD248/489/3.

By the first edition of OS maps the inn at Aviemore no longer existed, replaced instead by 'Aviemore House'. A description published in 1859 explains that having been converted into a private home, general visitors to the area could not expect to procure accommodation, ponies or guides as before.[335] Instead, the shooting rental of the house and farm became available. Yet the area in question was never viable for the same form of development as more remote regions. Rather, because of the importance of the military roads winding north and its ease of access, Aviemore experienced first-hand the expansion of the Great Highland Railway that established it as one of Scotland's foremost destinations.

The development of the village as a recreational centre was aided substantially by its proximity to Rothiemurchus. Lambert's comprehensive study of the estate shows that it was one of the earliest areas of the Cairngorm region to experience the growth of interest described above.[336] From Colonel Thornton's visit in the 1780s, the hospitality of the Grants of Rothiemurchus was enjoyed by many and the area is described by contemporary sources throughout the period in question. The circulation of publicised material concerning the estate was a significant source of inspiration for successive generations of visitors and tourists. Elizabeth Grant, one of Rothiemurchus' most famous literary residents, enthralled readers after the publication of her journal in 1898 with tales of her trips to Speyside to stay at 'the Doune'.[337] Rothiemurchus' extensive woodland and the island castle of Loch an Eilein were viewed as the epitome of the 'picturesque' and the 'sublime', evocative of late 18th century Romantic imagery.

Prior to significant developments in Scotland's transport infrastructure in the 1830s, 40s and 50s the majority of visitors to the Highlands rarely travelled beyond Perth.[338] Once that milestone had been overcome and with the focus of the British public directed on Rothiemurchus and the Cairngorms in general, Aviemore was developed to receive growing numbers of incomers. The rebuilding of tenant's houses and the improvement of building materials between the 1850s and 1880s provided seasonal accommodation for many visitors and injected significant funds into the countryside.[339] By 1880 three hotels (**Figure 16**) had been constructed in the village and the rail network had been extended to Carrbridge and Boat of Garten.[340] Long-time visitor to Rothiemurchus, Hugh Macmillan described Aviemore and the rail tracks at the opening of the 20th century, depicting a '*row of new villas…built along the line and a modern hotel, with a noble background of hills and an incomparable view in front of the Cairngorm range…*'[341]

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[335] Black, C.D. 1859. *Black's Picturesque Tourist Book of Scotland (14th Edition)*. Edinburgh, p.504.
[336] Smout, T.C. & Lambert, R.A. (eds.) 1999. *Rothiemurchus: Nature and People on a Highland Estate, 1500 – 2000*. Dalkeith, Chapter 5; Lambert, R.A. 2001. *Contested Mountains*, Chapter 1 & 2.
[337] Lady Strachey (ed.) 1898. *Memoirs of a Highland Lady: the Autobiography of Elizabeth Grant of Rothiemurchus Afterwards Mrs. Smith of Baltiboys (Third Impression).* London.
[338] Lambert, R.A. 1999. In Search of Wilderness, p.40.
[339] *Report of Her Majesty's Commissioners* 1884, pp.3006-7.
[340] *Aberdeen Weekly Journal* (Aberdeen, Scotland), Tuesday, February 10, 1880; Issue 7795; Gale Document Number: BA3205731704; Barron, H. (ed.) 1985. *The Third Statistical Account of Scotland*, p.295.
[341] MacMillan, H. 1907. *Rothiemurchus.* London, p.8.

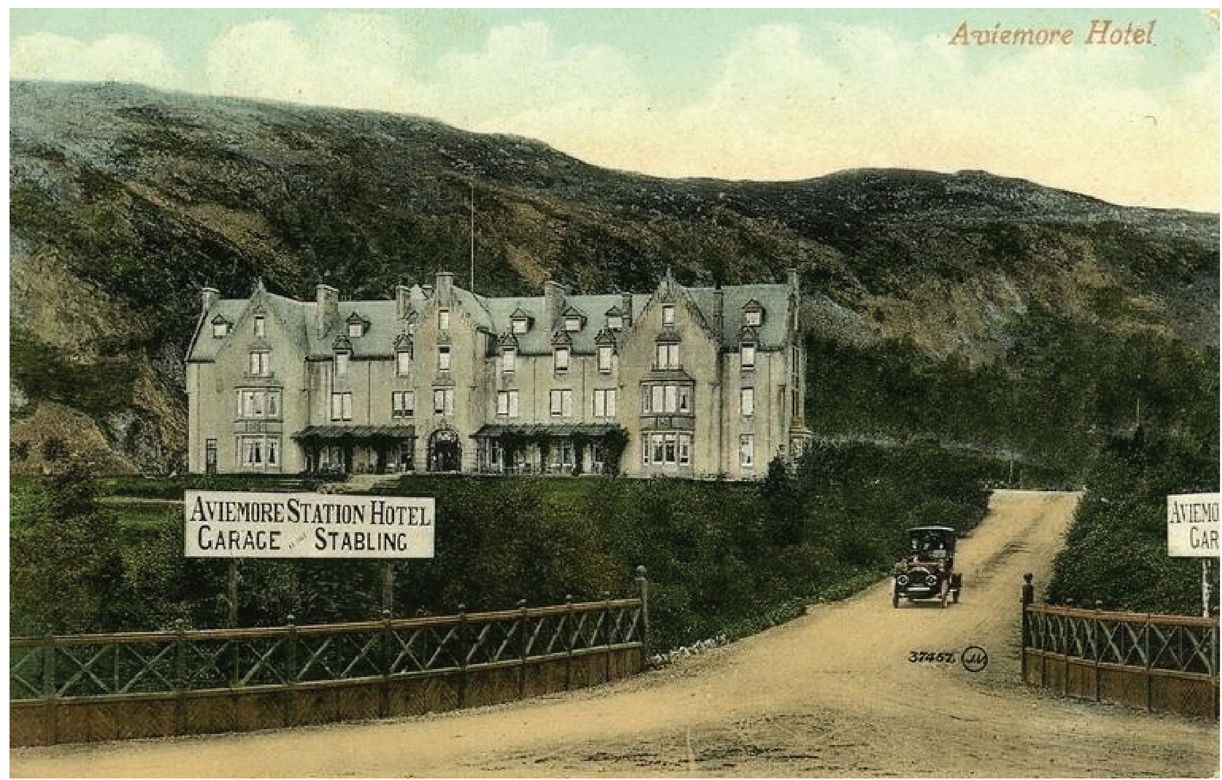

Figure 15. Postcard of the Aviemore station hotel from 1900 © Scottish Motor Museum Trust. Licensor www.scran.ac.uk.

Whilst Strathspey underwent enormous changes to its appearance and infrastructure, Glentanar was developed so as to promote an environment befitting a Highland Gentleman. On 14 July 1869 Charles, 11th Marquis of Huntly, married the eldest daughter of William Cunliffe Brooks, who was granted the long-term lease of Woodend and the Hunting Forest, initiating a period that ultimately redesigned the entire landscape of the glen.[342] At the time, shooting tenancies were secured for much lengthier durations than a few weeks common today, allowing tenants greater personal input into the land. With the aid of the architect George Truefitt and possibly the famous landscape designer Thomas Mawson, Brooks set about building his Highland retreat on the site of the farm of Woodend.[343] One contemporary claimed that the new tenant had been inspired to remake Glentanar from the example of Prince Albert at nearby Balmoral.[344] Over two decades he concentrated his relentless enthusiasm and considerable resources to create an environment of isolation and tranquillity with '*peculiar and exquisite taste'*.[345]

The construction of this model estate required a workforce of some 250 masons who produced the modern farm buildings and a number of small cottages to house staff. Even after work was completed, Brooks continued to employ a staff of 40 men for construction and maintenance, road and fence building and to '*reclaim wasteland*' as well as game keepers, shepherds and house staff.[346] When the first edition of 25 inch/mile OS maps were published

[342] Bulloch, J.M. 1908. *The Earls of Aboyne,* p.48; Paul, Rev. W. 1881. *Past and Present of Aberdeenshire, or, Reminiscences of Seventy Years*. Aberdeen, pp.101-2.

[343] Land Use Consultants, 1987. *An Inventory of Gardens and Designed Landscapes in Scotland, Volume 3: Highlands, Orkney and Grampian.* Perth, pp.228-9.

[344] McArthy, J. 1889. *The Deeside Guide: Descriptive and Traditionary.* Aberdeen, p.58.

[345] Fouin, F.L.P. 2004. *Glentanar Exile,* p.85; "The Excursions" *Aberdeen Weekly Journal* (Aberdeen, Scotland), Monday, September 24, 1877; Issue 7050; Fraser, A.S. 1977. *In Memory Long.* London, p30; Gale Document Number: BA3205719948

[346] Paul, Rev. W. 1881. *Past and Present of Aberdeenshire,* pp.101-2.

between 1900 and 1902 Woodend had been replaced by '*Glentana [sic.] House'*. Brooks also had the abandoned mill and farm at Braeloine demolished in 1871, its artificial mill lade filled in, and a chapel dedicated to St Lesmo built in its place with a heather-thatched roof, chairs made of deer-skin and with horn decorations all reflecting an image of rustic opulence.[347] Stone for the church was scavenged from the Gairdyne's old house at Braeloine.[348]

The economic returns to the Marquis of Huntly ensured that there was little competition within the glen for the prioritisation of hunting against the activities of forestry or agriculture; in the space of five years the annual rental generated by Brooks' lease increased from £1743 in 1873 to £2003 in 1878.[349] Such was the extent of Huntly's debts, however, that the Forest of Glentanar was sold to Brooks in 1890. Hunting and recreation increasingly dominated the landscape of the glen in the latter years of the 19th century and into the 20th. Reflecting a decline in the focus on forestry and agriculture, the shooting estate expanded from 20,000 acres in 1884 to 27,725 by 1920.[350] This growth can be attributed to the procuring of the estate by the cotton-magnate George Coats (later the first Baron Glentanar) for £155,000 from Sir William in 1905.[351] Under Coats, estate management was consolidated and the glen was isolated further. Whereas his predecessor had agreed to allow non-estate related traffic and visitors to use the road running to Etnach outside of the peak shooting months, there were complaints by walkers after Coats chose to close it, evidently having chosen to isolate the glen.[352]

4.5 The Great Highland Railway

The most significant development in the 19th century evolution of recreation in the Cairngorms, described as the *'greatest improvements to have taken place in the country*', was the building of the Great Highland Railway from Perth to Inverness.[353] Construction began in the early 1860s and Aviemore station was opened in August 1863 (**Figure 17**), the product of an extraordinary level of work with enormous environmental consequences. The most direct impacts are the extensive embankments built to support the rail tracks through the countryside. The twelve mile 'Aviemore contract' between the river Dulnain and Kinrara alone required an estimated 270,000 m^3 (300,000 cubic yards) of earth and gravel to be excavated and 14 bridges to be built, carving an enormous swathe through the land and causing additional disruptions to rural life by cutting off access to areas of pasture.[354] In addition, at the bend in the river Spey below Craigellachie a further 100,000 m^3 (110,000

[347] Mitchel, Sir A. & Clark, J.T. (eds) 1906 *Geographical Collections*, xv. An eccentric Victorian Highland Gentlemen Brooks even tried to rename the estate 'Glentana' but it never caught on, neither did his effort to name one of the new estate tracks 'Wilcebe' Road after his initials WCB and apparently he had mirrors placed in coops and stain-glass windows built into the pig styes. See Smith, R. 2001. *Land of the Lost*, p.163; Fouin, F.L.P. 2010. *Glentanar, Valley of Echoes and Hidden Treasures,* pp.155-6.

[348] Hamilton, H. (ed.) 1960. The Third Statistical Account of Scotland, the County of Aberdeen. Glasgow, p.426.

[349]*The Aberdeen Journal* (Aberdeen, Scotland), Wednesday, June 11, 1873; Issue 6544; Gale Document Number: BA3205708013; *National Archives of Scotland* GD312/12/15 – *(copy) Report by Mr A. Edmond on Certain Matters Cpnnected with the Aboyne Estates, December 1878*, f. 2.

[350] *Report of Her Majesty's Commissioners* 1884, p2838; *Report of the Departmental Committee, Appointed in November, 1919. To Enquire and Report with Regard to Lands in Scotland used as Deer Forests*. 1922, p.34.

[351] Fouin, F.L.P. 2004. *Glentanar Exile,* p.34.

[352] *National Archives of Scotland* GD335/8/13/2.

[353] *Report of Her Majesty's Commissioners* 1884, p.3006.

[354] "Advertisements & Notices", *the Aberdeen Journal* (Aberdeen, Scotland), Wednesday, March 19, 1862; Issue 5958; Gale Document Number: BA3205684104.

cubic yards) were extracted and 50 km (55,000 yards) of embankments constructed.[355] From July 1863 a workforce of some 3,000 men were involved in the operations around Aviemore.[356] With regular trains running, Speyside was connected to the rest of Britain on an entirely new scale allowing greater movement to and from the immediate countryside with localised impacts on the number of tourists and migrating workers, and marking the decline of timber-floating practices and seasonal droving patterns.

Due to the ease of access and the desire to experience the Highland myth that had so far been an elite privilege, visitors flooded to the area. In 1907 MacMillan wrote:

> *Aviemore is now a busy junction where innumerable trains in the summer months pass north and south, and passengers from all parts of the world meet each other on the platforms.* [357]

Figure 16. Photo of the Aviemore station taken around 1863 © St Andrew University Library. Licensor www.scran.ac.uk.

In August 1899 the Aviemore Station Hotel Company was founded by businessmen from across Britain, and significantly from Royal Deeside where hotels were numerous, eventually opening its doors to the public in 1901.[358]

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[355] "Advertisements & Notices", *the Aberdeen Journal* (Aberdeen, Scotland), Wednesday, September 11, 1863; Issue 3148; Gale Document Number: R3209210923.

[356] *The Aberdeen Journal* (Aberdeen, Scotland), Wednesday, July 1, 1863; Issue 6025; Gale Document Number: BA3205686676. The financial impact of their presence generated a spike in the regional economy; one shop-owner in Grantown-on-Spey reported selling over £400 worth of tobacco to labourers during the twelve months they stayed there. See *The Caledonian Mercury* (Edinburgh, Scotland), Saturday, August 29, 1863; Issue 23135; Gale Document Number: BB3205527488.

[357] MacMillan, H. 1907 *Rothiemurchus*, p.8.

[358] Lambert, R.A. 2001. *Contested Mountains,* pp.93-5. One method of recognising the increasing numbers of people arriving in Aviemore at the end of the nineteenth century is the number of churches existing to support them. Within easy reach of the village and its hotels in 1914 there were six places of worship for three denominations. See Anon., 1914. *A Pictoral and Descriptive Guide to*

4.6 Walkers, naturalists and cars

A significant theme apparent amidst the expansion of the Great Highland Railway and the proliferation of literature pertaining to subjects stemming from hunting to geology was that the north was attracting not just recreational sportsmen but naturalists too. In 1847 the famous Battle of Glen Tilt that marked the first legal debate for free access to the countryside was actually a confrontation between botanical students from the University of Edinburgh and the Duke of Atholl.[359] Efforts to understand and control the world in the seventeenth and eighteenth centuries encouraged generations of amateur and professional scientists to divide and categorise the landscape so that it could be better understood. Hence the partial dedication of many early guides to the natural history of the area they were concerned with, and the publication in 1843 of the first editions of the OS maps is indicative of this concern. By the 1870s extensive professional geological and naturalist surveys were being conducted in the Cairngorm region and in 1875 the Inverness Scientific Society and Field Club was established.[360]

Furthermore, it is evident that the Highlands were increasingly the destination of hill walkers and climbers. Burton's popular 1864 guide *the Cairngorm Mountains* asserted that '*if the proper day be chosen, and the right method adopted, the ascent of our grandest mountains is one of the simplest operations in all pedestrianism'*.[361] As growing numbers of people travelled to the Cairngorms conflict with private shooting estates was inevitable. The Association for the Protection of the Public Rights of Roadways and Footpaths was subsequently founded in March 1847, the predecessor of the Scottish Rights of Way Society (SRoWS).[362] Throughout the 19th century and the early years of the 20th, the SRoWS was instrumental in the struggle against the Highland estates to allow walkers freedom in the countryside. Early hikers were often obliged to contract local guides but over time it became common for walkers to approach the hills alone.

In 1888 the Cairngorm Club (CC) was created for the benefit of hikers, followed shortly by the Scottish Mountaineering Club (SMC) a year later.[363] The two organizations, however, had very different agenda. Whereas the SMC chose to act with '*respect'* for *'propriety and sporting rights'*, the CC politicised its campaign for access as is evident by their appointment of James Bryce MP for their first president, beginning the long process that led over a century later to the 2003 legislation of establishing Scottish National Parks.[364] Watson's analysis of paths in the Cairngorms shows that until the 1940s the majority of walkers followed traditional drovers routes or paths already existing, with only three examples of tracks being specially constructed for hiking.[365] Following the Second World War, however, that network of paths expanded dramatically.[366]

Aberdeen, Deeside, Donside, Strathspey, Cruden Bay, huntly, Benf, Elgin, Etc. (4th Edition). London, p.115.

359 Brooker, W.D. (ed.) 1988. *A Century of Scottish Mountaineering: An Anthology for the Scottish Mountaineering Club Journal*. Glasgow, p.16.

360 Lambert, R.A. 2001. *Contested Mountains,* p.20-1.

361 Burton, J.H. 1864. *The Cairngorm Mountains,* Edinburgh, p.1864, 6. Prior to its establishment as a Hunting Forest, the New Statistical Accounts noted that there were many visitors travelling to Glentanar simply to walk through the woods and into the hills for exercise. See *New Statistical Accounts of Scotland*, Accounts of 1834-45, Volume 12: County of StA S.2.12.1.M.Aberdeen, 1049.

362 Lambert, R.A. 2001*. Contested Mountains*, p.36.

363 Smout, T.C. 2000. *Nature Contested,* p.152; Brooker, W.D. (ed.) 1988. *A Century of Scottish Mountaineering*, p.9.

364 Stott, J.G. (ed.) 1890. *Scottish Mountaineering Club Journal*, Vol. 1, No. 1 (Jan.) - http://gdl.cdlr.strath.ac.uk/smcj/smcj001/smcj00102.htm, p.15.

365 Watson, A. 1984. Paths and People in the Cairngorms. *Scottish Geographical Magazine,* 100:3, pp151-9.

366 Watson estimated the length of paths on the Cairngorm plateau at different times as: 1890-1940 = 0km, 1952 = 0.6km, 1961 = 1.3km, 1973 = 7.2km, 1982 = 17.1km (see p. 156)

Figure 17. Postcard of the tea rooms at Aviemore and the roads that were 'excellent for motoring'. © St Andrew University Library. Licensor www.scran.ac.uk.

The number of travellers to the Cairngorms expanded further with the increase of car ownership in the early 20th century, a development that encouraged the consolidation and improvement of existing route-ways (**Figure 18**) supported and funded by local councils.[367] Media advancements in the form of firstly engravings and then photography were an ever-growing source of inspiration, replicating and spreading images of the Highlands throughout Britain.[368] Publications that recognised the benefit of increased mobility afforded by cars were instrumental in expanding this market. '*The roads, almost everywhere*' Blaikie wrote in 1932 '*are excellent for motoring'*.[369] After the decline of recreational excursions following the First World War and the depression of the 1920s, Aviemore was a shell of its former glory. Instead, the explosion of car-ownership, motorised coach services and road developments had altered the focus of the village towards catering for the new breed of holidaymakers, an unpopular occurrence for many of those who remembered the old days.[370]

[367] Lambert, R.A. 1999. In Search of Wilderness, p.48.
[368] Pringle, T.R. 1988. The Privation of history, p.154.
[369] Baikie, J. 1932. *Things Seen in the Scottish Highlands: a description of the beauty spots, historic buildings & romantic places of the Highlands of Scotland*. Seeley. It is worth noting that the map accompanying his guide showed Grantown-on-Spey but not Aviemore.
[370] Lambert, R.A. 2001. *Contested Mountains*, pp.92-9 & p.103.

5. CONCLUSION

5.1 The 20th Century: Industry versus conservation

The narrative behind the 1949 National Parks and Access to the Countryside Act that applied to England and Wales have been widely discussed and in great detail elsewhere.[371] What is important to note, however, is that in the first half of the 20th century the policy of the British Government to promote the economy of the Highlands came into sharp conflict with the evolving ideology of delight in the land and the associated desire to conserve the fragile post-First World War environment. The two dominant themes to emerge from this conflict were the necessity to protect and promote existing resources for the continued stability of economic extraction and the converse desire to conserve what was recognized as a rapidly deteriorating environment. Attempts to limit the damage to the countryside evolved from the lingering paradigm of rural perfection dating from the 18th century and has thus been termed a 'post-Romantic' ideal.[372] It is testament to the will of the Scottish Office that its plans for the Highlands in the inter-war period and beyond continued in the face of mounting opposition.[373] Efforts by the Forestry Commission and the North of Scotland Hydro-Electricity Board to develop large areas of Scotland for industrialization and to stem the outward flow of migration from the region were hugely unpopular leading to increasing instances of public resistance and demonstration.[374]

5.2 Post-War reconstructions and conservation patterns

Whilst intensive farming declined in the late 19th century, sheep farms were consolidated, their numbers increasing in density by 50% between 1875 and 1966 despite falling prices of Black-faced and Cheviot sheep before 1910.[375] This rise after 1918 is due to the restocking of the Highlands to help feed a post-war Britain, the same also occurring after 1945. Following the Second World War, however, agricultural conditions changed dramatically. Mechanization in the form of widespread introduction of the Standard Ferguson Tractor and the Combine Harvester may have revolutionised farming but also led to the end of large agricultural work forces.[376] From the late 1940s, the management of Scotland and the Cairngorms was dictated by the efforts of national reconstruction that prioritised social, agricultural and economic development whilst forcing forestry operations into marginal areas.[377] Consequently, the majority of afforestation schemes were conducted on moorland, characteristically acidic by nature. Soil quality and climatic variation are two principal limiting factors on the success of such plantings, forcing the Forestry Commission to focus their attentions entirely on spruce, pine and birch trees.[378]

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[371] For a brief summary read Sheail, J. 2001. The National Parks and Access to the Countryside Act of 1949 – Its Origins and Significance. *In:* Smout, T.C. (ed.) *Nature Landscape and People Since the Second World War.* East Linton, pp.1-12.

[372] Smout, T.C. 2009. *Exploring,* pp.44-5.

[373] The establishment of the Highlands and Islands Development Board in 1965 was intended to be a means of focusing initiatives in the region.MacKenzie, however, argues that efforts to industrialise the Scottish Highlands through schemes such as the paper mills at Fort William and the tourist industry at Aviemore were in fact merely token gestures on the road to restoring the entire Scottish economy and doomed to failure. See Magnusson, M. 1968. Highland Administration. *In:* Thompson, D.S. & Grimble, I. (eds) *The Future of the Highlands.* London, p.287; MacKenzie, N.G. 2006. "Chucking Buns Across the Fence?" Government-Sponsored Industry Development in the Scottish Highlands, 1945-1982. *In: Business and Economic History – Online,* p.4; Smout, T.C. 2000. *Nature Contested*, p.160.

[374] Smout, T.C. 2009. *Exploring,* p.34.

[375] Innes, J.L. 1983. Landuse Changes, p.142.

[376] Devine, T.M. 2006. *Scottish Nation,* pp.462-3.

[377] Mackey, E.C., Shewry, M.C. & Tudor, G.J. 1998. *Land Cover Change: Scotland from the 1940s to the 1980s*. Edinburgh, p.4; Mather, A.S. & Thomson, K.J. 1995. The Effects of Afforestation on Agriculture in Scotland. *Journal of Rural Studies,* 11:2, p.187.

[378] Mather, A.S. 1971. Problems of Afforestation in North Scotland. *Transactions of the Institute of British Geographers.* 54, (Nov), pp.19-21.

On 31 January 1953 an uncharacteristically fierce gale caused much damage (**Figure 19**) to woodland in the Cairngorms.[379] Interestingly the response to this event was remarkably similar to that observed in Glentanar in 1808. In 1953 a deal was struck with British Railways and the National Coal Board which both agreed to collect large portions of whatever timber could be gathered. Due to the remoteness of many affected areas this process relied more on man and horse-power than the recent technical advancements. Oliver explains that the expansion of forestry operations in Deeside increased dramatically after 1918 and 1945 reflecting the scale of damage to its woodlands following two World Wars, yet it was only after 1953 that the mechanization of the Forestry Commission was completed, allowing planting operations to expand onto formerly inaccessible land.[380] The regeneration of Scottish woodland was identified alongside hydro-electricity schemes for the industrial reconstruction of the Scottish Highlands. To this end, forestry villages were constructed across the Highlands, with amenities and public buildings, and were a common means of repopulation post-1945.[381]

Figure 18. The aftermath of the 1953 gale on the Ballogie estate, Aderbeenshire © Hulton getty. Licensor ww.scran.ac.uk.

Tourism was also seen as a significant sector to be developed for Highland prosperity.[382] Efforts by the Forestry Commission to provide areas of woodland for recreation sought to mediate between the necessities of industry and enjoyment of incoming visitors, leading to the establishment of National Forest Parks such as at Glenmore in 1946.[383] The use of forestry land for such purposes reflects three distinct themes; chiefly, that ideas and images

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[379] Hamilton, H. (ed.) 1960. The Third Statistical Account of Scotland, the County of Aberdeen. Glasgow, p.67; Steven H.M. & Carlisle, A. 1959. *Native Pinewoods,* p.96.
[380] Oliver, F. 1969. Deeside, p.12; Foot, D. 2003. Forestry Takes Off, p.177.
[381] Foot, D. 2003. Forestry Takes Off, p.177.
[382] Magnusson, M. 1968. Highlands Administration. *In:* Thomson, D.S. & Grimble, I. (eds.) *The Future of the Highlands.* London, p.281.
[383] Watson, A. 1984. Paths and People, p.151.

of woodland popular in the 18th and 19th century were still defining features of forestry management, that access to many upland areas was still reserved for a privileged few, and that available rural land was prioritised for agriculture or industry. As a successful private estate Glentanar was able to maintain its isolated environment and so avoided the initial impact of post-War regeneration. Whilst areas like Aviemore were extensively transformed, Glentanar continued to pursue the 'traditional' activities it had been practicing for over a hundred years.

5.3 Winter sports and the development of outdoor recreation

In 1907 the Scottish Ski Club had been founded to support growing numbers of skiers (**Figure 20**) and by the 1960s efforts in the Cairngorms were primarily concerned with the development of winter sports in Coire Cas.[384] Marking the establishment of the SCC the following statement was issued, indicative of many themes familiar from above:

> *…the greatest of all joys of skiing is the sense of limitless speed… Man is alone, gloriously alone against the inanimate universe …He alone is Man, for whose enjoyment and use Nature exists.* [385]

In 1965, Dower, one of the principal proponents for Scottish National Parks, identified 'tourism' as a distinct influence on the land.[386] Two World Wars had halted the development of any precursor to modern tourism but in the 1950s the focus of the Cairngorms, particularly Aviemore, had returned to it as a growth industry and the town was developed accordingly with hotels, shopping centres and roads.[387] Funding was supplied by the Government, though some developments were supported by local businesses, with hoteliers raising £5000 towards the building of the road to Coire na Ciste, and in 1965 the hotel complex at Coylum bridge was completed.[388]

Between 1961 and 1978 Aviemore received 47% of grants intended for developing tourism in the Strarthspey and Badenoch region, although it is interesting to note that in 1963 the Highlands and Islands Development Board (HIDB) refused the Cairngorm Winter Sports Development Board £50,000 worth of loans.[389] Regardless, the Cairngorm Chairlift Company's profits rose from £10,000 in 1962 to £1.8 million in 1984.[390] Of all the large-scale post-war developments for the Scottish Highlands, Aviemore was the only success, due to its transport infrastructure.[391] Tourism in the Cairngorms, flagshipped by Aviemore, was able to develop from the infrastructure put in place by the Winter Sports industry. Whilst the populations of upland regions were rapidly declining, after the road to Coire na Ciste was

[384] ASH Environmental Design Partnership, 1987. *Environmental Design and Management of Ski Areas in Scotland: A Practical Handbook*, p.13; Lambert, R.A. 2001. *Contested Mountains,* p.113.
[385] Smout, T.C. 1990. *The Highlands and the Roots of Green Consciousness, 1750 – 1990* (SNH Occasional Paper No.1), p.14.
[386] Sheail, J. 2001. The National Parks. p10-11; M. Dower, 'New Pressure on the Land: Recreation' in Smout, T.C. (ed.) 2001. *Nature, Landscape and People Since the Second World War*. East Linton, p.32.
[387] Countryside Commission for Scotland 1975. Speyside Report: Final Report. CCS Occasional Paper No. 6. Perth, p.3.
[388] *The Financial Times* (London, England), Wednesday, December 14, 1966; Edition 24,107; Gale Document Number: HSZ303804869; *The Financial Times* (London, England), Saturday, November 27, 1965; Edition 23,786.
[389] Getz, D. 1981. Tourism and Rural Settlement Policy. *Scottish Geographical Magazine.* 97:3, p.160; Magnusson, M, 1968. Highland Administration, p.281. It is highly probable that this was because investment in the industry was always a gamble given unpredictable climatic conditions.
[390] ASH Environmental Design Partnership 1987. *Environmental Design,* p.15.
[391] MacKenzie, N.G. 2006. "Chucking Buns Across the Fence?"

built and winter sports promoted, the population of Aviemore grew from 635 in 1961 to 1300 in 1976.[392]

Figure 19. Skiiers walking in search of snow in Glenmore, March 1960 © National Museums Scotland. Licensor www.scran.ac.uk.

5.4 The Cultural Landscape of the Cairngorms National Park

Through the course of this discussion a number of factors have been identified for their part in influencing changing land-use and land-management. In terms of environmental history it is perhaps most interesting that climatic factors have rarely been the sole catalyst for transforming the landscape. Economic and social conditions have also been shown to lie behind many of the events described above and in some regards those financial aspects have been argued to be more prominent agents in changing land-use than climatic fluctuations.[393] Furthermore, considering the prevalence of private estates that exists today it is also the case that picturesque, romantic views and the fashionable Balmorality of the 19th century have given the Cairngorms National Park much of its modern characteristic appearance.

However, whilst these conditions are significant on a regional scale and help to explain commonalities between sites across the Highlands, on a localised level there are many more variables of equal and greater distinction. Considering the examples of Aviemore and Glentanar it has been shown that population pressure, access (both transport and communication networks), availability of local resources such as fuel, pasture and building materials, and the underlying geological and environmental conditions of each site dictated the scale of agricultural improvement, forestry operations and recreational development. In

[392] Getz, D. 1981. Tourism, p.162.
[393] See Hanley, N. *et al. 2008.* Economic Determinants, pp.1557-1564.

addition and despite the oblique references to them made above, proprietary landowners and their input have also been extremely important throughout this discussion.

Bearing in mind each of these variables, it is interesting to observe how they influenced responses to the impact of climatic, economic or social variation across the region. The transformation of Scotland's rural landscape can arguably be measured through the reactions of rural settlements to each factor. Upheaval caused by agricultural revolution around Aviemore and Glentanar simply marginalised the rural population rather than swiftly improving their lives or the productivity of their farms, whilst economic and climatic deterioration exacerbated the situation. As has been shown, however, the gradual dispersal of new methods was ultimately characterised by issues such as the level of exposure of the populace to new ideas or the population dependent on local crops and potentially vulnerable to unsuccessful 'Improvement' gambles. Similarly, variations in woodland management were strongly influenced by the unique history of human interaction with local forestry reserves and there is a case to be made that there was a strong relationship between the market value of timber and the health of Scottish forests.

It is argued that considerations such as these must be included for a detailed comprehension of Scotland's environmental history. The manner and speed of the transformation of land-management since 1700 and the cultural landscapes associated, broadly distinguished into the three categories discussed, have produced the landscape of the Cairngorm National Park in a way that can be easily traced by the historian. In a landscape that has undergone as much disruption as Scotland's, such understandings may help to influence future management policies.

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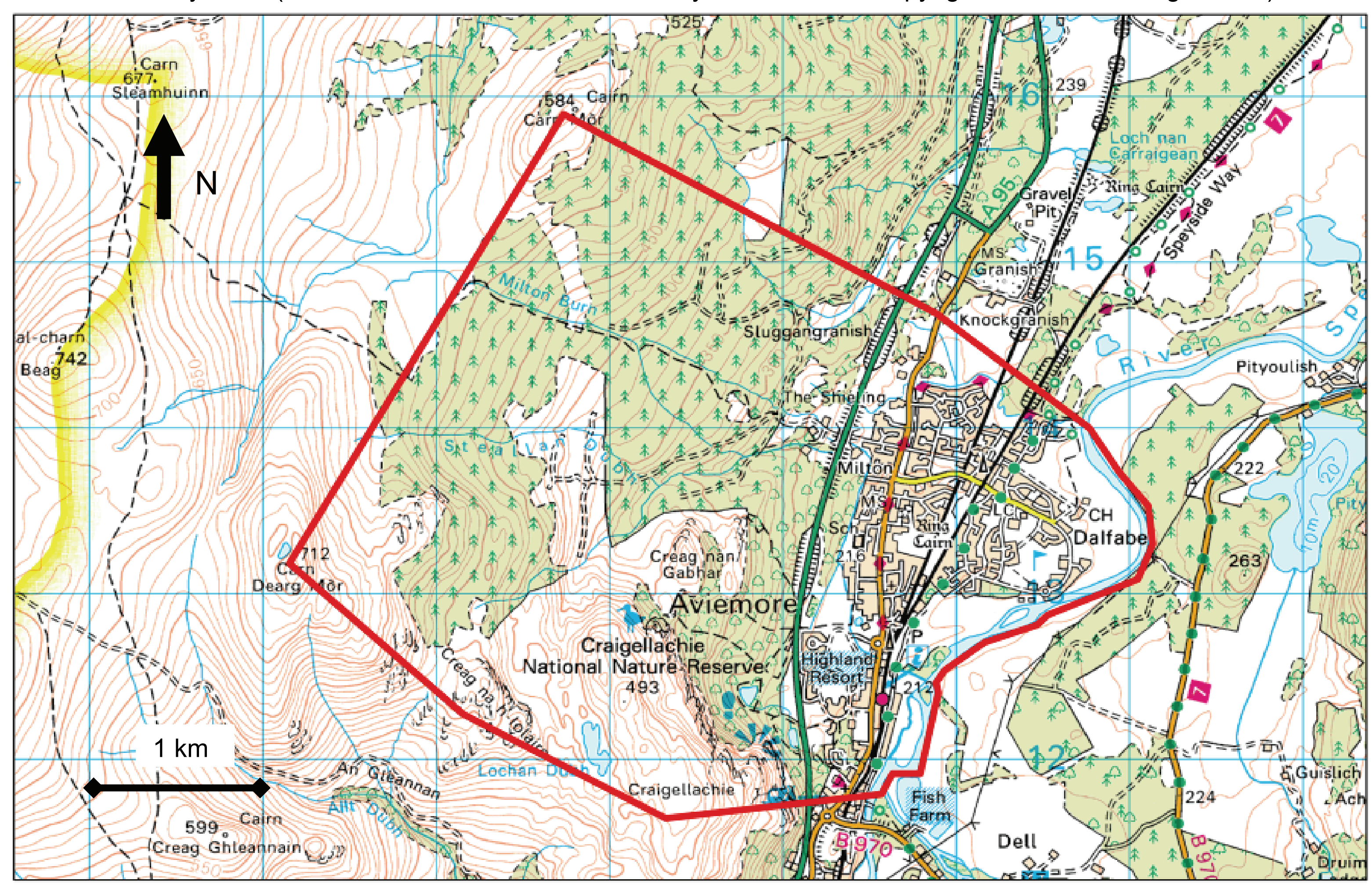
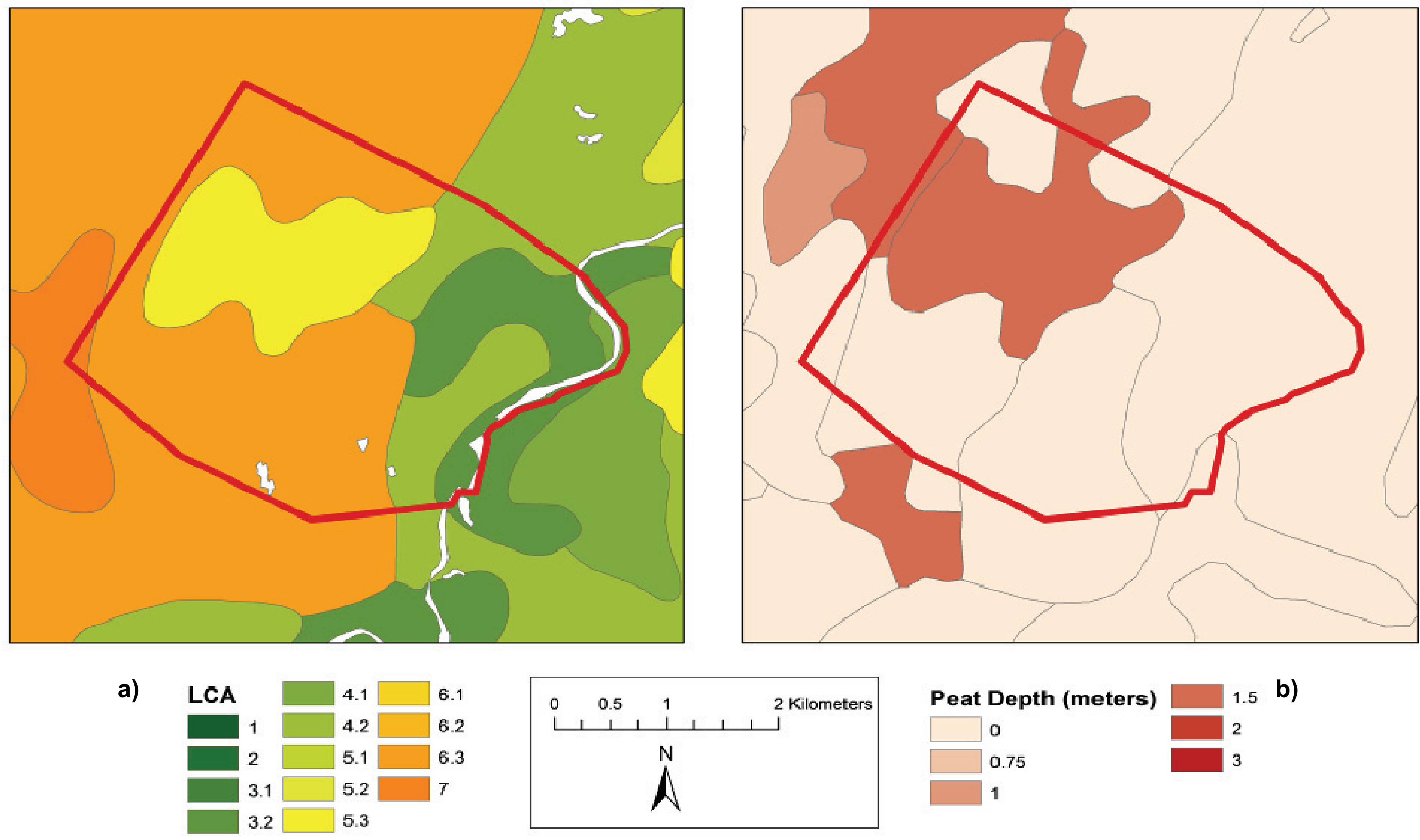
ANNEX 1: SITE 1 – AVIEMORE

Location of study area (based on 1:50,000 Ordnance Survey data © Crown copyright and database right 2011)



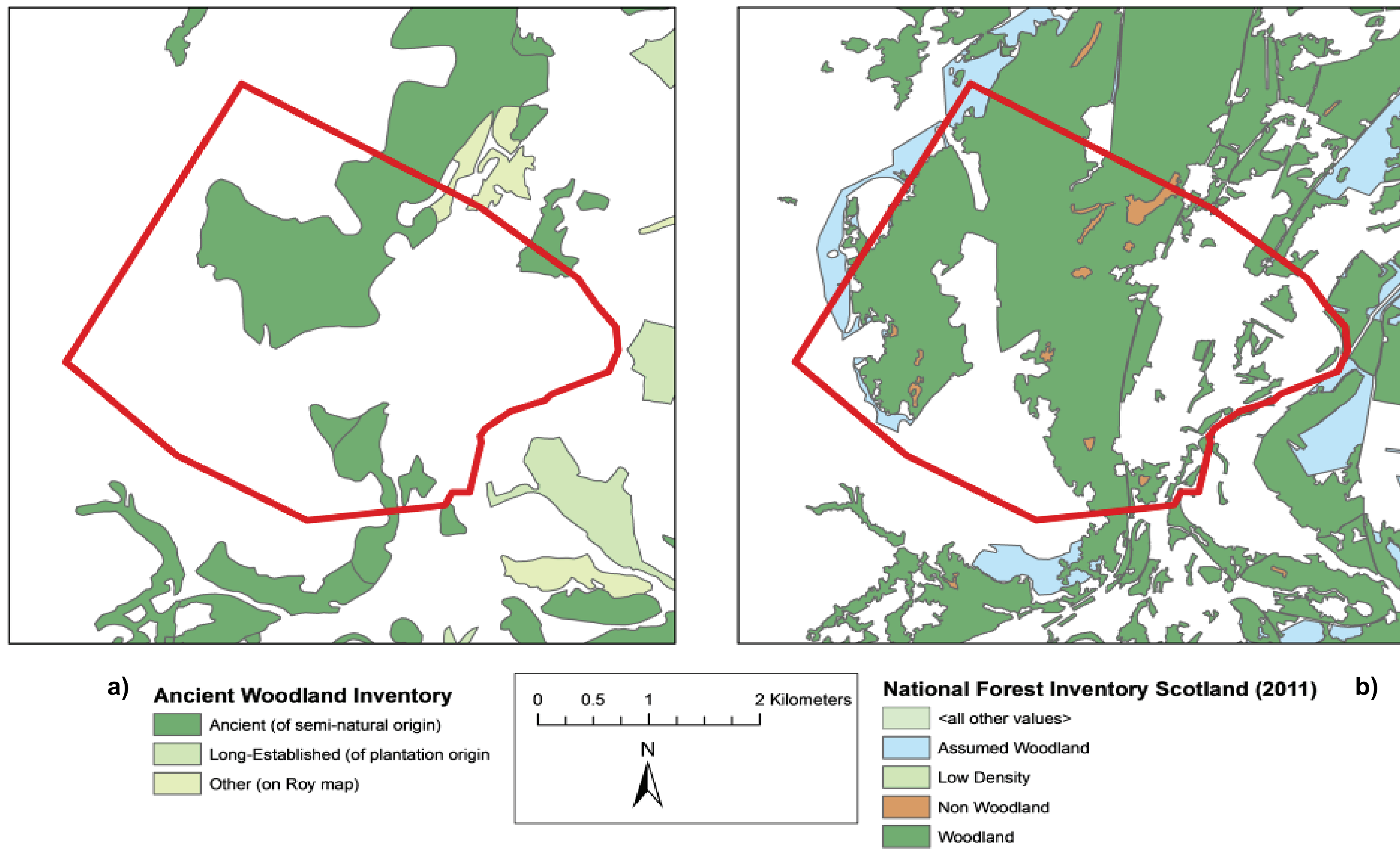
Site 1 - Aviemore

a) Land capability for Agriculture LCA (1:250,000 LCA map) and b) Estimated peat depth (© The James Hutton Institute)



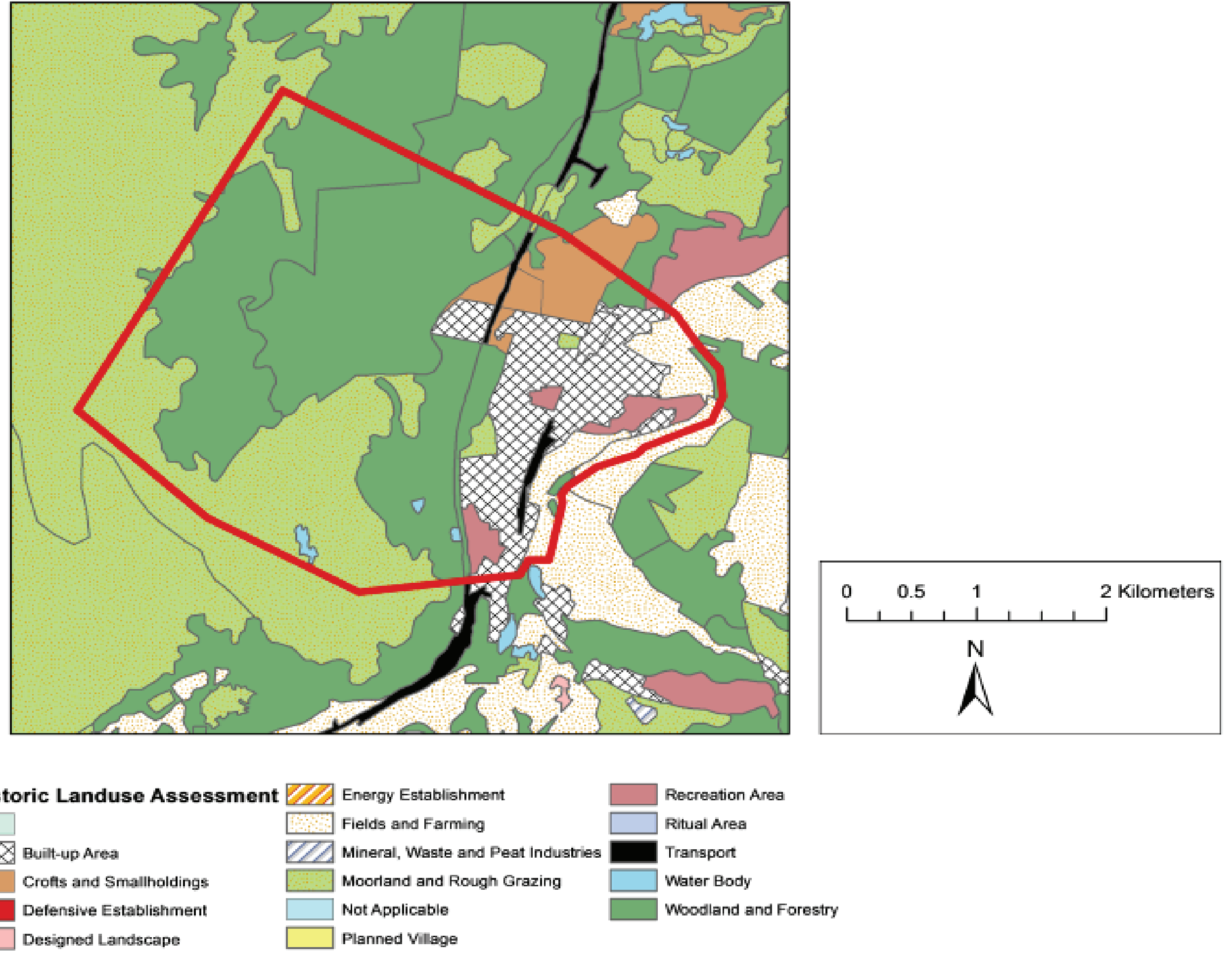
Site 1 - Aviemore

a) Ancient woodland inventory (© Scottish Natural Heritage) and b) National Forest Inventory Scotland (© Forestry Commission)



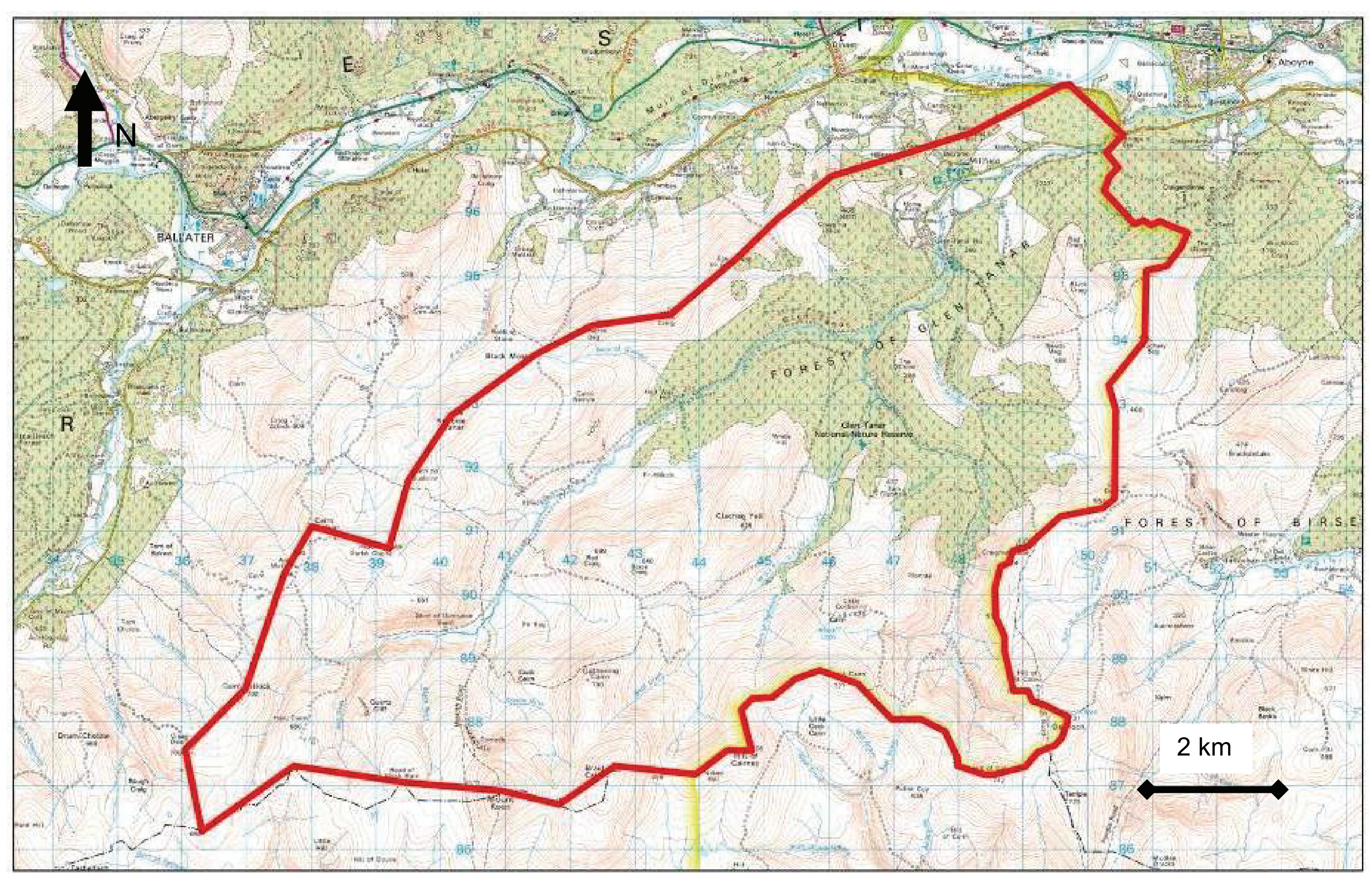
Site 1 – Aviemore

Historic Landuse Assessment (© Royal Commission on the Ancient and Historical Monuments of Scotland)



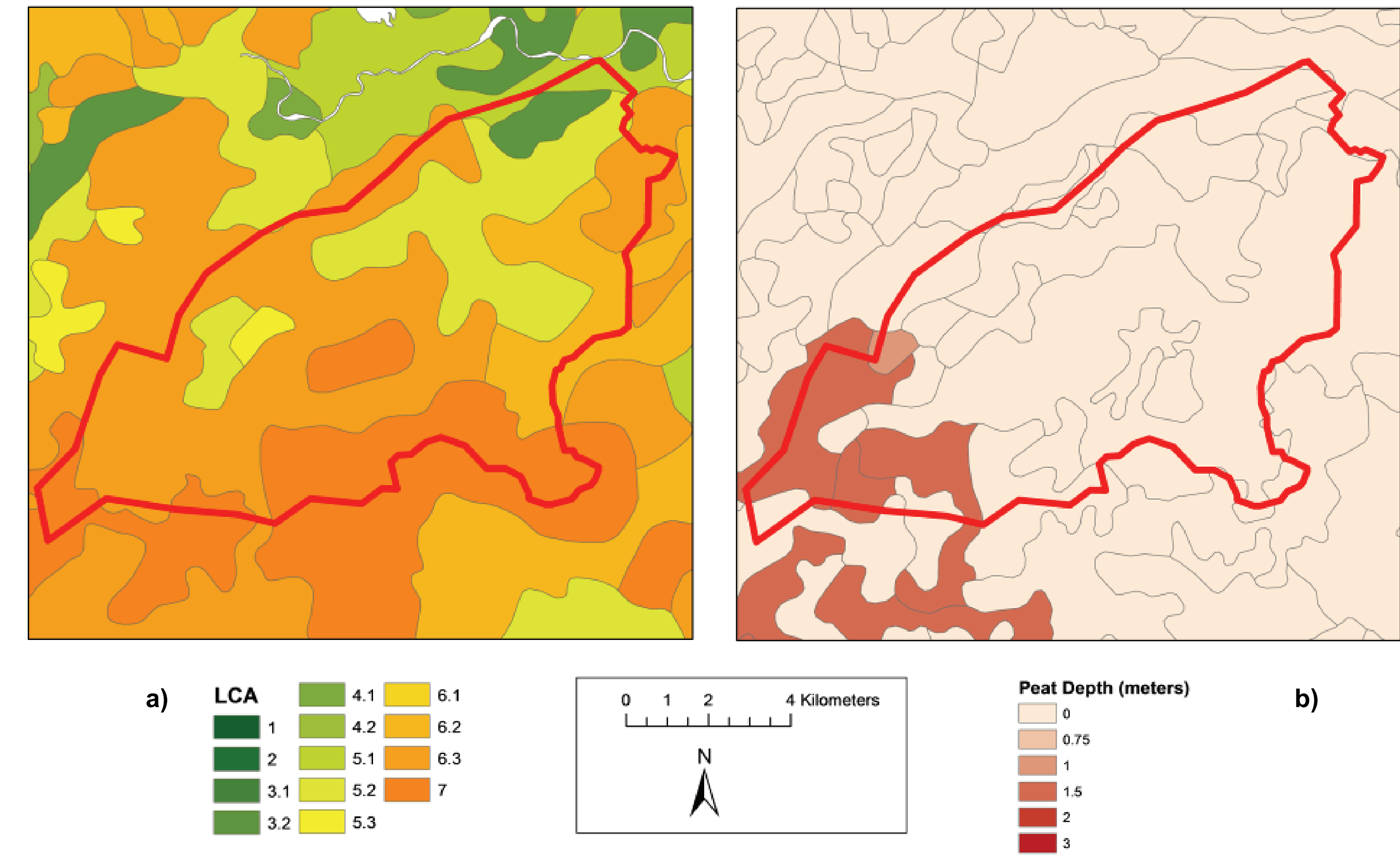
ANNEX 2: SITE 2 – GLENTANAR AREA

Location of study area (based on 1:50,000 Ordnance Survey data © Crown copyright and database right 2011)



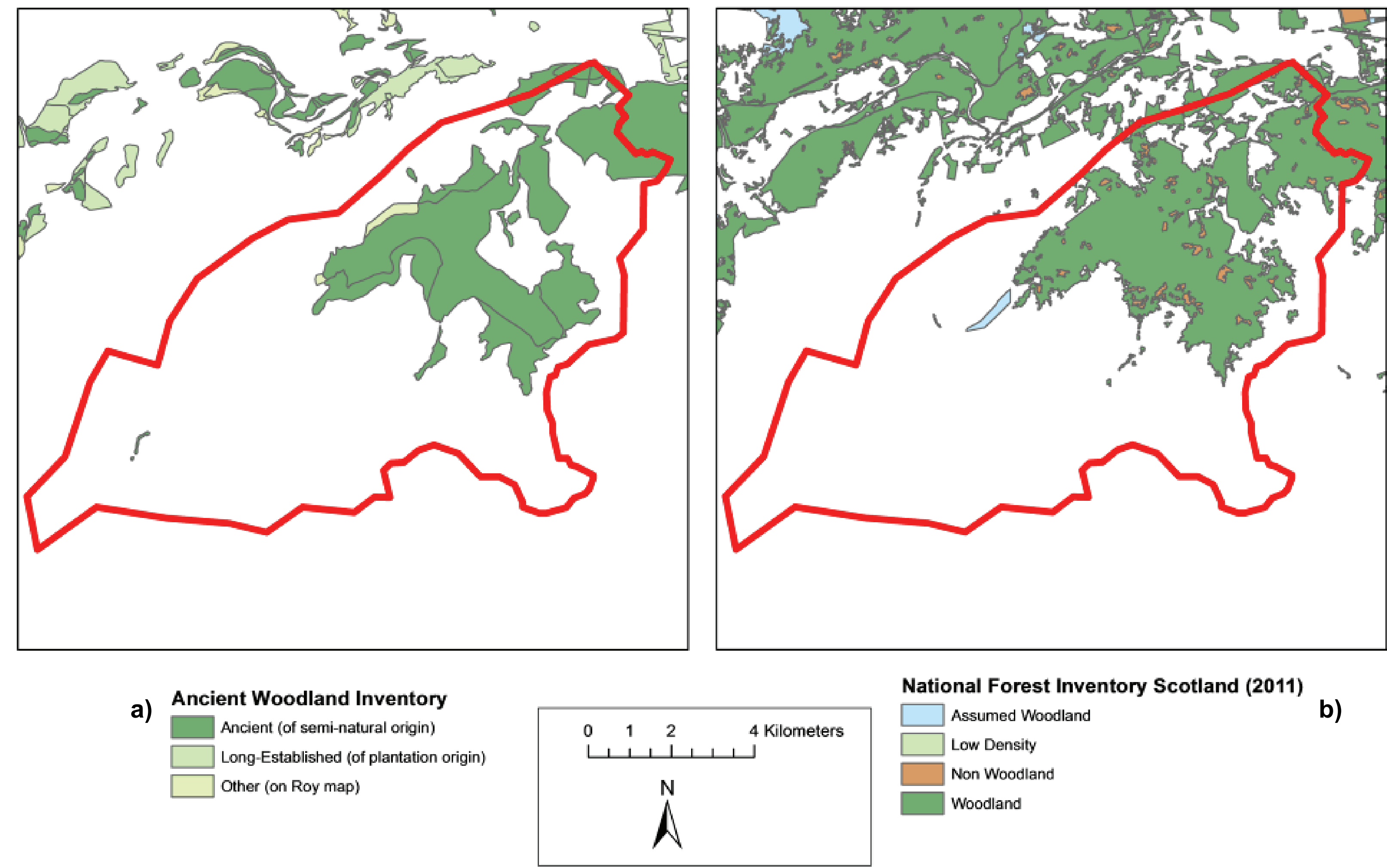
Site 2 – Glentanar

a) Land capability for Agriculture LCA (1:250,000 LCA map) and b) estimated peat depth (© The James Hutton Institute)



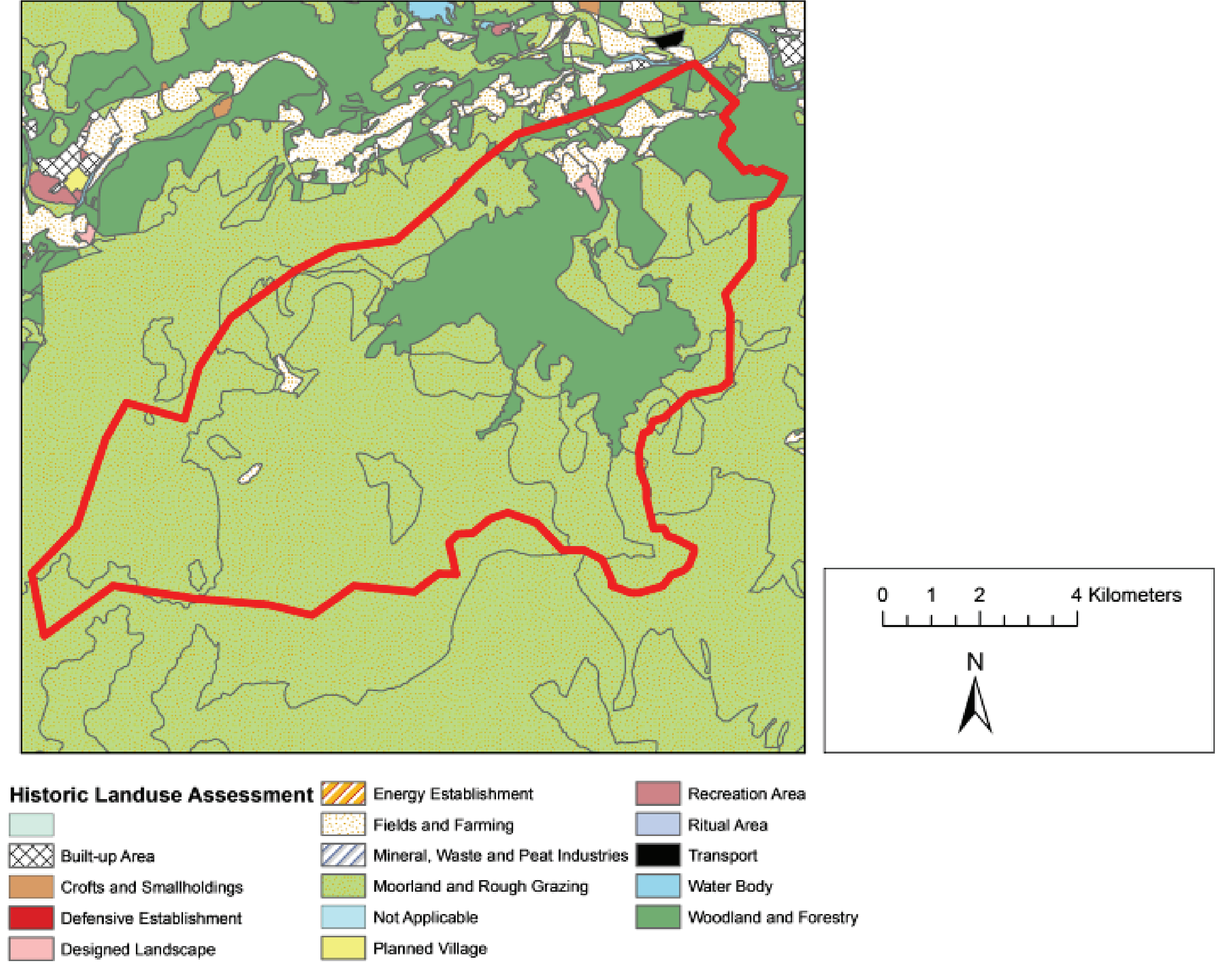
Site 2 – Glentanar

a) Ancient woodland inventory (© Scottish Natural Heritage) and b) National Forest Inventory Scotland (© Forestry Commission)



Site 2 – Glentanar

Historic Landuse Assessment (© Royal Commission on the Ancient and Historical Monuments of Scotland)



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Policy and Advice Directorate, Great Glen House,
Leachkin Road, Inverness IV3 8NW
T: 01463 725000

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