



# **The Economic, Social and Environmental Contribution of Landowners in the Cairngorms National Park**

**Including an assessment of the objectives and aspirations of landowners, key challenges and future opportunities**



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**Rural Solutions**

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# **The Economic, Social and Environmental Contribution of Landowners in the Cairngorms National Park**

**Commissioned by the Cairngorms National Park Authority and Scottish Land and Estates**

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## **Introduction**

The following report presents the results of a survey of landowners in the Cairngorms National Park (CNP). The work was commissioned by the Cairngorms National Park Authority (CNPA) and Scottish Land and Estates (SL&E) and carried out by a team from Scotland's Rural College (SRUC), the University of Highlands and Islands and Rural Solutions. The information presented in this report is based on the estimates provided in survey responses and should therefore be treated as indicative as opposed to definitive with respect to total figures. This work was carried out in parallel with a second project commissioned by Scottish Land and Estates and led by Rural Solutions, which involved a survey of landowners across Scotland.

## Executive Summary

To identify the role and contributions of landowners in the Cairngorms National Park in providing economic, social and environmental benefits, the CNPA commissioned a survey of landowners in June 2013. Core aims of this work included providing information on landowner outputs for comparison with previous landowner surveys in the region and identifying opportunities to progress specific actions in the National Park Plan. The survey (Appendix 1) included detailed questions on landholding characteristics, management objectives, income and expenditure across a range of sectors and landowner confidence, key challenges and future opportunities. The direct and indirect economic impacts of landowners in the sample were calculated using Scottish Government multipliers with economic impacts aggregated using information on total landholdings in the park to assess total economic impacts for the respondent sample and the whole of the CNP area. The survey, received 52 useable responses, accounting for 56 landholdings totalling 407,341ha, 301,188ha of which lay within the park boundary, equating to 66% of the CNP area. Survey responses were supported by 19 semi-structured interviews with a diverse subset of landowners from the survey response group.

### Landholding characteristics

The average size of landholdings in the survey response sample was 7,274ha with 8 very large (>20,000) and 29 medium (<10,000) sized landholdings. Respondents included 25 landowners, 20 site managers and 7 classified as other. The sample included 32 traditional mixed estates, 7 sporting estates, 5 farms, 6 conservation landholdings and 2 classified as other. Private landownership was dominant, accounting for 43 responses and 82% of the represented land area. On average landholdings had been in the same ownership for 92 years, with 32 in the same ownership for under 100 years and 7 for over 300 years. The dominant form of land use was managed moorland (189,552ha), followed by rough grazing (66,678ha), conservation (35,165ha) commercial forestry (28,390ha) and native woodlands (19,384ha).

The final updated database of all identified landowners in the CNP (including non-respondents) contained 96 owners owning 100 landholdings totalling 438,982 hectares, with the majority of land (58%) held by 15 large estates (> 10,000ha) and the majority of owners (56%) in the medium (1,000 – 10,000ha) grouping.

### Management objectives/activities

The most prevalent objectives of 'high importance' were sporting land uses (27), agriculture (23), conservation (20) and forestry (19), followed by residential property (17), tourism and leisure (16) access and interpretation (10) and renewables (8). When the numbers of respondents ranking specific objectives as medium or high are combined the most prevalent objective was conservation (42), followed by agriculture (36), forestry and woodland management (36), and sporting land uses (34). On average respondents had 2.8 objectives of high importance, 2.4 of medium importance and 1.6 of low importance, with a total average (across low, medium and high rankings) of 6.9 objectives. The most common area where respondents wanted to increase activity in the future was renewable energy (30), followed by tourism and leisure (18), forestry (17), conservation (16) and agriculture (12).

### Results by sector of activity

**In-hand agriculture** occurred on 28 landholdings, with beef herds and upland sheep the main forms of farming. Reported total income exceeded £6M, surpassing reported expenditure (£3.9M) by over



£2M. In total, 44% of income was from public support payments and grants, the removal of which would significantly reduce income levels to below that of expenditure. Average income (£242,945) exceeded expenditure (£156,566) by £86,378. The removal of support payments (which on average account for £131,504 of income) would see expenditure exceeding income by an average of £45,126. It should be noted that the average figures are skewed by the larger landholdings and the median income (£153,000), expenditure (£91,493) and support (£84,578) are alternative measures of the central point.

**Tenanted agriculture** occurred on 30 landholdings (totalling 82,895ha) with an average of 13 tenants (with an average tenancy of 291ha) and 3604ha of tenanted agriculture per landholding. Reported income from farm tenancies totalled £1.3M (£1.1M in farm rents) with total expenditure of £1.35M, primarily on repairs and capital costs, with an average income of £67,844 and expenditure of £64,677. Again, these average figures are skewed by landholdings with large numbers of tenants and the median income (£15,500) and expenditure (£16,000) are alternative measures of the central point. The average and median income figures per tenant farm are very close suggesting an even distribution at this level.

**Forestry and woodland management** occurred on 44 landholdings making it the most common form of land management overall. Reported income totalled £2.3M, £1.2M (52%) of which came from timber sales on 24 landholdings and 39% came from planting and management grants. Reported expenditure totalled £2.6M, with an average expenditure of £76,677 (median of (£12,237) and income of £77,432 (median of £22,450). These landholdings produced 105,888 tonnes of timber annually.

**Sporting land uses** occurred on 41 landholdings, with fishing and red deer having the highest number of sporting days and red grouse and red deer the sporting activities most frequently ranked as being of high importance. Income from sporting was reported as being over £4.4M, including income from pheasant shoots (£1M), driven grouse (£755K), salmon (534K), deer stalking (488K) and venison sales (500K). Driven grouse shooting generated the highest return of £9,943 per sporting day compared to £729 per day of stag stalking. Reported expenditure (£6M) was higher than income and included 46% staffing costs and 23% repairs and investment costs. Average income was £131,521 compared to £189,987 expenditure with median income of £61,100 and expenditure of £79,199.

**Conservation management** occurred on 30 landholdings, with the largest areas of conservation land uses recorded as moorland (70,264ha), peatland (54,279ha) and native woodland (18,633ha). Total income was reported as £1.1M, with £713,250 sourced from public grants. Reported expenditure totalled £1.9M exceeding income significantly.

**Renewable energy developments** (primarily biomass and hydro schemes due to planning constraints relating to wind turbines) occurred on 13 landholdings, with 11 planning to introduce or increase renewable energy generation. Income from existing schemes was reported as £802K, with costs of £173K. The main barriers to renewable energy schemes identified included planning restrictions and insufficient start-up capital.

**Residential property** occurred on 38 landholdings, with a total of 1,193 properties, including 309 rented at market rent, 301 at affordable rent, 259 used for landholding staff, and 55 vacant or derelict properties. Total income was reported as £1.6M (13% from affordable rentals) with an average income of £60,731 (median of £30,000), with total reported expenditure of £2.1M (64% on repairs and capital costs) and an average expenditure of £71,822 (median of £18,750). Twenty one respondents were interested in developing further mixed (affordable and market rent) housing. Key

barriers recognised included a lack of grants to refurbish derelict properties, start-up funds and planning restrictions.

**Tourism or leisure** related businesses were operated on 32 landholdings, with reported associated income of £2.9M from holiday accommodation (on 24 landholdings) and associated expenditure of £2.1M (74% of which was on staffing). Fourteen respondents also had heritage visitor attractions, with 7 deriving a reported total income from these attractions of £1.3M (average of £189,671) with associated spending of £1.6M (79% on staffing). Leisure based businesses (including retail) was reported to have generated a further £4.8M (with retail on 7 landholdings providing £3.1M of this), with associated expenditure of £2M.

**Commercial property** was leased to a total of 66 business tenants on 11 landholdings. Total income was reported to have amounted to £553K, with associated costs of £137K, 62% of which was spent on repairs and investments. This represented a high income to expenditure ratio.

## Overview findings

**Direct income from activities on respondent landholdings (n=44) totalled £28.1M.** Income from agricultural land uses accounts for the highest proportion (21.6%) of direct income, followed by sporting land uses (15.9%), retail (11.2%), holiday accommodation (10.6%), forestry (8.3%), residential accommodation (6.9%), agricultural tenancies (4.8%), heritage (4.7%), recreational businesses (4.7%), conservation (4%) and renewable energy (2.9%).

**Additional indirect income outputs** (supply chain impacts) derived based on Scottish Government multipliers totalled £14.2M, with a further £6.6M of induced outputs (proportion of increased household income spent on goods and services) giving a **total direct, indirect and induced economic impact for survey respondent's landholdings of £49M with a total GVA effect of £20.2M.**

Using per hectare figures for economic impacts calculated across the different land size categories estimates were made for the total income derived economic impacts resulting from all landowners (including non-respondents) in the Cairngorms National Park. It was estimated that **these landholdings generate £31.9 million income, which contributed £55.5 million** to Scotland's output after indirect and induced impacts were included. After **accounting for direct, indirect and induced effects the income generated by the CNP landowning group was also estimated to have contributed £12.5 million to Scottish household incomes, maintained 778 FTE jobs and contributed £22.9 million to Scotland's GVA.**

**Direct expenditure (excluding staff) across all sectors was estimated as £13.2M,** with total direct, indirect and induced expenditure impacts of **£25.8M.** Additional direct expenditure on staffing totalled **£12.1M,** with **total direct, indirect and induced impacts of staffing expenditure estimated as £29M.** The total GVA effect of non-staff expenditure was estimated to be **£11.2M.**

Sixteen respondents owned or managed **community facilities** and 37 regularly **communicated with the local community,** although much of this was informal. Eight did not regularly communicate with the local community. Examples of strong community-landowner interactions and partnerships were evident, although limited in number.

Respondents were generally **confident that income levels were likely to be maintained,** particularly in relation to residential property and tourism with reasonable but lower confidence in relation to traditional land uses. **Respondents expected investment levels over the next 3-5 years to be maintained and or increased.**

**Key challenges** outlined included potential impacts of land reform; declining availability of support payments and grants; planning authority requirements; changes to wildlife management legislation and conflicts relating to visitor pressures.

**Key future opportunities** identified included renewable energy schemes; tourism development; partnerships and collaborations between landholdings and other businesses and wider organisations; joint working between landowners and communities; and greater support and advice for agricultural and sporting land uses and housing developments.

## **1. Context and background**

### **1.1 Key challenges for land use, landowners and land management**

In recent years land management in Scotland has come under increasing scrutiny. Landowners and rural areas more generally face economic challenges, such as changes to support mechanisms, changing societal demands, including requirements for increased food and energy security and biodiversity outputs, and continued environmental change, including a rapidly changing climate (Miller et al. 2009). An evolving policy context, including an increasing shift away from direct support for agricultural production under the EU Common Agricultural Policy (CAP), has resulted in the decline of small-scale farming in many rural areas (RSE 2008). Other traditional land uses, such as grouse shooting and deer stalking, also face an increasingly diverse set of challenges, including a loss in the area of grouse moor in recent decades (Mackay *et al.*, 1998; Moorland Working Group 2002) an increasing requirement to integrate land uses (Scottish Government 2011), and demands to lower deer densities in line with government objectives to expand forest cover and deliver conservation objectives (Rose 2010; Scottish Government 2006; SNH 2011).

Rural out-migration of youth and in-migration of retirees and resultant demographic changes also represent a potential threat to the sustainability of rural economies in many rural areas across Scotland (Thomson 2012). This is exacerbated by a shortage in affordable housing, placing increasing pressure on landowners to provide housing and facilities in an increasingly challenging economic climate (McKee 2012). Pressures on the land resource and the very wide set of stakeholder interests in land can also lead to conflict, illustrated for example by regular contentious debates around windfarm proposals at local, regional and national levels (Warren et al. 2005). Land Reform and a growing emphasis on community engagement and empowerment more generally (e.g. through the Scottish Land Use Strategy (SLUS) and Community Empowerment and Renewal Bill), has also placed increasing pressure on landowners of all kinds (including public and NGO landowners) to involve local and wider communities in decision making processes around land in more meaningful ways. The establishment of a Land Reform Review Group (LRRG) in 2012 and the continued (albeit gradual) growth in community land ownership (Mc Morran 2014) also indicates a changing dynamic with respect to land and power in Scotland.

Collectively, these challenges and pressures have created a climate of uncertainty, particularly for private landowners. Greater attention is focused on land management and the need to ensure that the land resource is effectively and efficiently managed. Land and related natural resources also provide the basic building blocks for economic development as well as making a major contribution to people's quality of life and sense of place. The efficient and effective use of this finite resource is therefore a key policy and political issue.

### **1.2 The role of landowners in economic and community development**

Previous research has demonstrated that the activities of landowners and land managers are linked with a range of socio-economic and environmental benefits, including contributing to sustainable growth and community development. This can include investing in infrastructure (including community facilities), provision of housing and properties for local businesses and providing employment in traditional land use activities and in relation to emergent markets, such as renewable energy and ecotourism. A study of rural estates in the East Midlands (EDMA 2009) for example, found that employment on estates accounted for 23% of local employment, with over 70% of landholdings involved in the local visitor economy and over 70% of the private rental stock and 27% of social housing in the local area occurring on these estates.

Landowners of all kinds are also responsible for managing and safeguarding (including in relation to the requirements of a wide range of designated sites) areas of outstanding scenic, cultural and natural heritage value. Landownership and management therefore plays a critical stewardship role with respect to providing and maintaining a wide range of key positive externalities. Recent work on the socio-economic benefits of NGO landownership in Scotland for example, demonstrated that NGO landowners manage a disproportionate amount of land designated for natural heritage values and deliver a very considerable range of public benefits despite representing less than 3% of Scotland (Mc Morran and Glass 2013).

Linked with this recognition of the importance of the role of landowners, there is a wide range of policy initiatives currently underway in Scotland (e.g. the LRRG and SLUS mentioned above) which are exploring how best to deliver multiple benefits from the country's land resource in the most efficient and cost-effective way. Many existing and emergent policy measures represent considerable opportunities for landowners, with a growing emphasis within the EU Common Agricultural Policy (CAP) and SLUS for example, on supporting land-based entrepreneurial activities. The SLUS and Scottish Biodiversity Strategy also emphasize the development of mechanisms to support the provision of ecosystem services through land management (Scottish Government 2011). This includes potential support schemes for carbon sequestration, with climate change mitigation measures also having resulted in incentives to establish renewable energy schemes, including woodfuel and wind turbine installations (Scottish Government 2009). Large landholdings of all kinds in Scotland are well positioned to develop integrated approaches, with diversified private estates representing an established model of mixed land management. Landowners also have a clearly fundamental role to play in determining the future balance of land uses in Scotland, including in relation to future forest and woodland expansion and agricultural land uses (linked with local food initiatives). Increasing emphasis on biodiversity and conservation management and the emergence of a range of large-scale ecosystem restoration initiatives across Scotland also represent considerable opportunities for landowners and communities, in relation to the development of linked ecotourism businesses and branding developments, such as the Wildlife Estates initiative.

As highlighted by the Sustainable Estates project (Glass et al. 2013, Glass et al. 2012 etc.), the development of partnerships between landowners, local communities and wider (public, private, Non-Governmental etc.) stakeholders, across a range of scales of involvement and empowerment, represent a key opportunity for landowners to access a wider range of funding sources, release community capacity and wider volunteer energy and deliver sustainable outcomes for rural communities. This includes opportunities for operating at larger inter-landholding scales, including through initiatives such as catchment management planning, deer management groups and other large-scale collaborative ecosystem restoration and community regeneration projects. Mckee (2012) further highlights the potential role of estates in community development, including through acting as rural housing providers in conjunction with the Scottish Government and relevant agencies.

### **1.3 Expanding the information base and exploring the role of landowners in the Cairngorms National Park**

Despite the studies referred to above, assessments of the economic, social and environmental contribution of landowners in Scotland are limited. In particular, comprehensive assessments of impact (including contribution to GVA and wider social and environmental impacts) are limited. The EDMA (2009) study for example, was limited to a specific region (the East Midlands) and did not include a total GVA calculation. The Sustainable Estates project was not focused on socio-economic impact and was concerned with large (over 2000ha) upland estates. Previous research by SRUC on the economic contribution of estates in 2004 (Kerr 2004) was also limited to a very small sample of 9

estates. A considerable number of impact studies on specific activities occurring on landholdings have been carried out (e.g. TNS 2004, FAI 2010, Edwards et al., 2008, PACEC 2006) ; however, these have not accounted for the total contribution of landowners across the full range of their activities. Many studies have also focused on specific forms of landownership (e.g. community land (Skerratt 2011), private land (Kerr 2004) or NGO-owned land (Mc Morran and Glass 2013)) in isolation, failing to provide an opportunity for direct comparison.

In the Cairngorms region there have been a number of surveys of landowners owning more than 100ha (Cairngorms Partnership 1999, 2001, 2002 and CNPA 2003). In total, 62 landowners responded in 1999 (accounting for approximately 70% of all surveyed land) and 74 in 2001, with only 12 and 13 estates included in the 2002 and 2003 update surveys respectively. The survey reports demonstrated the wide range of activities undertaken by landowners across the region, including in relation to: forestry and woodland management, field sports, agriculture, nature conservation, commerce and tourism, outdoor recreation and access, housing and local communities, business management and business confidence. However, these surveys did not account for the full range of indirect economic impacts, or calculate GVA related to landowner activities. Despite an overview assessment of landowner business confidence, they also lacked any significant qualitative elements or any assessment of the future aspirations of landowners regarding land use and the management of their landholdings. The fact that landowners play a critical role is undisputed; however, despite the CNPA acknowledging that landowners have a key role to play in delivering the objectives of the National Park Plan (CNPA 2012), their aspirations for land use and management have not been comprehensively assessed. It is therefore uncertain as to how landowner aspirations and objectives relate to the national park and wider objectives for land use, including, for example, in relation to forest expansion, agricultural land uses, renewable energy and tourism. Furthermore, the surveys are now somewhat out of date, with the most recent having been in 2003. In conjunction with a number of changes in the policy and planning context, including the establishment of the Cairngorms National Park Authority, which has been in existence since 2003, there is therefore a requirement to obtain a more comprehensive knowledge base relating to the role and contribution of landowners in the park.

To address these gaps there is therefore a considerable need to undertake a comprehensive survey of landowners in the CNP area, incorporating an evaluation of economic, social and environmental contributions of landowners, as well as an assessment of their future aspirations for land use and land management. Accessing this information represents a critical aspect of determining future policy and public spending priorities and developing support mechanisms with the capacity to maximise the delivery of public benefits, support community development and ensure sustainable land management.

A comprehensive park-wide approach represents an opportunity to carry out a survey which includes the full range of ownership types and landholding sizes, with the park including over 60 private estates, a number of large NGO landholdings, including the RSPB Abernethy and NTS Mar Lodge sites, public landholdings, including three SNH landholdings FCS and Crown Estate landholdings, smaller community holdings and a number of owner-occupied farms.

## 1.4 Project objectives

The overall aim of this work was to **provide a detailed exploration of the economic, social and environmental role of landowners in the CNP area**. The specific project objectives were:

- i) To obtain detailed information on current land management practices, including income and expenditure, in order to:
  - provide comparisons with previous surveys undertaken in the National Park area;
  - demonstrate the role of land owners and managers in delivering the National Park Plan and providing economic, social and environmental benefits;
  - highlight the benefits to the economy, environment and people of Scotland;
  - identify opportunities to progress specific actions in the National Park Plan;
  
- ii) To gain an insight into future aspirations for land-use in the National Park in order to:
  - a. guide future land management support;
  - b. assist in preparing land managers to make the most of future opportunities;
  
- iii) To provide CNPA with an up-to-date contact database for communicating more efficiently with land owners and managers in the National Park

## 2. Project methodology

To address the project objectives a two-fold approach was taken which combined a landowner questionnaire survey with semi-structured interviews.

### 2.1 Landowner survey design

To ensure the total population of landowners in the CNP was as accurately identified as possible, the first phase of the survey work involved updating the existing contacts database for landowners in the CNP. Multiple information sources and approaches were used including: i) reviewing the existing CNPA landowner database and contacting (by phone or telephone) landholdings to confirm contact points; ii) cross-checking contact information (phone number, email address and postal address) for landholdings held by the CNP against contact information for the same landholdings held in the Scottish Land and Estates membership database; and iii) reviewing the *Who Owns Scotland* website to identify the position and size of landholdings for which this information was not already available in the CNP's existing databases. This process resulted in the identification of 130 landowners with up to date contact information. At the first point of successful contact, landowners were made aware of (and asked to participate in) the impending survey and the organisations supporting and conducting the work, with confidentiality being assured in relation to financial information.

A draft survey questionnaire template was subsequently developed by the project team in conjunction with the steering group, which included closed, multiple choice and open ended questions on the basic parameters of the landholdings and the contact details and role of the respondent. To identify the contribution of landowners to the regional economy in terms of direct outputs and GVA, questions were also included on employment, income, expenditure (and locality of expenditure), investment and extent of government support across a range of sectors, including: in-hand farming; let farms; forestry and woodland management; sporting activities; conservation land management; renewable energy; residential housing; commercial property; tourism and leisure; outdoor recreation and access; and other businesses and activities. Further questions were also included to identify:

- existing environmental public goods delivered by landowners and where and how this delivery could be enhanced (including deer management);
- levels of community engagement on landholdings and support that landowners provide to communities through housing and facilities provision and support for community projects;
- existing management objectives and future aspirations;
- confidence levels of landowners relating to income and investment across key sectors and key perceived future challenges and opportunities.

Following finalisation of the landowner contacts database an informal pilot of the draft survey was conducted with the project team, steering group and a pilot group of landowners and advisors. Following feedback from the pilot group the survey was refined in terms of content, format and structure, to ensure the final survey template was as concise, functional and user friendly as possible (see Appendix 1). This process was conducted in parallel with the development of the national landowner survey; the CNP survey replicated the national survey template but included multiple additional sections and questions. For all questions requesting financial information respondents were asked to provide their average earnings/expenditure for the previous three years.

The representatives for all landholdings **over 100ha** identified at the database development stage were posted a covering letter on 2/10/13 (personally addressing the named representative/landowner), a paper copy of the survey and a postage paid return envelope. The letter included information on the project partners and survey aims and assured respondents of the



confidentiality of their responses. Database contacts were also emailed a link to a downloadable survey PDF which could be completed electronically and returned by email, with a link to this PDF also provided in the posted covering letter. To maximise return rate, the survey PDF was made available on the CNPA website and both the CNPA and SL&E engaged in awareness raising measures among the landowning community. To maximise returns and completion levels, the survey letter and form included a contact point for further information and clarification on specific points relating to completion of the survey, this was used by a minority of respondents.

An initial deadline for survey returns of 10/11/13 was set, with this deadline subsequently revised three times. All received responses were recorded against the original database with contacts who had not responded after two weeks emailed a reminder to respond. Contacts who had not responded after four weeks were phoned and encouraged to respond and contacted by phone or email on a weekly basis thereafter, with the survey finally closed on 7/12/2013. All contact details provided in survey responses were also checked against the existing contacts database, with further updating of the database where required.

### 2.1.1 Total population, return rate and survey sample

Following further revision and updating of the landowner contacts database based on survey responses and feedback from those contacted initially a total of 100 landholdings over 100 hectares was identified (with confirmed location information and contact details) as occurring wholly or partly within the CNP boundary<sup>1</sup>. As a small number of landholdings were under the same ownership, there were 96 individual contacts identified for this group of 100 landholdings. The percentage of each of these landholdings which lay within the CNP was estimated using two approaches: 1) for landholdings returning surveys the estimated area of the landholding within the CNP provided within the survey responses was used; and 2) for landholdings not providing survey returns the percentage of the landholding occurring within the CNP boundary was estimated by using the *Who Owns Scotland* website to examine the landholding boundary against the location of the CNP boundary. Based on these estimates this group of 100 landholdings accounted for 96% of the total CNP area (Table 2.1).

**Table 2.1** Breakdown of the total population of landowners in the CNP and the respondent group

	Number	Total Area (ha)	Total Area within CNP (Ha)	% of CNP Area	Average size (Ha)
Respondents	52 (56 landholdings)	407,341	301,188	66%	7,274
Non-respondents	44	173,314	136,725	30%	4,333
<b>Combined Total</b>	<b>96 (100)</b>	<b>580,655</b>	<b>437,913</b>	<b>97%</b>	

In total, 34 of the 56 landholdings for which survey returns were provided were wholly within the CNP (a small number of survey returns represented more than one landholding) and 35 out of the 46 landholdings for which survey returns were not provided were wholly within the CNP. Of the non-responders, four were landholdings for which over 10,000 hectares of their total landholding lay within the park boundary, a further five were landholdings for which over 5,000 hectares of the total landholding lay within the park boundary and a further 9 had over 2,000 hectares within the park.

<sup>1</sup> A number of those contacted initially replied to state that their landholding was outwith the park boundary, with a smaller number of landholdings having been merged with other landholdings.

The remainder were predominantly much smaller than this. In total, 55 surveys were returned, with three removed from the dataset, two due their small size (<30ha) and one due to the response being unusable. The final database therefore contained 52 individual survey responses, representing 56 landholdings (Table 2.1), equating to a response rate of 55% of identified contacts, 56% of identified landholdings or 66% of the land area of the 452,800 hectares of the CNP.

## 2.2 Landowner interviews

To gather more in-depth information on social, economic and environmental impacts semi-structured interviews were carried out with a subset of survey respondents. Twenty five respondents indicated their willingness to be interviewed in survey responses (making the interview sample group largely self-selecting). From this sub-sample twenty potential interviewees were selected based on identifying an interviewee sample group which was broadly representative of the main forms of landownership, landholding type and landholding size in the CNP area (see sections 3.1.1 and 3.1.2 for survey sample characteristics). From this sub-sample nineteen interviews were successfully conducted and included representatives from very large (>20,000ha) private estates (2), a large (<20,000ha) private estate (1), medium sized (<10,000ha) private estates (7), small (<1000ha) private estates (1), private farm holdings (3), NGO owned landholdings (3) and public landholdings (2). The privately owned estates included landholdings which were heavily diversified and a smaller number which were focused more on recreational sporting as their primary concern. NGO owned sites included two large landholdings owned by conservation NGOs and the (Crown Estate owned) Glenlivet Estate, with public landowners including a representative for Scottish Natural Heritage's (SNH) three landholdings in the CNP and for the HIE owned Cairngorm Estate.

Interviews were conducted face to face where possible (with 6 conducted by phone), with owners or their representatives and recorded using a digital voice recorder. All recordings were partially transcribed. Transcripts were analysed with responses relating to key themes grouped, stored and summarised. Interviews provided an opportunity to explore survey responses in greater depth, with specific themes (See Appendix 2 for a full list of interview questions) discussed in all interviews including:

- ownership structure, governance and decision making processes on landholdings (including owner involvement);
- management objectives and aspirations including motivations for ownership, ethos and key drivers;
- locality of spending, use of and linkages with local businesses and contractors;
- key areas of spending, role in attracting investment and future business focus;
- general status of businesses on landholdings;
- trends and trajectories of employment;
- the role of the landowner in relation to the natural heritage and natural assets;
- the role of the landowner in relation to local community development, emphasis on community development in objectives, examples of community engagement and community initiatives including social housing;
- key constraining factors and key future opportunities;
- perception of the CNPA, wider public bodies and existing policy and planning frameworks including support required and specific training requirements.

The results of interview analysis have been presented in parallel with the results of the analysis of survey responses to add qualitative detail where suitable. Specific elements of the interview analysis have been integrated throughout the report, including: an overview of decision making processes

and key management drivers (Section 3.1.5.1) and the development of a typology of management approaches evident within the interview sample (3.1.5.2); the impact of landowners on local economies relating to locality of spending, employment trends, examples of innovation and diversification and the role of landowners in providing a context for business growth (Section 3.2.10); levels of, and emphasis on, community engagement and housing provision (Section 3.3); and additional material on landowner confidence and perception of key challenges and future opportunities (Section 3.5).

## **2.3 Data analysis and economic calculations**

All survey returns were entered into an excel spreadsheet, with data relating to closed questions converted to numeric format for analysis purposes. All responses to open ended questions were collated and transferred to word documents for analysis. Descriptive summary analysis has been carried out across the entire dataset and is presented in sections 3.1-3.5 in parallel with qualitative data from open ended questions and interviews. Where appropriate data has been grouped by size categories, as this provided the most meaningful segmentation for a dataset of this size.

### **2.3.1 Data cleaning**

The data for each respondent was rigorously checked for missing data and for duplicate entries (e.g. where rental income and expenditure for rented housing was included in “other agricultural income” as well as in the residential accommodation section). Where there was duplication of entries then the data was deleted (both income and the proportion of expenditure) from the least appropriate section. Where data appeared to have been entered in the wrong section (i.e. “turbine income” income inserted in the “other agricultural income” field) then it was relocated to the appropriate section of the database thereby ensuring the reported sectoral impacts were appropriately analysed.

Where financial data was entirely missing then the response was entirely removed from the economic impact analysis. However, where an income figure had been given without an expenditure figure, or vice-versa then a judgement was made whether there legitimately would or would not have been an income stream or expenses faced by the respondent. For example, in instances where there was expenditure without (or disproportionately low) income streams, such as conservation or sporting activities then these were untouched. However, in instances where there was an income (e.g. agricultural sales, or forestry income coupled with a physical timber output) with no expenditure details then an estimate of expenditure, staff costs and capital investments and repairs was made using an average of ratio of each expenditure item to income from the 6 closest entries. Likewise, where details of expenditure was provided without any income figures and it was considered that there should legitimately be an income (e.g. forestry or agricultural staffing, input and sales and marketing costs alongside evidence of activity such as timber output or cropping and stocking details) an estimate was made of each missing income item using the average ratios of income items to expenditure from the 6 closest entries. This resulted in a very small number of estimates in some categories (e.g. two in forestry expenditure and 2 in agricultural expenditure).

### **2.3.2 Input-Output analysis**

Input Output (I/O) analysis is a well known technique developed by Leontief (1966) for the quantitative study of inter-industry relations in an economy. I/O analysis explores the value of products and services bought and sold throughout the economy, the interdependencies between sectors of an economy which the production of goods and services depend, producer and consumer relationships and the role of imports and exports. These I/O tables work with data aggregated by

economic sector rather than for individual products or services and are the sum of a very large number of transactions undertaken during a given year. The availability of transaction data to the Government partially determines the I/O sectors used, ensuring a degree of robustness. Due to the economy wide approach I/O analysis therefore enables impacts along the production and supply chains to be allocated to consumers or groups of final products. There are, however limitations to the I/O approach that should be acknowledged. There are, however limitation to the I/O approach that should be acknowledged. Firstly the confidence intervals used by I/O models (estimates of uncertainty) are based on data gathered from a relatively small proportion of businesses within most sectors. Secondly the comparatively static nature of the I/O models means that the timescale for the estimated impacts to work themselves through the economy is largely unknown.

The Scottish Government regularly publishes I/O tables for the Scottish economy<sup>2</sup>, with the latest available being from 2009. It is worth noting that within the I/O tables the rest of the UK is considered exogenous<sup>3</sup>, meaning interactions with businesses and consumers located there are considered as imports and exports, and the impacts derived from the tables are estimates of impact on the Scottish economy alone. The I/O “industry by industry” tables provide estimates of the purchases and final demand from each industry’s output arising from both principal and secondary production (i.e. a full breakdown of where monies on inputs are spent by each sector). For example, this means that that for every £1,000 of purchases made by Scottish agriculture in 2009:

- £323 would be spent in other businesses within the agriculture sector
- £80 would be spent in businesses in the animal feed sector
- £54 would be spent in firms in the coke, petroleum and petrochemical sector
- £48 would be spent in businesses in the Wholesale and Retail of vehicles sector
- £74 would be spent in businesses in the Wholesale (excluding vehicles) sector

The direct impact of expenditure made by the agricultural sector is therefore evident to see, but the required inputs from other sectors will in turn rely on purchases being made from other sectors – i.e the multiplier effects. For example, following the example above the increased expenditure in the animal feed sector would also result in increased demand for supplies from the agriculture, meat processing, fish and fruit processing, grain milling and starch, other food, electricity, wholesale (excluding vehicles), other land transport, etc. sectors, showing the knock on effects from expenditure in the agriculture sectors. To aid calculation of these inter-industry linkages the Scottish Government also publish multipliers for each industry sector, derived from these I/O tables. These multipliers are used to show how changes in demand faced by any specific industry impact on the wider economy. Two types of multipliers are estimated.

- Type 1 multipliers deal with the “direct” (suppliers meeting demand) and “indirect” impacts (increase on demand on input suppliers).
- Type 2 multipliers deal with direct and indirect impacts as well as “induced” impacts (as a result of the direct and indirect impacts household income increases through increased employment and a proportion of this will be re-spent on final goods and services).

A number of different multipliers are reported in the I/O tables and it is worthwhile considering what they represent<sup>4</sup>

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<sup>2</sup> <http://www.scotland.gov.uk/Topics/Statistics/Browse/Economy/Input-Output/Downloads>

<sup>3</sup> To see the Scottish Government’s Input-Output Methodology Guide see <http://www.scotland.gov.uk/Resource/Doc/919/0116738.pdf>

<sup>4</sup> <http://www.scotland.gov.uk/Topics/Statistics/Browse/Economy/Input-Output/Multipliers>

- The **Output Multiplier** can be used to show how changes to the final demand (the direct impact) of an industrial sector impacts on output throughout all sectors of the Scottish economy through indirect and induced impacts.
- The **Employment Multiplier** is used to estimate the number of jobs created elsewhere in the economy as a result of an additional job in a specific sector (the direct change).
- The **Employment Effect** allows an estimate to be made of employment changes in the wider economy as a result of changes to the final demand (output) of a specific sector.
- The **Income Multiplier** show the estimated change in household income (salaries) that occurs throughout the wider economy as a result of a change in the direct incomes earned in a specific sector.
- The **Income Effect** allows estimates to be made of the change in household incomes throughout the economy resulting from an increase in the final demand (output) from a specific sector.
- The **GVA Effect** provides an estimate of the impacts on the economies GVA resulting from an increase in the final demand (output) from a specific sector.

Therefore, the output, employment and income ‘**multipliers**’ use the changes in sectoral output, employment and wages to estimate the total impacts on the economy while the employment, income and GVA ‘**effects**’ all use the change in sectoral output to estimate the total economic impacts.

The I/O tables have 104 industry classifications which are aligned to Standard Industrial Classification (SIC) of Economic Activities 2007<sup>5</sup> and using the UK Standard Industrial Classification (SIC) Hierarchy<sup>6</sup> descriptions of SICs and sub-components of divisions<sup>7</sup>, each of the financial sections of the questionnaire were assigned to the most appropriate I/O industry classifications (as detailed in Table 2.2).<sup>8</sup> Where required an amalgamated multiplier was created from averaging the multipliers for more than one sector (e.g. Forestry Planting and Forestry Harvesting to create a bespoke set of Forestry multipliers).

As many estates undertake activities for non-income generating personal reasons, it was considered important to also include estimates based on the total expenditure of the respondents. Therefore, in addition to information on estate output the survey was designed to capture details across all the sections on the estate’s expenditure on: non-staff inputs; staff, sales and marketing, and; capital investments and repairs.

- For the non-staff inputs the Industry by Industry I/O table was used to establish which sectors, and what proportion, expenditure by each sector was being undertaken. Then using these proportions with the appropriate sectoral multipliers it was possible to develop expenditure multipliers for each of the I/O sectors detailed in Table 2.2 that enables wider economic impact resulting from expenditure on non-staff inputs to be calculated<sup>9</sup>. Using the staff expenditure details the income multipliers could be used for each of the I/O sectors in Table 2.2.
- For sales and marketing expenditure the Other Professional Services multipliers were used. As the majority of building work, excavation etc. on the estates will be spent on the

<sup>5</sup> See <http://www.scotland.gov.uk/Resource/0042/00422358.xlsx>

<sup>6</sup> [http://www.neighbourhood.statistics.gov.uk/HTMLDocs/SIC/ONS\\_SIC\\_hierarchy\\_view.html](http://www.neighbourhood.statistics.gov.uk/HTMLDocs/SIC/ONS_SIC_hierarchy_view.html)

<sup>7</sup> For example: Group 01.7 Hunting, trapping and related service activities is a sub-division of Division 01: Crop and animal production, hunting and related service activities along with Group 01.1: Growing of non-perennial crops, Group 01.2: Growing of perennial crops, Group 01.3: Plant propagation, Group 01.4: Animal production, Group 01.5: Mixed farming, Group 01.6: Support activities to agriculture and post-harvest crop activities.

<sup>8</sup> This was a judgment call made by the economic expert

<sup>9</sup> (a) proportion of total sectoral spend by each sector \* (b) multiplier by each sector = (c) expenditure multiplier for each sector. (c) is then summed across all sectors.

construction sector the information collected on capital investment and repairs was used with a multiplier derived from the aggregation of (a) Construction – buildings, (b) Construction - civil engineering and, (c) Construction – specialised to estimate total economic impacts from this investment and repair expenditure.

In addition to the financial data, the numbers of full-time and part-time employees was also collected therefore enabling the employment multipliers to be used to estimate wider employment impact across the Scottish economy. Each reported full time employee was considered to be 1 Full Time Equivalent (FTE) with part-time staff considered to be 0.4FTE and each seasonal worker 0.1FTE. Using these figures and the appropriate employment multiplier (Table 2.3) the total estimated Scottish employment impact (including indirect and induced impacts) resulting from the respondents employment of staff was calculated.

**Table 2.2 Questionnaire’s financial sections and alignment to Input-Output table industry sections**

Questionnaire Section (sub-sections)	Input-Output table Industry Classification
Agriculture (In-Hand Farming)	<ul style="list-style-type: none"> <li>• Agriculture</li> </ul>
Agriculture (Agricultural Tenancies And Crofts)	<ul style="list-style-type: none"> <li>• Real Estate – Own</li> </ul>
Forestry And Woodland Management	<ul style="list-style-type: none"> <li>• Forestry Planting &amp; Forestry Harvesting averaged</li> </ul>
Sporting Land Uses	<ul style="list-style-type: none"> <li>• Agriculture</li> </ul>
Conservation Land Management	<ul style="list-style-type: none"> <li>• Agriculture</li> </ul>
Renewable Energy	<ul style="list-style-type: none"> <li>• Electricity</li> </ul>
Residential Properties	<ul style="list-style-type: none"> <li>• Real Estate – Own</li> </ul>
Tourism And Visitor Attractions	<ul style="list-style-type: none"> <li>• Accommodation - for tourism lets</li> <li>• Cultural Services - for heritage attractions</li> </ul>
Leisure Activities	<ul style="list-style-type: none"> <li>• Retail (excluding Vehicles) - for shops</li> <li>• Food &amp; Beverage Services - for cafes &amp; restaurants</li> <li>• Sports &amp; recreation - for equine, mountain-biking, etc</li> </ul>
Commercial Properties	<ul style="list-style-type: none"> <li>• Real Estate- Own</li> </ul>
Minerals And Quarrying	<ul style="list-style-type: none"> <li>• Other Mining</li> </ul>
Any Other Activities	<ul style="list-style-type: none"> <li>• Adding Value - for adding value activities</li> <li>• Aquaculture - for fish farms</li> <li>• Other manufacturing - for manufacturing businesses</li> <li>• Agriculture - for horticulture</li> <li>• Other professional Services - for professional services / consultancy and any non-classified activity</li> </ul>

Table 2.3 details the published Type I and Type II sectoral multipliers for each I/O industry sectors used for this analysis alongside the estimated Type I and Type II “expenditure” multipliers that were calculated to show the impact of non-staff input expenditure.

**Table 2.3 Output and expenditure multipliers utilised**

		Output multiplier	Income effect	Income multiplier	Employment effect	Employment multiplier	GVA effect
<b>Accommodation</b>	Published Type I	1.35	0.45	1.27	24.46	1.19	0.72
	Published Type II	1.68	0.53	1.51	27.96	1.36	0.88
	Expenditure Type I	1.46	0.40	1.67	15.89	1.84	0.68
	Expenditure Type II	1.74	0.47	1.98	19.00	2.28	0.82
<b>Adding Value</b>	Published Type I	1.85	0.33	1.98	15.57	2.79	0.48
	Published Type II	2.08	0.39	2.35	18.16	3.25	0.60
	Expenditure Type I	1.61	0.31	2.03	18.16	1.74	0.53
	Expenditure Type II	1.84	0.37	2.42	20.60	2.02	0.65
<b>Agriculture</b>	Published Type I	1.61	0.24	2.30	22.78	1.43	0.45
	Published Type II	1.78	0.29	2.73	24.68	1.55	0.54
	Expenditure Type I	1.50	0.34	1.91	16.78	1.74	0.58
	Expenditure Type II	1.74	0.41	2.26	19.44	2.09	0.70
<b>Aquaculture</b>	Published Type I	1.62	0.21	2.25	12.83	1.54	0.58
	Published Type II	1.77	0.25	2.68	14.45	1.74	0.65
	Expenditure Type I	1.59	0.30	2.11	11.46	2.21	0.59
	Expenditure Type II	1.80	0.35	2.51	13.77	2.74	0.69
<b>Construction</b>	Published Type I	1.68	0.44	1.87	15.52	1.89	0.72
	Published Type II	1.99	0.53	2.22	18.97	2.31	0.88
	Expenditure Type I	1.55	0.45	1.64	15.77	1.69	0.70
	Expenditure Type II	1.88	0.54	1.94	19.29	2.09	0.86
<b>Cultural services</b>	Published Type I	1.36	0.65	1.22	34.06	1.20	0.76
	Published Type II	1.82	0.77	1.45	39.09	1.38	0.99
	Expenditure Type II	1.81	0.58	1.90	26.97	2.04	0.89
	Expenditure Type I	1.46	0.49	1.60	23.19	1.67	0.72
<b>Electricity</b>	Published Type I	2.05	0.22	2.90	5.54	3.77	0.57
	Published Type II	2.21	0.26	3.45	7.27	4.94	0.65
	Expenditure Type I	1.87	0.26	2.54	7.23	3.16	0.57
	Expenditure Type II	2.05	0.31	3.01	9.24	4.12	0.67
<b>Food &amp; beverage services</b>	Published Type I	1.36	0.45	1.26	26.67	1.15	0.68
	Published Type II	1.69	0.54	1.50	30.20	1.31	0.85
	Expenditure Type I	1.44	0.38	1.62	14.17	1.82	0.68
	Expenditure Type II	1.71	0.45	1.93	17.10	2.30	0.82
<b>Forestry</b>	Published Type I	1.79	0.33	2.24	29.14	1.58	0.64
	Published Type II	2.03	0.39	2.66	31.72	1.72	0.76
	Expenditure Type I	1.55	0.35	1.92	21.48	1.57	0.60
	Expenditure Type II	1.80	0.42	2.28	24.21	1.83	0.73
<b>Other manufacturing</b>	Published Type I	1.40	0.57	1.26	16.46	1.29	0.64
	Published Type II	1.81	0.67	1.50	20.86	1.63	0.85
	Expenditure Type I	1.46	0.43	1.55	13.26	1.71	0.63
	Expenditure Type II	1.77	0.51	1.84	16.60	2.18	0.79
<b>Other mining</b>	Published Type I	1.43	0.35	1.49	12.05	1.51	0.53
	Published Type II	1.68	0.41	1.76	14.75	1.85	0.66
	Expenditure Type I	1.48	0.39	1.62	13.90	1.77	0.63
	Expenditure Type II	1.76	0.46	1.92	16.91	2.22	0.76
<b>Other professional services</b>	Published Type I	1.33	0.45	1.39	27.70	1.29	0.74
	Published Type II	1.65	0.53	1.65	31.18	1.46	0.90
	Expenditure Type I	1.36	0.52	1.41	26.03	1.46	0.77
	Expenditure Type II	1.74	0.62	1.68	30.07	1.77	0.96
<b>Real estate - own</b>	Published Type I	1.46	0.19	3.70	8.60	2.22	0.80
	Published Type II	1.60	0.23	4.40	10.09	2.61	0.87
	Expenditure Type I	1.53	0.46	1.65	15.54	1.73	0.72
	Expenditure Type II	1.86	0.54	1.96	19.10	2.16	0.89
<b>Retail - excl vehicles</b>	Published Type I	1.35	0.50	1.24	24.76	1.19	0.81
	Published Type II	1.71	0.59	1.47	28.62	1.37	0.99
	Expenditure Type I	1.49	0.40	1.95	16.36	1.85	0.71
	Expenditure Type II	1.78	0.48	2.32	19.49	2.25	0.85
<b>Sports &amp; recreation</b>	Published Type I	1.41	0.58	1.34	28.43	1.35	0.73
	Published Type II	1.83	0.69	1.59	32.96	1.56	0.94
	Expenditure Type I	1.43	0.52	1.49	25.66	1.54	0.74
	Expenditure Type II	1.80	0.62	1.77	29.70	1.85	0.92

### 2.3.3 Aggregation

Despite the research team creating an updated database of landholdings/landowners for the CNP area, comprehensive and exact detail on some landholdings beyond details of size and ownership (e.g. type of landholding/core objectives) was limited or unavailable in some cases. As a result, the most appropriate means of aggregation from the sample (~50% of the population) to all land within the CNP was by size banding using per hectare values of impacts. This method, whilst basic, ensured that the appropriate impact figures were used with undue weightings avoided (e.g. there is an inverse relationship between size of landholding and economic impact per hectare). Ideally, with a complete and exact population database that detailed the type of landholding, and activity mix therein (for all landholdings) a more robust aggregation would have been possible. It should be noted that the CNP respondents land area are not always fully located within the CNP boundary. For the analysis of the sample these businesses are treated in their entirety, however for the aggregation of data to the total CNP impacts then each landholding was classified by size category and then the estimated area of the land within the CNP boundary used to upscale from the sample to the total CNP area.

### 2.3.4 Interpretation

Whilst this survey was never meant to provide details of “typical” landholdings or their income and expenditure, readers are invariably drawn to calculating averages from the total figures provided. For this purpose we have included the average figures in the data presentation but would like to stress that the data has been collected for the purpose of generating totals and averages can be misleading.

The nature of the survey, being targeted at a vast array of landholding sizes and structures, results in naturally skewed data. Incomes and expenditure are inevitably skewed by the large respondents as even just a few individuals who earn or spend large sums greatly affect the mean, especially as there are no negative income and expenditure figures. The survey data collected for this research shows right skewed distribution (Figure 2.1) because the mean is being affected by a small number of very large figures. When the data is skewed as such the mean can be somewhat misleading as a measure of the central point and the median may be more appropriate. If the data is symmetrical (as shown in the left hand image in Figure 2.1) then the mean is typically used. The research team have therefore included both mean and median figures for all financial data to ensure the data is interpreted accurately.

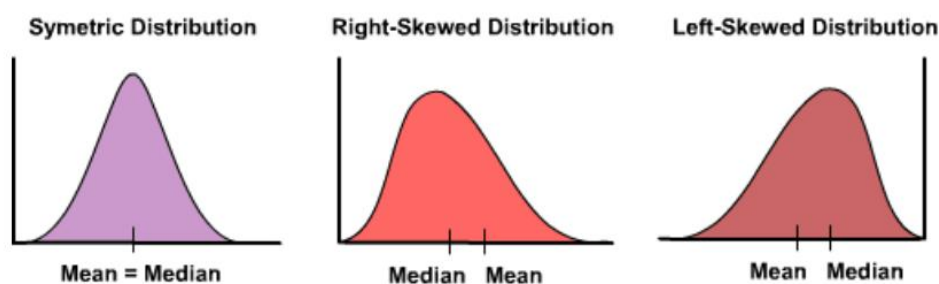


Figure 2.1 Different distributions of data<sup>10</sup>

<sup>10</sup> <https://onlinecourses.science.psu.edu/stat100/book/export/html/2>



### 3. Survey and interview results

#### 3.1 Characterisation of landholdings and core management objectives

##### 3.1.1 Survey return rate, wider population and respondent role

Table 3.1 shows the number and total area (Ha) of the landholdings represented by the 52 survey responses across four size categorisations. The average size of landholding was 7274 hectares. Four respondents had increased the size of their landholding(s) and five indicated that the size of their landholding(s) had decreased over the last ten years, with the remainder not answering this question. Respondents varied in terms of their role, with 25 categorising themselves as owners or co-owners, 20 as a site manager or factor and 7 as ‘other’. The ‘other’ category included an FCS Forest District Manager, SNH Operations Manager, director, chief executive, land agent, assistant factor and husband of the owner.

**Table 3.1** Respondent landholdings categorised by size

Size Categories of Landholdings	Total area (Ha)	No. of responses
Small (<1000)	5,955	13
Medium (<10,000)	125,661	29
Large (<20,000)	30,635	2
Very large (>20,000)	245,090	8
<b>Total Area of respondent landholdings</b>	<b>407,342</b>	<b>52</b>

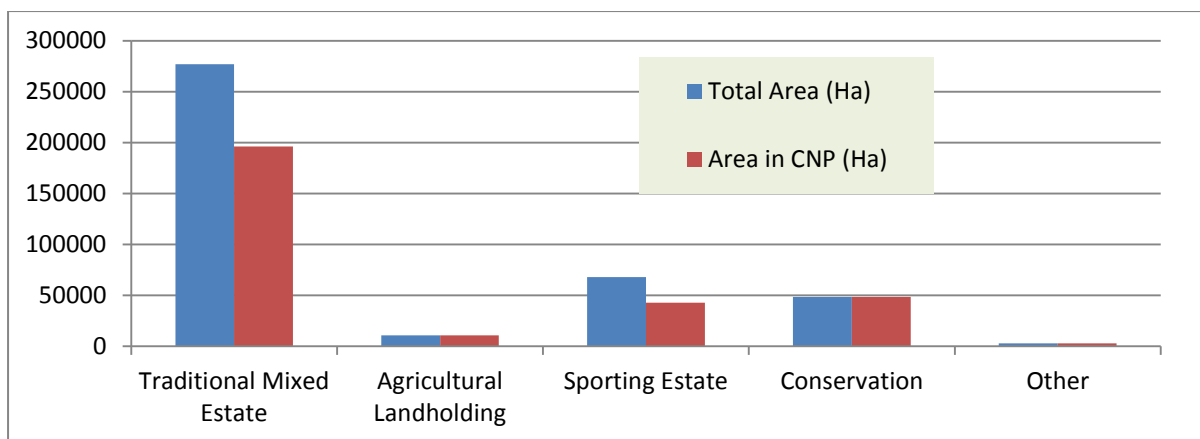
##### 3.1.2 Landholding type, ownership and length of ownership

Of the total land area represented, 293,077 hectares was recorded as being managed in-hand, with an average proportion of land managed in-hand of 77%. Table 3.2 and Figure 3.1 show survey responses categorised by type of landholding, including the total area accounted for within each category and the percentage of this total which occurs within the CNP.

**Table 3.2** Respondent landholdings categorised by type

Landholding Type	Number of Respondents	Total Area (Ha)	Area in CNP (Ha)	% Total occurring within CNP
Traditional Mixed Estate	32	276,948	196,165	71%
Agricultural Landholding	5	10,732	10,732	100%
Sporting Estate	7	68,101	42,732	63%
Conservation	6	48,557	48,557	100%
Other	2	3,002	3,002	100%
<b>Total</b>	<b>52</b>	<b>407,340</b>	<b>301,188</b>	<b>74%</b>

Traditional mixed estates (32) are by far the most commonly occurring landholding, with this group including a broad range, from small mixed estate holdings, to very large heavily diversified rural land based businesses. Seven landholdings categorised themselves as sporting estates. Six sites were categorised as conservation landholdings, with this group including conservation NGO and SNH landholdings and a community woodland. The ‘other’ category included a public landholding hosting a skiing facility and a cluster of FCS forestry landholdings.

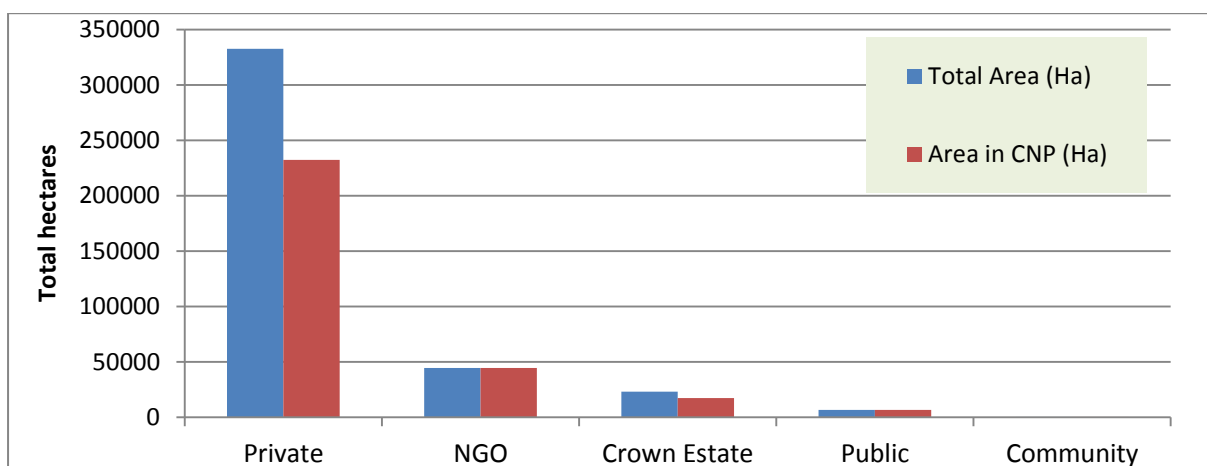


**Figure 3.1** Total area (ha) of different landholding categories within the survey response group and area of each group which occurs within the CNP

Table 3.3 and Figure 3.2 show the number of landholdings within different ownership categories, the total area of land within each category and the proportion of land in each category occurring within the CNP. Private ownership is dominant (82%), followed by NGO ownership (11%).

**Table 3.3** Respondent landholdings categorised by form of ownership

Ownership Type	Number of Respondents	Total Area (Ha) and % of total	Area in CNP (Ha)	% Total occurring within CNP
Private	43	332,664 (82%)	232,292	70%
NGO	4	44,564 (11%)	44,564	100%
Crown Estate	1	23,119 (6%)	17,339	75%
Public	3	6,609 (2%)	6,609	100%
Community	1	386 (0.1%)	386	100%
<b>Total</b>	<b>52</b>	<b>407,343</b>	<b>301,190</b>	<b>74%</b>



**Figure 3.2** Area (Ha) of land within different ownership categories and proportion of this land occurring within the CNP

Table 3.4 shows respondent landholdings categorised by length of time under current ownership. The average length of ownership was 92 years, with a standard deviation of 133 years. Information

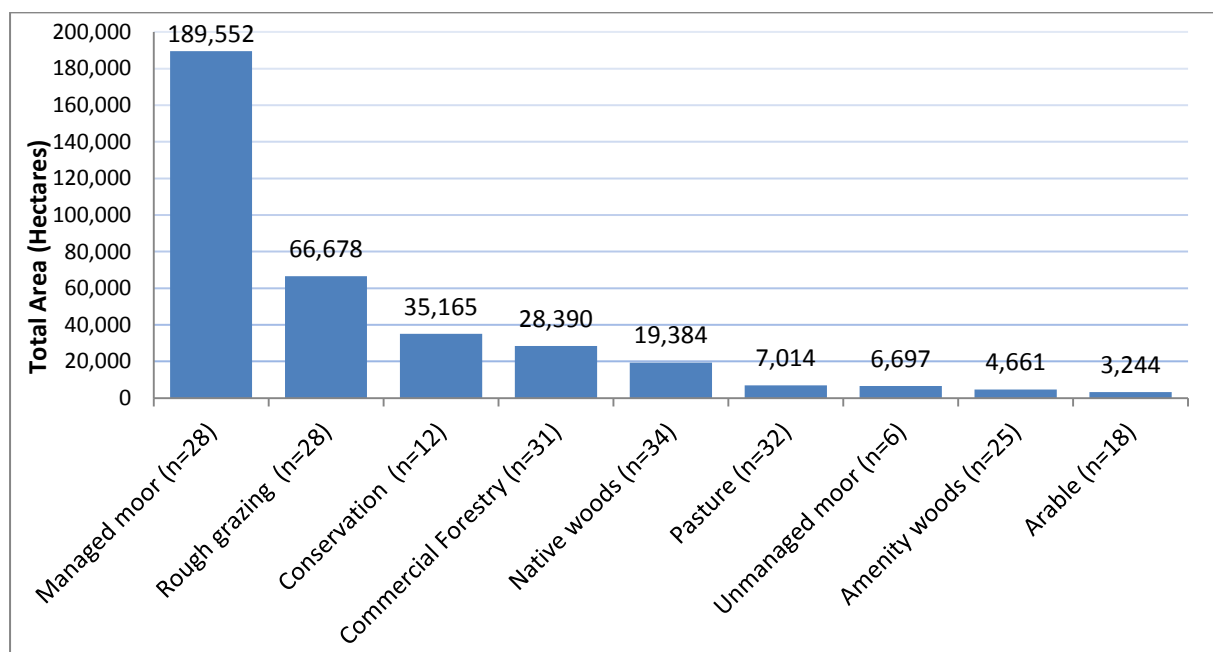
was not provided for 5 landholdings, with 38 landholdings having been in the same ownership for less than 100 years, two for between 100-300 years and seven for over 300 years.

**Table 3.4** Respondent landholdings categorised by length of ownership

Length of Ownership (Years)	Number of Respondents	Total Area (Ha) and % of Total	Area in the CNP	% of total in CNP
0-15	11	107,166 (29%)	78,582	73%
16-30	11	91,257 (25%)	69,910	77%
31-100	16	108,124 (29%)	86,081	80%
100-300	2	6,413 (2%)	6,413	100%
300+	7	56,347 (15%)	32,486	58%
<b>Total</b>	<b>47</b>	<b>369,308</b>	<b>273,473</b>	<b>74%</b>

### 3.1.3 Land Use on respondent landholdings

In total 93,338 hectares of land was let on sporting leases and 82,895 hectares let under agricultural tenancies on respondent landholdings. Figure 3.3 shows the total area of land uses on respondent landholdings, with the numbers of respondents (n) shown for each land use. Managed moorland was by far the most prevalent land use in terms of area, followed by rough grazing, with native woodlands the land use occurring most frequently across respondent landholdings<sup>11</sup>. Conservation as a land use is likely to be underestimated in terms of land area as this can occur in conjunction with other land uses (see also Section 3.2.4); those providing distinct area figures for conservation as a land use were predominantly NGO landholdings. Nine sites were also recorded as being used for renewable energy production on seven landholdings (5 of which were on very large landholdings). In total 132 lochs were recorded on 17 landholdings (85 on one very large landholding).



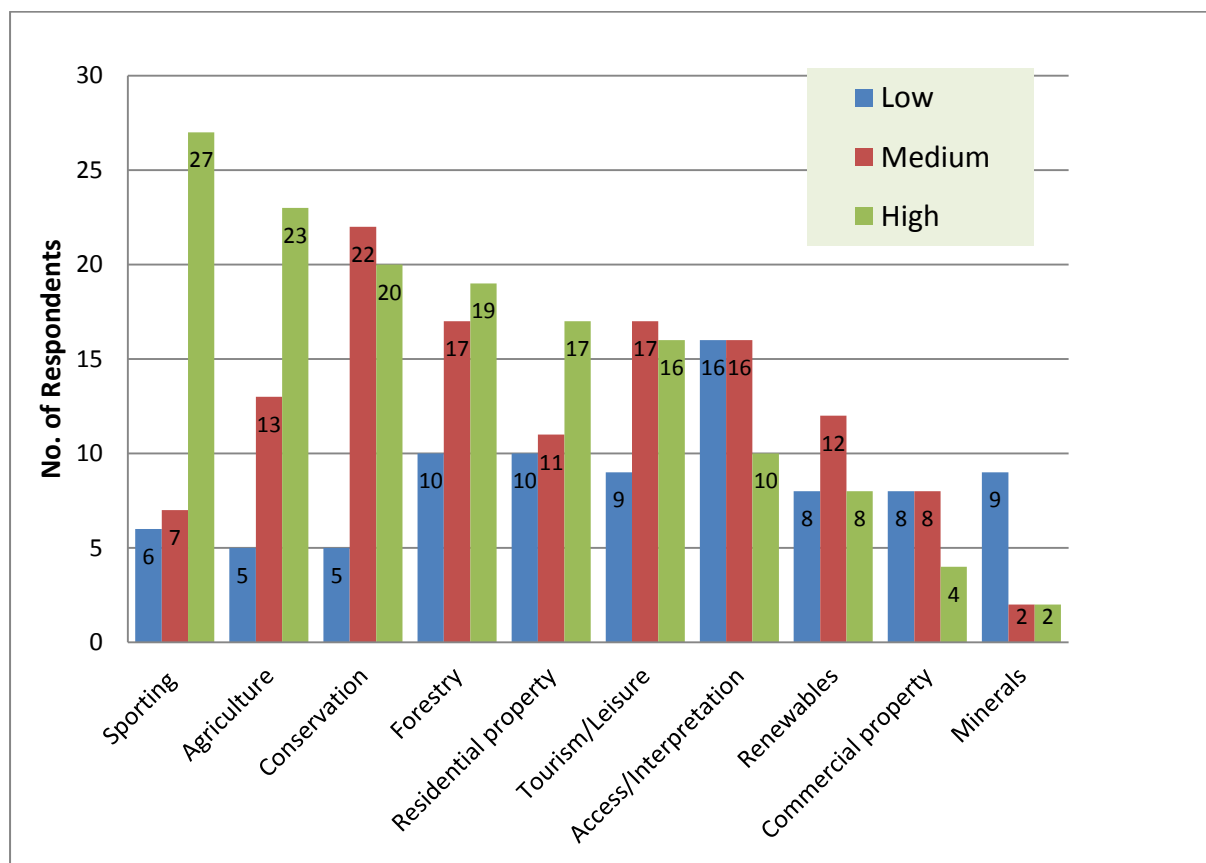
**Figure 3.3** Total area of primary land uses on respondent landholdings

<sup>11</sup> Other land uses noted by respondents as occurring on their landholdings as in-hand land uses included a wetland area (1), a new community development (1), a golf course and fishery (1) and open hill ground (1). Other tenanted land uses included common grazings (3), a horticultural partnership, ski area and restaurant and shop business.

In general the majority of respondents did not express an aspiration to either increase or decrease the area of different land uses on their landholdings, with a small number of exceptions. In particular 15 respondents expressed an aspiration to increase the area native woodland and 6 aspired to increase the number of sites for renewable energy.

### 3.1.4 Management objectives and aspirations

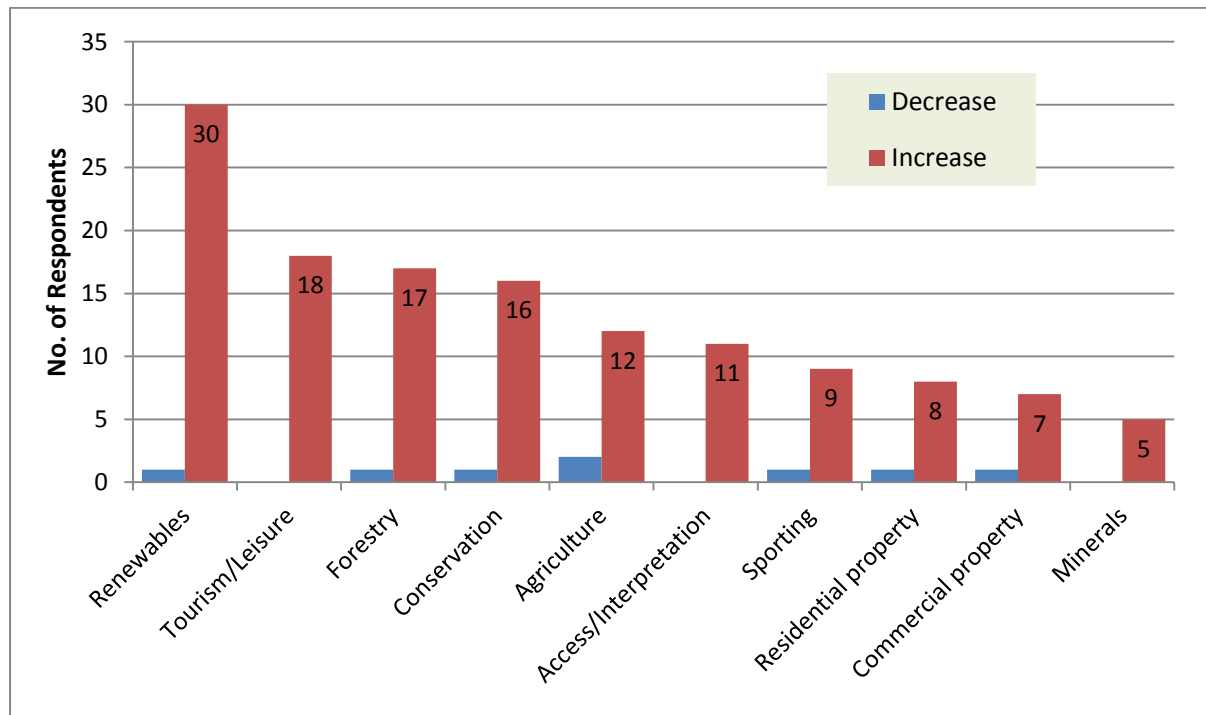
Respondents were asked to rank key activities/objectives on their landholdings in terms of importance (Figure 3.4<sup>12</sup>). On average respondents ranked 2.8 activities as being of high importance, 2.4 activities as being of medium importance and 1.6 activities as being of low importance, with a total average (across low, medium and high rankings) of 6.9 activities ranked across the sample group. Traditional land uses (sporting, agriculture and forestry) were consistently ranked as being of high importance, with conservation, residential property and tourism/leisure also frequently ranked as being of high importance (Figure 3.4). Conservation, forestry, tourism/leisure and access/interpretation were also relatively frequently ranked as being of medium importance, which may indicate that for certain landholdings these represent important secondary objectives relative to the core activities of sporting.



**Figure 3.4** Numbers of respondents ranking key objectives/activities on their landholdings in terms of importance (low, medium or high)

<sup>12</sup> A small number of other objectives/activities were also listed by respondents, including community involvement (1), the development of a new community(1), distillery development (1) and running a forest management consultancy (1)

Figure 3.5 also shows the numbers of respondents expressing an aspiration to either increase or decrease their activity levels relating to each objective/activity. Most notable is the number (30) aspiring to develop renewable energy in the future (relative to the numbers currently ranking it as a medium or high objective). Tourism represents the second most frequently identified area for increased growth, followed by forestry, conservation and agriculture. No, or very few, respondents expressed an aspiration to reduce their levels of activity in most cases.



**Figure 3.5** Numbers of respondents aspiring to increase or decrease their activity levels in key areas

### **3.1.5 Decision making, drivers and approaches to management - interview findings**

#### **3.1.5.1 Decision making and management planning**

Privately owned landholdings in the interview sample group varied in terms of their structures of ownership. The largest landholdings tended to have more complex structures, sometimes involving one or more family trust companies or a combination of one or more family trusts and an outright private ownership. In one case the ownership structure also included a charitable trust (as well as distinct private ownerships and one family trust). Outright ownership by one or more family members of the landholding or business was the most common form of ownership however, with the majority of private landholdings owned in this way. Farms represented in the interview group were all directly owned by the occupier.

Decision making processes varied, with factors responsible for managing three of the largest landholdings (and one medium sized estate) under owner supervision. This usually involved a combination of meetings (monthly, quarterly or six monthly and AGMs in some cases) with owners to agree key decisions and strategic direction and regular formal reports/updates provided to owners. One of these landholdings had a long term strategic management plan, with one also highly plan-led in the shorter term, with three year operational plans developed across four key operating areas. One medium sized estate, which was owner managed (in conjunction with a family trust), also

had a long term strategic plan and a number of estate departments, with the governance of the estate involving fortnightly meetings between department heads for day to day management and family-trust meetings less regularly. The six remaining private estates (and 3 farms) could be described as family owned and run, as one owner put it *'we just talk, we are family'*. Decision making on these landholdings usually involved family discussions, with some having an annual or six monthly meeting to agree strategic direction. These landholdings collectively did not have long term management plans<sup>13</sup>, although most argued that they did maintain a consistent strategic direction *"I have a strategy, but it's not rigid or written down...it's just me, I know, it's in my head really"*. One respondent had previously developed an estate plan, which was not subsequently revised due to time and cost constraints. Three respondents argued that detailed planning was impossible in an estate context, due to the changeability of wider drivers of management *'within an estate context three years is a long time – it is semi-pointless to make plans much beyond that'*. However, as one landowner noted, without a clear plan it was sometimes difficult to engage staff in the overall objectives of the landholding, although staff workshops were recognised as one potential mechanism for communicating strategic direction.

The NGO-owned sites within the interview group had in-situ site managers and support staff, while the publicly owned sites did not have in-situ site managers (with sites managed primarily at regional operational level). The NGO and publicly owned sites within the interviewee group were generally more plan-led with respect to how sites were managed. This was in part due to the complex hierarchical structure of these organisations. This necessitates a long term plan-based structure, often with spatial elements, to facilitate the autonomy of site managers in the shorter term and avoid continual delays in decision making due to the involvement of multiple levels of management. Plans had been developed for all NGO and publicly owned sites<sup>14</sup>, with the plan development process usually including approval from a board of trustees or senior management team. Plans were revised on these sites every 5-10 years, with some also having longer term (100-200yr) strategic plans in place or relevant (longer term) organisational policies. The plan review process on these sites generally incorporated substantial stakeholder consultation, due to the sensitive nature of many of these sites (including national nature reserves). It should be noted that many private landholdings also had management agreements in place in relation to designated sites.

The Crown Estate (which manages Glenlivet Estate) effectively manages the possessions of the monarchy under statute (Crown Estates Act), with all net surpluses returned to the treasury for the benefit of the nation as a whole. The management objectives for Glenlivet are strategically coordinated within the Crown Estate's rural and coastal management team within the team's Scottish portfolio. Day to day management is carried out by locally based land agents and coordinated by the rural and coastal team based in Edinburgh using quarterly budget and strategic review meetings. Glenlivet does not have a whole estate spatial management plan, although it does have a business plan (as part of a larger hierarchical planning structure within rural and coastal) which is regularly reviewed. Long term spatial planning would be difficult to implement in practice as the majority of the estate is leased.

### *3.1.5.2 A typology of landholdings in the Cairngorms National Park*

The landholdings within the interview sample were categorised, according to their objectives and core ethos, into four broad categories: i) diversified land based rural businesses; ii) private sporting residences; iii) farm businesses; and iv) dual function (conservation and public access) landholdings. Overlap occurs between these categories and there is considerable size variation within them;

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<sup>13</sup> A number of estates did have Long Term Forest management Plans which have considerable spatial detail.

<sup>14</sup> Excepting the Crown Estate's Glenlivet holding (see following paragraph).

however they represent a useful tool for exploring how management objectives and drivers can be grouped. Each category of landholding type is discussed further below in relation to core objectives and drivers/motivations.

#### **A. Diversified land based rural business**

Landholdings within this category included small, medium and large private estates. They included heavily diversified very large (2) or large (1) estates with a range of objectives and business interests, usually with a base in traditional land uses (farming, forestry and sporting) and tourism and residential property interests. This category also included medium sized landholdings (5), one of which was heavily diversified, two of which were less diversified but had a base of mixed traditional land uses and some additional activities (e.g. a hydro scheme). One small estate was also present in this category, which had traditional land uses and tourism business interests. In general, the focus on landholdings in this category was on maintaining, enhancing and further diversifying the business base. Perceived threats to traditional land uses (and newly emerging incentive schemes) were noted as a driver of diversification towards renewable energy and tourism-based businesses, with farm diversification grants also having been used on some landholdings. A key over-arching driver was maintaining the landholding as an economically sustainable unit to ensure *'long term financial survival'*. As a general rule, external (non-estate based) income was not utilised to finance the running of the landholding, with landholdings expected to generate an income for their owners. This was usually linked with ensuring that the landholding could be successfully passed on to the next generation of the landowners family in a *'financially healthy state'*, with inheritance tax sometimes noted as a driver of both the structures of ownership and the need to ensure the landholding continued to provide an income stream. As one landowner stated:

*'the core objective is to conserve, develop and enhance the property in a sustainable way for the benefit of future generations whilst providing a living for the owners family, staff and tenants....to meet this the property must not only provide a net income for the owners but also accumulate sufficient funds to invest in innovation and economic opportunities to pay for inheritance tax on the holding when it passes to the next generation'*

Conservation and enhancement of landscape and natural habitats (often linked with/driven by the requirements of designations and available incentives on some sites), was also evident on these sites, to varying degrees. A further driver noted by respondents in this category was a long-term family link to the estate, which engendered a desire to ensure the long term sustainability of the local community and local economy. As one private landowner noted:

*'Schools numbers dropped severely in early 1970s...my father attempted to get more of the local young to stay [in the area]...it was very difficult for them due to housing costs and so we began to sell off housing plots at low cost to locals born and bred in the area and quiet a large chunk of my generation are now still living here and bringing up their families...School is now at 50, from 20 in the seventies, due to their children'*

This social or rural planning role of private landowners was also apparent on other landholdings, with one very large estate exploring options to expand the village on his landholding.

Due to the overall emphasis of the Crown Estate on income generation and diversification Glenlivet can also be loosely placed within this category, with the estate having multiple diversified interests. Notably, management drivers on Glenlivet do not include family elements and primarily relate to the core remit of the Crown Estate to contribute to the national economy, as well as developing an exemplar diversified upland estate and contributing to local socio-economic development through maximising the capital value and income generating capacity of the estate. As with the landholdings

in category D, Glenlivet therefore has an exemplar role in relation to demonstrating a *'long term progressive approach to multiple use management ....and to seek and develop opportunities where we can to ensure the estate and community has a long term future* [Crown Estate representative].

## **B. Private sporting residence**

Landholdings within this category included one large and three medium sized private estates. These landholdings had a core remit of maintaining and enhancing a rural (part-time or full-time) family residence capable of providing high quality sporting opportunities for family members and their guests. These landholdings also had other traditional land uses present (forestry and agriculture), which generated an income (e.g. from agricultural tenants, timber sales and grants) and some additional activities (tourism on one site and renewable energy on one site). However, these landholdings operated at a net cost, which was consistently met through an annual investment of external funds. On two of these sites there was no significant requirement or objective to increase income levels derived directly from the landholding on either site. The core driver on both of these sites was the personal motivations and interests of the owners and ensuring the estate was maintained and enhanced as a very high quality asset, with succession planning a linked driver in this respect. A key aspect on both landholdings was articulated as a desire to maintain and enhance the character and natural heritage quality of the local area, with considerable emphasis on native woodlands (with support from grant schemes) on both sites. The other two landholdings in this category did have an objective to increase income, although primarily to ensure that the core sporting objective could be maintained and developed.

## **C. Farmholding**

Landholdings in this category included one small (<150ha) farm, one deer farm (300-400ha) and one larger (>1000ha) farm holding. The core goal was to run a successful agricultural business. Further objectives included maintaining the land in good condition and ensuring minimal visual and environmental impacts. The key drivers on these landholdings were: i) the availability of and potential changes to subsidies and the resultant effects on farm management and livestock levels ii) owner desire to maintain a family connection with the farm – through the involvement of the next generation; and iii) the physical limitations of the land which restricted alternative options, which combined with uncertainties around support mechanisms reduced owner willingness to take risks. One of the three landholdings was currently operating at a loss, although this was due to the owner approaching retirement and considering selling the farm, with the impending sale noted as a potentially major driver of future change on the landholding.

## **D. Dual function (conservation and public access) and exemplar landholdings**

Landholdings in this category included two large NGO landholdings and publicly owned properties. All of these properties were heavily designated, including as National Nature Reserves (NNR). All were managed with a core emphasis on conservation and enhancement of the natural heritage and the development of opportunities for the general public to experience and engage with landscapes and natural heritage of very high quality. Management of public landholdings was financed with public funds, while NGO-owned land management was financed through organisational funding (with some income generated from visitor related activities) and support from grants/public bodies. Specific conservation objectives included large-scale native woodland restoration, the re-establishment of natural treelines and montane woodlands over larger areas and increasing species and structural diversity of forest plantations. In parallel, there was a strong emphasis on developing opportunities for interpretation of the natural heritage and effective visitor engagement and management which minimised visitor impacts, including footpath restructuring and the



development of visitor centres (which, it should be noted was also occurring on privately owned land).

Respondents in this category also emphasized the importance of their landholdings acting as *exemplars* of 'good' management. Public landowners in particular argued that their ownership of land related to ensuring their credibility in relation to speaking authoritatively about land management in the wider countryside. Public and NGO landowners also stated their objectives to ensure the habitats and ecosystems on their landholdings represented the best examples of their kind in Britain: *'Our key objective is to be the best example of a near natural, boreal forest in Britain, and one of the finest examples in NW Europe of an oceanic boreal forest'* [NGO respondent]

This exemplar role also related to one NGO owned site where management aimed to demonstrate the potential for managing an upland estate for conservation and visitor access, while maintaining the landholding as an active Highland sporting estate, including deriving an income from commercial sporting objectives. This landholding therefore has elements of categories A and B; however, the over-arching emphasis remains one of management for conservation, landscape and visitor engagement with, and enjoyment of, wild land.

Notably, one publicly owned landholding also hosted a large skiing facility. The landholding therefore played a key role in relation to the local socio-economic framework. However, out-with the skiing zone the landholding is primarily managed for high quality visitor management and maintenance and enhancement of the natural heritage, driven in part by the multiple designations evident in the area and minimising the impacts of visitors. Designations and agreements and/or consultation with SNH and the CNP (together with Scottish Government policies) represented key drivers of management choices on all these sites. For NGO-owned sites internal organisational policies and responding to the organisational membership also represented core drivers of management.

## 3.2 Survey results by sector

### 3.2.1 Agriculture (In-hand farming)

From the respondent group 28 stated that they operated one or more in-hand farms on their landholding (most had one farm, with 2 landholdings having 2 farms). From this group 17 managed their farms directly with in house farm management and equipment, with 4 using farm management contractors and 11 using contractors for specific services or equipment. Table 3.5 shows the importance in terms of income generation of different agricultural activities across the respondent group, with beef cattle and upland sheep the most important activities, with arable farming activities also of some importance (low-high) for 15 respondents.

**Table 3.5** Relative importance of incomes from different areas of agricultural activity and future aspirations as indicated by number of respondents (other was unspecified for this response)

Level of Importance/ Future Aspiration	Beef Suckler cows	Beef Cattle Finishing	Low- land Sheep	Upland Sheep	Sheep Finishing	Arable	Deer Farms	Other
No importance	7	11	15	4	9	7	14	6
Low	2	2	1	2	4	7	1	2
Medium	5	3	0	5	0	4	0	0
High	12	3	2	14	3	4	3	0
Increase	8	1	1	7	2	1	4	1
Decrease	3	0	0	2	0	2	0	0

In relation to future aspirations for agricultural activities beef suckler herds (8) and upland sheep (7) are the areas where the largest numbers of respondents aspire to increase activity levels, with 4 respondents also aspiring to become active in deer farming.

**Table 3.6** Total (in-hand) agricultural income across the respondent group (n=25), showing percentage of total and average income by category

Area of Income	Totals	% of total income*	Average	Median
Sales of crops and stock	£2,668,688	54%	£116,030	£77,000
Agricultural support payments (Single Farm Payment, Scottish Beef Scheme)	£1,497,291	30%	£71,300	£45,000
Less Favoured Areas Scheme and Land Manager Options	£413,484	8%	£24,323	£19,578
Environmental payments	£263,227	5%	£17,548	£10,000
Support payments/ grants for capital works	£55,000	1%	£18,333	£10,000
Other	£64,503	1%	£12,901	£4,450
<b>Total agricultural income</b>	<b>£6,073,633*</b>		<b>£242,945</b>	<b>£153,000</b>

\*Total income is larger than the sum of the totals for different areas of income as one landholding with a comparatively large total income did not provide a breakdown of income sources. The % of total income calculations are based on the total agricultural income figure minus the agricultural incomes for this landholding.

Table 3.6, which shows the breakdown of agricultural incomes across different areas, illustrates the importance of support payments and grants, which (when combined) account for 44% of total incomes. The 'other' category in Table 3.6 included income from seasonal and commercial lets

(unspecified) (2), contracting of agricultural work (2), income from the farm woodland premium scheme (1) and rental payments for a radio mast site (1).

Table 3.7 shows the division of spending across key areas. Expenditure on inputs accounts for 40% of all expenditure, with staff and management accounting for 34% and farm repairs and investments 22%. Sales and marketing represent a comparatively minor spending component. Overall, external suppliers and/or contractors account for the majority of spending in all areas except staffing, although 39% of staffing spend is on contracted/external suppliers. It should be noted that respondents were asked to indicate the % spent on contracted and/or external suppliers; therefore the majority of inputs (unless generated in-house) were recorded as being sourced from an 'external' supplier as this is the norm for many inputs (i.e. external in this context does not mean non-local).

**Table 3.7** Breakdown of costs of in-hand agriculture including % of total expenditure, average spend per respondent and average % of expenditure related to contracted/external suppliers (n=25)

Areas of Expenditure	Totals	% of Total	Average	Median	Average % Contracted/sourced from external suppliers
Inputs	£1,583,059	40%	£68,829	£46,000	74%
Staff and management	£1,325,985	34%	£57,652	£35,000	39%
Farm repairs and	£855,650	22%	£38,893	£19,153	78%
Sales and marketing	£149,467	4%	£13,588	£2,000	82%
<b>Total costs</b>	<b>£3,914,162</b>		<b>£156,566</b>	<b>£91,493</b>	

Overall, total agricultural income across the respondent group exceeds £6M and surpasses expenditure (£3.9M) by over £2M. Over 40% of income consists of public support payments and grants, the removal of which would significantly reduce income levels to below that of total expenditure. The average income from agriculture across the respondent group (£242,945) exceeds the average expenditure (£156,566) by £86,378; however the removal of support payments (which on average account for £131,504 of income) would see agricultural expenditure exceeding income by an average of £45,126. Median (middle observation) figures provide an alternative measure of the central point across the sample and it is worth noting that the sample averages are skewed by the large landholding units as shown by the fact that the medians are considerably lower than the averages. The median income of £153,000 compares to the median expenditure of £91,493 and median support payments of £84,578, which reiterates the importance of agricultural support payments to the CNP owned farming sector.

### 3.2.1.1 Tenanted agriculture

From the respondent group 30 indicated that they had agricultural or crofting tenants. For the 23 that provided further information, the total area of tenanted agriculture was 82,895 hectares, with an average of 3604ha of tenanted agricultural land per landholding. These landholdings had 285 agricultural tenants, with an average of 13 per landholding and an average tenancy size of 291ha. Crofts occurred on four landholdings with 10 crofts totalling 392ha (croft area was not provided for two crofts).

Table 3.8 shows income from agricultural tenancies, with the bulk of income derived from farm rents (£1.1M). The 'other' category consisted mainly of income listed in this category but derived from non-agricultural ground rents (e.g. telecommunication mast site rentals). Table 3.9 shows expenditure within tenanted agriculture, with repairs and capital costs accounting for over 70% of

the total. A considerable amount (76-78%), across both management/administration and repairs and capital costs, relates to contracted labour and external suppliers.

**Table 3.8** Direct income from agricultural tenancies (n=18)

	Total	Average	Average per tenant	Median	Median per tenant
<b>Farm rents</b>	£1,141,117	£63,395	£5,532	£25,565	£5,358
<b>Crofting Rents</b>	£526	£132	£36	£63	£38
<b>Other</b>	£200,235	£200,235	-	-	-
<b>Total</b>	<b>£1,356,878</b>	<b>£67,844</b>	-	<b>£15,550</b>	-

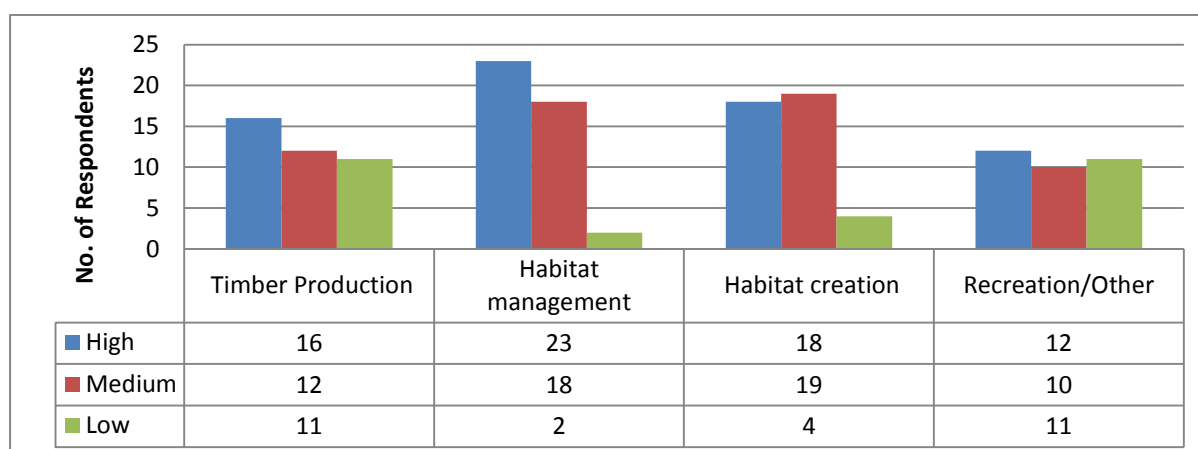
Tables 3.8 and 3.9 reveal large differences between the average incomes and expenditures and median income and expenditures that are expected from the vast range in respondents' landholding areas. As such the average and median figures are also provided on a per tenancy basis and the closeness of median and average figures suggests there is an even distribution around the central point. Average income per farming tenant of £5,532 is practically identical to the median figure of £5,358 with the expenditure figures showing some skewness with the median of £4,118 being lower than the mean of £5,053.

**Table 3.9** Direct expenditure on tenanted farms (n=19)

	Total	Average	Average per Tenant	Median	Median per Tenant	% Contracted
<b>Management/administration</b>	£394,955	£20,787	£1,589	£3,000	£1,176	76%
<b>Repairs and capital costs</b>	£962,433	£60,152	£4,581	£15,250	£3,000	78%
<b>Total costs</b>	<b>£1,357,998</b>	<b>£64,667</b>	<b>£5,053</b>	<b>£16,000</b>	<b>£4,118</b>	

### 3.2.2 Forestry and woodland management

In total 44 respondents engaged in some form of forestry or woodland management (16 more than were engaged in in-hand agriculture). Thirty landholdings produced timber, with a total annual of output of 105,888 tonnes of timber and an average output of 4,608 tonnes per landholding.



**Figure 3.6** Respondents rankings of the importance of key forestry and woodland related activities

Figure 3.6 illustrates that the importance of timber production varied across landholdings, while habitat management and creation were of consistently higher importance overall. Table 3.10 shows the income breakdown for forestry and woodland activities, with timber sales most significant in terms of income, followed by management and planting grants respectively.

**Table 3.10** Direct Income from forestry and woodland management activities (n=30)

	Total Income	% of Total*	Average	Median
Timber Sales (24)	£1,217,699	52%	£50,737	£14,000
Management Grants (n=19)	£453,204	20%	£23,835	£8,000
Planting Grants (n=15)	£431,737	19%	£28,782	£6,000
Other (n=5)	£201,500	9%	£40,300	£5,000
Letting of Woodlands (n=7)	£18,806	1%	£2,687	£2,000
<b>Total Income</b>	<b>£2,322,946</b>		<b>£77,432</b>	<b>£22,450</b>

\*Figures do not add up to 100 due to rounding up of figures/removal of decimal places

Public funding therefore accounts for 39% of total income from forestry and woodland activities. The 'other category' also includes income from fencing and biodiversity grants (2), firewood sales (1), venison sales (1), car park charges (1), selling of sequestered carbon (1). Direct expenditure on forestry and woodland management (Table 3.11) is highest for staffing and inputs, with a high degree of spending being on contractors and external suppliers.

**Table 3.11** Direct expenditure on forestry and woodland management activities (n=35)

	Total	% of Total Expenditure	Average	Median	Average % Contracted
<b>Staff and management</b>	£1,006,107	37%	£30,488	£7,000	48%
<b>Inputs</b>	£919,734	34%	£43,796	£7,300	89%
<b>Sales and marketing</b>	£104,672	4%	£26,168	£24,500	100%
<b>Repairs and investments</b>	£653,191	24%	£29,690	£8,050	69%
<b>Total expenditure</b>	<b>£2,683,704</b>		<b>£76,677</b>	<b>£12,237</b>	

### 3.2.3 Sporting land uses

In total, 41 respondents engaged in some form of sporting land use. Sixteen indicated that they leased land to sporting tenants, the total area of which was 90,338ha (an average of 5,646ha), with the majority of this (68,000ha) being on very large landholdings. Tables 3.12 and 3.13 show the area of land, number of sporting days and total outputs for different sporting land uses across the respondent group. Fishing and red deer stalking are by far the most prevalent in terms of the number of sporting days, with non-commercial (family/own use) activity most prevalent in relation to red and roe deer stalking (accounting for over a third of total sporting days in both cases) and driven grouse shooting (just over a quarter of total sporting days).

**Table 3.12** Total area of land used for sporting land uses and number of sporting days provided

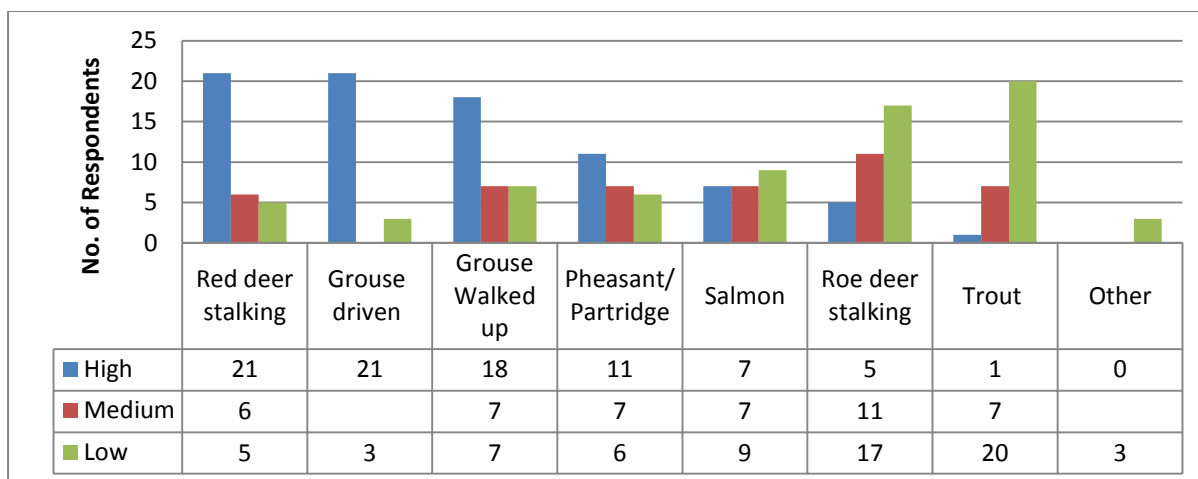
Sporting Land Uses	Area (Ha/Km)	No. of sporting days			Total No. of days
		Commercial sporting	Sporting Tenants	Family/ Own use	
<b>Fishing (rivers) (n=20)</b>	209 (Km)	1,120	654	8	<b>1,782</b>
<b>Red stalking (n=28)</b>	173,088	461	652	628	<b>1,741</b>
<b>Fishing (Lochs) (n=12)</b>	-	300	632	38	<b>970</b>
<b>Roe stalking (n=23)</b>	78,832	209	156	213	<b>578</b>
<b>Pheasant/partridge (n=21)</b>	28,701	276	88	32	<b>396</b>
<b>Grouse walked up (n=23)</b>	71,939	190	114	33	<b>337</b>
<b>Grouse moor driven (n=22)</b>	116,783	76	89	65	<b>230</b>
<b>Other, please specify (n=2)</b>	2,299	12	55	4	<b>71</b>

The 'other' category of sporting land uses related to rough shooting in both cases. Falconry was also listed as an activity on one landholding. As apparent from Table 3.13, pheasant/partridge shooting results in the largest number of outputs (nearly 50,000 birds).

**Table 3.13** Total outputs across different sporting activities on respondent landholdings

Sporting Land Uses	Commercial sporting	Sporting Tenants	Family/ Own use	Total
<b>Pheasant/Partridge shot (n=21)</b>	28,304	15,226	6,456	49,986
<b>Grouse shot (brace) (n=33)</b>	4,301	6,683	4,970	15,954
<b>Red deer stags shot (n=30)</b>	660	954	684	2,298
<b>Hinds shot (n=30)</b>	681	2,052	1,087	3,820
<b>Salmon caught (n=16)</b>	1,859	798	88	2,723
<b>Brown trout caught (n=16)</b>	182	1,644	137	1,932
<b>Sea trout caught (n=9)</b>	279	904	30	1,171

As apparent from Figure 3.7, red deer stalking and grouse shooting are the sporting activities most frequently ranked as being of high importance. However, pheasant/partridge and salmon are ranked at some level of importance on 24 and 23 landholdings respectively and roe stalking, although usually ranked as being of low or medium importance, is ranked at some level on the greatest number of landholdings (33) overall. The other category in Figure 3.7 relates to rough shooting, falconry and a commercial trout fishery. Respondents were also asked to indicate their aspirations for the future in relation to different sporting land uses. In relation to most activities all or the majority of respondents indicated they had no plans to change their levels of activity; driven and walked up grouse were the exception, with 16 and 15 respondents expressing an aspiration to increase their levels of activity in these areas and 8 respondents indicating they wished to increase the amount of pheasant/partridge shooting on their landholdings.



**Figure 3.7** Respondents ranking of the importance of different sporting land uses

Total income from sporting (Table 3.14) exceeded £4.4M for the landholdings for which this information was provided (n=34). Income from pheasant/partridge shooting generates the highest average income for those engaged in this activity (and 25% of total overall sporting income), although this activity occurred on less landholdings than grouse shooting and deer stalking. Salmon fishing also occurred on lower numbers of landholdings (16), although generated the third highest proportion of total sporting income.

**Table 3.14** Direct income from sporting land uses on respondent landholdings (n=34)

	Total Income	% of Total*	Average	Median
Pheasant/Partridge	£1,097,262	25%	£121,918	45,000
Grouse driven	£755,668	17%	£53,976	53,976
Salmon	£534,495	12%	£44,541	£6,000
Venison Sales	£500,389	11%	£19,246	£8,741
Deer Stalking	£488,785	11%	£25,726	£12,995
Grouse walked up	£169,302	4%	£14,109	£9,000
Sporting leases	£154,555	3%	£14,050	£5,000
Other	£84,473	2%	£14,079	£11,500
Trout	£84,313	2%	£7,026	£7,026
<b>Total Sporting Income</b>	<b>£4,471,742**</b>		<b>£131,521</b>	<b>£61,100</b>

\*Figures do not add up to 100 due to rounding up of figures/removal of decimal places

\*\*Total income figure includes additional unspecified sporting income for two landholdings not included in the income for specific sporting activities

Venison sales constitute an important area of income, with venison sales and deer stalking combined representing 22% of total sporting income. In terms of the numbers of sporting days offered versus total income, grouse shooting provides the highest return, equating to an income of £9,943 per day of driven grouse shooting compared to an income of £729 per day of stag stalking. Income from sporting leases appears comparatively low.

Staffing represents the most significant area of sporting expenditure, with an average spend of 96K per landholding, with on average only 10% of this spend relating to contracted staff (Table 3.15). Overall, expenditure on sporting exceeds income by a considerable margin (over £1.5M), which can, in part, be related to the considerable number of sporting days (across all activities) provided for the personal use of landowners and their families/friends with no associated income.

**Table 3.15** Direct expenditure on sporting land uses on respondent landholdings (n=32)

	Total	% of Total Expenditure*	Average	Median	Average % Contracted
Staff and management	£2,785,214	46%	£96,042	£45,000	10%
Inputs	£1,880,395	31%	£69,644	£25,000	72%
Sales and marketing	£45,115	1%	£4,101	£2,000	83%
Repairs and investments	£1,369,459	23%	£57,061	£15,000	63%
<b>Total sporting expenditure</b>	<b>£6,079,599*</b>		<b>£189,987</b>	<b>£79,177</b>	

\*Percentages does not add up to 100% due to rounding up of figures

\*\*Total expenditure does not equate exactly to the sum of the four individual areas of expenditure

### 3.2.4 Conservation land management

Thirty respondents were engaged in conservation management, with 28 receiving support from public grants and 32 engaged in conservation indirectly through general land management activities. Moorland represented the most common conservation land use in terms of area, followed by peatlands, native woodland and wetland (Table 3.16). Land uses recorded in the 'other' category included species rich grassland (3), montane habitat (1) and a restructured conifer plantation (1). With respect to future aspirations, 19 respondents were interested in increasing the area of native woodland on their landholding, with 4 interested in expanding the area of wetland and 2 interested in expanding the area of peatlands.

**Table 3.16** Total and average area of conservation related land uses on respondent landholdings

	Native Woodland	Wetlands	Peatlands	Moorlands	Other
<b>Total area (Ha)</b>	18,633	6,250	54,279	70,264	690
<b>Mean Area (Ha)</b>	565	329	3,877	5,019	138
<b>No. of respondents</b>	33	4	14	14	5

Six respondents recorded a figure for direct income from conservation, totalling £398,050. The sources of this income were unspecified, although the majority (£350k) was recorded on one NGO-owned landholding. Thirteen also derived an income from conservation grants, which totalled £713,250, giving a total income from conservation of £1,111,300. Twenty two respondents provided information on expenditure (Table 3.17), with staffing costs the most significant element overall, followed by other (unspecified) expenditure, with investment constituting a lesser element of expenditure relative to other land uses.

**Table 3.17** Total expenditure related to conservation management on respondent landholdings (n=22)

	Total	% Contracted/ External Supplier
Staff Costs	£916,000	52%
Investment	£176,000	63%
Other expenditure	£831,900	68%
<b>Total expenditure</b>	<b>£1,923,900</b>	



### 3.2.5 Renewable energy and energy efficiency

Thirteen respondents generated renewable energy, with biomass and hydro-electric schemes the most common forms of renewable energy generation. As apparent from Table 3.18 respondents were also most frequently interested in these two areas in terms of developing new schemes or expanding their existing provision of renewable energy.

**Table 3.18** Number of respondents planning to either introduce or increase their existing provision of different forms of renewable energy generation

Form of renewable energy generation	Introduce	Increase
Wind turbines	6	0
Solar / PV panels	4	1
Biomass	11	10
Hydro-electric turbines	12	4
Anaerobic digesters	2	0

A number of key drivers of the apparent interest in hydro and biomass schemes over other forms of renewable energy were apparent in respondents comments and included:

- The low visual impact of hydro schemes and perceived restrictions on wind turbines in the CNP combined with the income generating capacity of hydro schemes (4);
- The capacity of hydro schemes to deliver a consistent source of income following the initial investment and thereby offer an avenue for business diversification (4);
- The potential for biomass schemes to utilise the large amounts of wood available locally, including by-products of timber production (2);
- Biomass was viewed as offering the potential to increase the overall efficiency of estate management and cost effectiveness of timber production through utilising wood grown on site in biomass boilers installed on site or in the wider local area (4);
- Biomass boilers using locally grown fuel was also viewed as offering potential for linking with eco-friendly holiday accommodation (1)
- A general personal concern about the environment, climate change and sustainability (2)

Income and expenditure associated with renewable energy on respondent landholdings (Tables 3.19 and 3.20) is low relative to most other forms of land use, with the majority of recorded income related to 6 existing hydro schemes. Recorded annual expenditure is also comparatively low, with the majority related to repairs and investment costs.

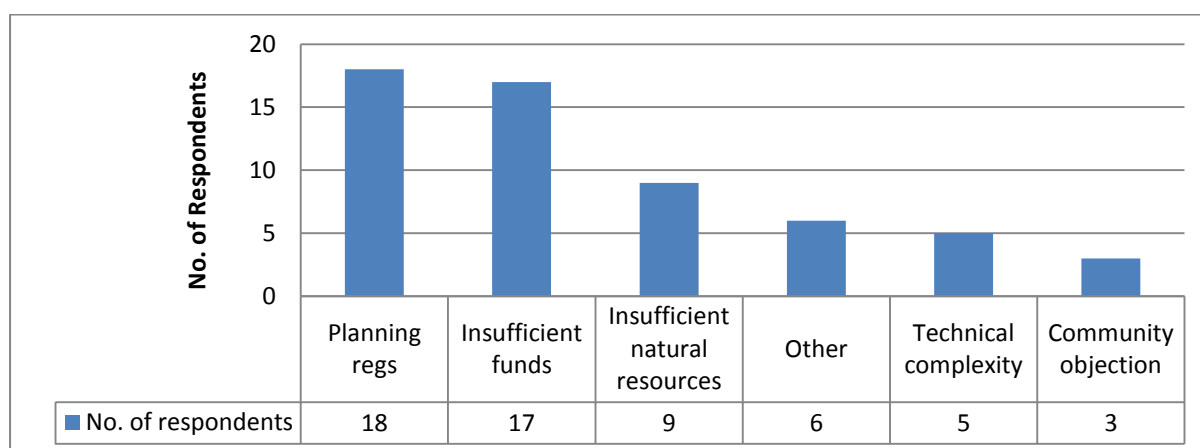
**Table 3.19** Direct income from existing renewable energy schemes on respondent landholdings

Renewable Energy Income	Direct Income	Income to 3 <sup>rd</sup> party
Wind turbines (1)	-	£2,000
Solar/PV panels (2)	£5,000	£350
Biomass (2)	£7,000	£6,000
Hydroelectric turbines (6)	£790,000	-
<b>Total</b>	<b>£802,000</b>	<b>£8350</b>

**Table 3.20** Total expenditure related to renewable energy schemes on respondent landholdings

	Total	% Contracted
Staffing costs (5)	£57,300	78%
Repairs and investments (6)	£115,705	84%
<b>Total costs</b>	<b>£173,005</b>	

There were no established community energy schemes on respondent landholdings, although 1-2 were at the proposal stage for a community-linked scheme. One respondent also noted that they were engaged with a joint biomass venture with the tenant farmers on their land and one noted that they were the main supplier of woodchips in their area, including to the local school, local businesses and private houses.



**Figure 3.8** Barriers to the development of renewable energy as perceived by respondents

Figure 3.8 shows the frequency with which respondents perceived certain areas as barriers to renewable energy, based on a provided closed list of options. Planning regulations and funding availability were the most prevalent. Barriers detailed in the ‘other’ category included a lack of confidence in market demand for wood pellets; the high cost of grid connection for small HEP schemes; a dislike of wind turbines; a lack of grid capacity; planning restrictions imposed by the CNP; SEPA (Scottish Environmental protection Agency) regulations; and neighbouring businesses opposing schemes. Thirteen respondents made suggestions relating to specific assistance and/or incentives which might encourage them to proceed with their plans for renewable energy. These included:

- Simplification of the planning process for renewable energy schemes (3);
- Increased rates and availability of grants for woodfuel/biomass systems (2) and other forms of renewable energy (3) and availability of low interest loans (1);
- Market development and greater confidence in demand/price for woodfuel (2);
- Greater support from CNPA for renewable energy including for small local trial schemes (2);
- Greater availability of impartial advice on renewables (2).

### 3.2.5.1 Energy efficiency

Fourteen respondents had engaged in some form of work to improve the energy efficiency of the buildings on their landholding in the last five years. Specific activities included installing general insulation (6), loft insulation (5), double glazing (6), upgrading boilers (2), woodchip boiler systems

(2), wood burning stoves (2), draft proofing (1) and low energy lighting (1). The total costs of this work for the nine landholdings that provided this information was £800,500, with four having sourced a total of £41,250 from energy efficiency grants. Ten respondents were concerned about changes to regulations on energy efficiency of private rented housing and the potential implications for tenanted properties in the future. The primary concern related to difficulties associated with renting houses which fail to achieve level E of the Energy Performance Certificate under short assured tenancies. Housing on some landholdings was viewed as unlikely to achieve this level even with significant improvements, with major refurbishment required to achieve sufficient efficiency improvements. Achieving the required energy efficiency improvements were therefore viewed as incompatible with holding rents at affordable levels on some landholdings, particularly for older stone and slate built properties.

### 3.2.6 Residential property

Thirty eight respondents indicated that they had residential property on their landholdings (not including self-catering cottages). In total, 1,193 residential properties were recorded, with the largest numbers being houses rented at market rent (309) and rented at affordable rents (301), with a further 259 used for staff housing (Table 3.21). There were 55 vacant properties, although it was unspecified as to how many were suitable for use as accommodation or required refurbishment.

**Table 3.21** Number of residential properties in different categories on respondent landholdings

	Number of Properties	Average Number of Properties	Median Number of Properties
Owner/Family house(s) (n=30)	64	2	1
Staff Housing (n=31)	259	8	5
Rented Accommodation (market rent) (n=28)	309	11	6
Rented Accommodation (Affordable Housing) (n=19)	301	16	2
Accommodation on Agricultural Tenancies (n=17)	205	12	4
Vacant Houses (n=15)	55	4	2
<b>Total Houses</b>	<b>1,193</b>	<b>30</b>	<b>11</b>

Respondents derived a total rental income from residential property of £1,639,728 (an average of £60,731 and median of £30,000 per landholding), of which £1,434,068 (87%) was derived from properties let at open market rent and £205,660 (13%) was derived from properties let at affordable rents. Direct expenditure on residential properties (Table 3.22) was predominantly on repairs and capital costs (64%) and staff and management costs (31%).

**Table 3.22** Direct expenditure on residential property on respondent landholdings

	Total	% of Total Expenditure	Average	Median	Average % Contracted/ External Supplier
Letting/management fees (n=14)	£89,946	4%	£6,425	£2,000	80%
Staff and management costs (n=21)	£674,750	31%	£32,131	£15,000	80%
Repairs and capital costs (n=30)	£1,387,159	64%	£46,239	£10,000	62%
Sales and marketing (n=3)	£2,800	<1%	£933	£500	100%
<b>Total residential expenditure (n=30)</b>	<b>£2,154,655</b>		<b>£71,822</b>	<b>£18,750</b>	

### 3.2.7 Tourism and visitor attractions

Thirty two respondents operated or hosted tourism or leisure related activities on their landholdings, with 19 respondents wishing to increase their level of activity in this area in the future, 2 planning to decrease activity in this area and 12 had no changes planned. For those planning no change three noted their reasons as being a lack of any further capacity and a lack of staffing resources and an 'uncertain personal outlook'. For those planning to expand their tourism and leisure interests, the main reasons provided were that such activities represented one of the only opportunities for business growth/increasing profitability (3); demand for tourism and leisure was increasing in the area (2); the development of the National Park had increased visitor numbers locally (1); tourism represented an opportunity to profit from existing assets (e.g. cottages) (2).

**Table 3.23** Number of holiday accommodation properties/businesses and bed spaces on respondent landholdings and associated total and average income

	Run directly by landholding	Occupancy	Average Income	Median	Total income
Guesthouse or B & B (No. of bed spaces) (n=3/2)*	59	24%	£180,326	£180,326	£360,652
Self-catering accommodation (No. of properties) (n=21/16)*	125	48%	£79,644	£28,500	£1,274,300
Camping or caravan sites (No. of pitches) (n=4/3)*	652	43%	£450,000	£400,000	£1,350,000
<b>Total</b>			<b>165,831</b>	<b>£46,000</b>	<b>£2,984,952</b>

\*First figure in each case relates to number of respondents providing data on bed spaces/occupancy and second number relates to number of respondents providing data on income

Twenty four respondents provided some form of holiday accommodation, with self-catering holiday cottages the most common form of holiday accommodation provision (Table 3.23). Total income from holiday accommodation was significant, at nearly £3M, with a small number (3) of large campsites contributing over £1.3M of this total (Table 3.24). Staffing represents by far the most significant area of expenditure on holiday accommodation, with an average spend of 98K per landholding, with on average 34% of this spend relating to contracted staff. Income from holiday accommodation exceeds expenditure by £863K, suggesting that this area is a comparatively profitable area of business for many landholdings.

**Table 3.24** Direct expenditure on holiday accommodation provision on respondent landholdings

	Total	% of Total Expenditure	Average	Median	Average % Contracted
Staff and management (n=16)	£1,575,093	74%	£98,443	£12,250	34%
Sales and marketing (n=16)	£116,701	6%	£7,294	£2,500	92%
Repairs and investments (n=17)	£429,831	20%	£25,284	£13,000	50%
<b>Total holiday accommodation expenditure</b>	<b>£2,121,625</b>		<b>£124,801</b>	<b>£25,900</b>	

**Table 3.25** Number of visitor attractions on respondent landholdings and associated income

Type of attraction	No. operated by landholding	No. operated by third parties	Total income**	Average income	Median Income
Main House Opened (n=4)*	5	1	£1,131,700	£282,925	£5,700
Parks and Gardens (n=2)	4	0	£80,500	£40,250	£40,250
Visitor Centres (n=2)	9	0	***	***	***
Other (n=2)	4	32	£24,000	£12,000	£12,000
Museums (n=1)	0	2	***	***	
Ruins	11	2			
Place of worship	0	2			
<b>Total</b>			<b>£1,327,700</b>	<b>£189,671</b>	<b>£17,000</b>

\*N for all types of attractions shown here is for the number of respondents providing financial information, total number of respondents providing information on number of attraction is higher in all cases.

\*\*Total income only relates to attractions operated by landholdings directly

\*\*\*Removed to preserve anonymity

Fourteen respondents indicated that they have heritage visitor attractions or destinations on their landholdings. A small number of landholdings derived significant income from visitor attractions, with the opening of the main estate house to the public accounting for the majority of this income (Table 3.25). The visitor centres for which income figures were provided were both on NGO owned properties. The 'other' category of attraction in Table 3.26 included a wildlife park (1), archaeological site (1), bothy (1), village hall and car park and picnic area (1). In total, respondents estimated that 748,500 people were visiting the attractions on their properties annually (n=10); this is likely to be a considerable under estimate of total visitor numbers to landholdings in the CNP, due to the low numbers providing an answer for this question. The majority of expenditure on visitor attractions (Table 3.26) related to staffing costs, with 14% of the total also accounted for by costs of repairs and investments.

**Table 3.26** Direct expenditure on visitor attractions on respondent landholdings

	Total	% of Total Expenditure*	Average	Median	Average % Contracted
Staff and management (n=11)	£1,274,000	79%	£115,818	£20,000	26%
Sales and marketing (n=6)	£124,000	8%	£20,667	£6,500	34%
Repairs and investments (n=9)	£218,500	14%	£24,278	£5,000	71%
<b>Total</b>	<b>£1,616,500</b>		<b>£146,955</b>	<b>£35,500</b>	

\*Percentages does not add up to 100% due to rounding up of figures

Table 3.27 shows the number of leisure activity businesses on respondent landholdings and related income. Leisure based businesses provide a significant proportion of income (nearly £4.8M), with shops of particular importance, with shops on 7 landholdings providing total income of over £3.1M. Three respondents listed income from businesses in the other category, which included a ski centre and a wildlife based businesses and a diversified provision of recreational opportunities (including clay target shooting, fishery, land rover tours, corporate entertainment, water based activities, wildlife watching and mountain bike hire).

**Table 3.27** Number of leisure activity businesses on respondent landholdings and associated income

Type of activity/business	No. operated by landholding	No. operated by third parties	Total income	Average income	Median Income
Farm or other shops (n=7)	7	6	£3,158,910	£451,273	£126,000
Cafes, restaurants (n=7)	3	7	£308,000	£44,000	£12,000
Family entertainment destinations (n=0)	0	1			*
Mountain Bike Trails (n=2)	3	6	*	*	*
Wildlife based businesses/activities (n=4)	6	3	£154,000	£38,500	£38,500
Country fairs, sports festivals, events etc. (n=4)	6	2	£21,000	£5,250	£4,000
Golf courses (n=2)	2	2	*	*	*
Equestrian events or activities (n=6)	5	14	£586,442	£97,740	£8,971
Other (n=3)	12	3	£468,473	£156,158	£118,473
<b>Total</b>			<b>£4,788,325</b>	<b>£368,333</b>	<b>£55,000</b>

N for all types of businesses shown here is for the number of respondents providing financial information, total number of respondents providing information on number of businesses/activities is higher in most cases

\*Removed to preserve anonymity

Other activities also listed in this category for which an associated income was not identified included clay pigeon shooting (1), skiing (1), using estate lodges as wedding venues (1), running a castle (1) and footpath and bike trail networks (2). Twelve landholdings gave estimates of total numbers utilising the leisure activities available on their landholdings, which totalled £914,025. Collectively, income from leisure activity based businesses is over double the figure for expenditure (Table 3.28), making this area one of the most profitable areas overall.

**Table 3.28** Direct expenditure on leisure activities provision on respondent landholdings

	Total	% of Total Expenditure	Average	Median	Average % Contracted/External Supplier
Staff and management (n=11)	£1,518,100	75%	£138,009		25%
Sales and marketing (n=8)	£307,395	15%	£38,424		70%
Repairs and investments (n=10)	£193,845	10%	£19,385		63%
<b>Total expenditure on provision of leisure activities</b>	<b>£2,019,340</b>		<b>£183,576</b>		

### 3.2.8 Commercial properties

Eleven landholdings indicated that they derived an income from letting of commercial properties to business tenants, with a total rented area of 7689 sq/m, with 66 businesses recorded as renting property overall on these 11 landholdings (Table 3.29).

**Table 3.29** Area of commercial property on respondent landholdings (rented, own use and vacant)

	Using by landholding (Sq/m)	Leased to business tenant (Sq/m)	Vacant (Sq/m)
Offices (n=4)	1,203	1,230	40
Retail businesses (n=3)	210	239	-
Storage facilities (n=3)	-	429	65
Production facilities (n=5)	443	5,791	
<b>Total area</b>	<b>1,856</b>	<b>7,689</b>	

Tables 3.30 and 3.31 show direct income and expenditure figures associated with commercial property. Income from commercial property is low relative to most other sectors, although income outweighs expenditure for this sector significantly – by a greater ratio (4:1) than for any other sector. Expenditure has been recorded as being primarily on contracted staff and/or external suppliers, although it should be noted these average percentages are based on a very small sample.

**Table 3.30** Income derived from commercial property on respondent landholdings

	Total	% of total income	Average income	Median income
Offices (n=4)	£100,873	18%	£25,218	£24,862
Retail (n=3)	£202,000	37%	£67,333	£16,000
Storage (n=3)	£16,800	3%	£5,600	£4,800
Production (n=5)	£233,446	42%	£46,689	£7,500
<b>Total income</b>	<b>£553,119</b>		<b>£69,140</b>	<b>£28,260</b>

**Table 3.31** Direct expenditure on commercial property on respondent landholdings

	Total	% of Total Expenditure	Average	Median	Average % Contracted/ External Supplier
Staff and management (n=6)	£47,689	35%	£7,948	£4,195	100%
Sales and marketing (n=3)	£3,700	3%	£1,233	£1,000	60%
Repairs and investments (n=6)	£85,612	62%	£14,269	£12,000	90%
<b>Total expenditure</b>	<b>£137,001</b>		<b>£22,834</b>	<b>£18,750</b>	

### 3.2.9 Minerals and quarrying and other business activities

Eight respondents indicated that they were involved in quarrying and/or minerals production on their landholdings, with 4 interested in increasing their levels of activity in this area and 5 indicating they wished to maintain existing levels of production. Two maintained this activity for small-scale

on-site track repairs, while four indicated they supplied wider businesses and one highlighted the potential opportunity the upgrading of the A9 presented for his quarry business. Six indicated the area of land utilised, which totalled 212 hectares, with an annual total production of 90,151 tonnes of cut stone (most of which came from one quarry) and 15000 tonnes of sand (from one landholding). The income generated on the four landholdings that provided this information totalled £98,650 (£60,650 of which was derived from rental income paid by quarry operators on four landholdings) and £38,000 came from quarry sales on one landholding. Due to the fact that most quarry operations was carried out by quarry operators who paid a rent, expenditure in this area by landholdings was minimal, with a total of £3,800 expenditure, £3000 of which related to staffing costs on one landholding.

### 3.2.9.1 Other business activities

Four respondents also provided information relating to other business activities not accounted for in the previous sectors, including 8 businesses operated by third parties and 7 businesses owned and run directly by landowners and/or their staff (Table 3.32).

**Table 3.32** Number of other businesses on respondent landholdings and associated annual income, expenditure and investment

	No operated directly by landowner/staff	No. operated by 3rd party	Income	Expenditure	Investment
Adding value to Raw Materials (n=2)	6	0	*	*	*
Fish Farms (n=2)	0	2	*	*	*
Horticulture (n=1)	0	1	*	-	-
Professional (n=2)	1	2	*	-	-
Other (n=3)	0	3	33,391	6,197	£120,000
<b>Total</b>	<b>7</b>	<b>8</b>	<b>£262,691</b>	<b>£18,697</b>	<b>£365,000</b>

\*Removed to preserve anonymity

The 'other' category in Table 3.32 included a native woodland burial site, a garage recovery business and an equestrian facility. Two other businesses noted in the additional comments section were a ski centre, which provided the landowner with 6K of rental income and an outdoor activity centre for which income was not noted, both of which were run by third party operators.



### 3.3 Combined economic contributions of land holdings

Table 3.33 shows that from the total survey responses there were 44 that provided adequate financial detail to be included in the economic analysis, 10 small (less than 1,000 Ha), 24 medium (1,000Ha to 10,000Ha) and 10 large (more than 10,000Ha). Nearly all of the small landowning units managed their land in-hand, falling to two-thirds of the larger units.

**Table 3.33** Survey responses used for financial analysis

	Small	Medium	Large	Total
<b>Number of Respondents</b>	10	24	10	<b>44</b>
<b>Hectares</b>	4,050	107,249	275,725	<b>387,024</b>
<b>Average Size (Ha)</b>	405	4,469	27,573	<b>8,796</b>
<b>Land Managed in Hand (%)</b>	97%	82%	67%	<b>72%</b>

Table 3.34 reveals that sporting activities were most commonly reported across the financial sample with 77% engagement, although less than a third of the small grouping engaged in sporting activities. 68% were engaged in forestry activities, with an unsurprising positive correlation to physical scale. Two-thirds of the financial sample were engaged in residential letting of properties, although only 41% were engaged in tourism accommodation. 57% had direct involvement with agriculture and the inverse relationship with physical scale suggests the presence of some larger sporting estates in the “large” grouping. Overall 45% were involved in letting land to agricultural tenants with 36% involved in conservation work on their land. During the presentation of the financial analysis where there are only one or two responses (those in red text in Table 3.34) per group their results will not be displayed to protect the anonymity of the respondents.

**Table 3.34** Respondents activity mix by size grouping

	Small	Medium	Large	Total
Sporting	30%	88%	100%	<b>77%</b>
Forestry	40%	71%	90%	<b>68%</b>
Residential Accommodation	40%	67%	90%	<b>66%</b>
Agriculture	60%	58%	50%	<b>57%</b>
Ag Tenancy	30%	42%	70%	<b>45%</b>
Tourism Accommodation	30%	38%	60%	<b>41%</b>
Conservation	30%	42%	30%	<b>36%</b>
Sports & Recreation	10%	13%	60%	<b>23%</b>
Renewables	10%	17%	40%	<b>20%</b>
Heritage	0%	17%	40%	<b>18%</b>
Business	0%	13%	50%	<b>18%</b>
Retail	10%	13%	30%	<b>16%</b>
Food & Beverage	10%	8%	40%	<b>16%</b>
Minerals & Quarrying	10%	8%	20%	<b>11%</b>
Other Activities	0%	4%	20%	<b>7%</b>
Adding Value	0%	8%	0%	<b>5%</b>
Fish Farms	0%	8%	0%	<b>5%</b>
Horticulture	0%	4%	0%	<b>2%</b>
Professional Services	0%	4%	0%	<b>2%</b>

### 3.3.1 Income derived impacts

Table 3.35 shows that the financial respondents reported that their income generated was over £28 million per annum (average over 3 years), with 60% generated by the large category landholdings, 30% by the medium and 10% by the small. This demonstrates how a small number of large landholdings had a significant economic impact in terms of incomes generated from their activities. More than a fifth of total income was generated from in-hand agricultural activities (including CAP support payments, see Section 3.2.1). It is noteworthy that the small landholdings had considerably higher income per hectare (£458) than the medium (£21) and large (£7) due to the presence of larger estates in the latter two categories that had minimal agricultural activity or were leasing the land to tenants. This is borne-out by the 5% of landowner income within the park derived from agricultural tenancies. Only 7 were engaged in the retail sector, yet it accounted for 11.2% of total income, generated more income than tourism accommodation (10.6%), forestry (8.3%) and residential accommodation (6.9%) despite their superior participation rates.

**Table 3.35** Direct income generated by activity as reported by financial sample

Direct Income	Small	Medium	Large	Total	Sectoral Importance
Agriculture	1,853,968	2,227,876	1,991,790	<b>6,073,633</b>	<b>21.6%</b>
Sporting	423,764	951,167	3,096,811	<b>4,471,742</b>	<b>15.9%</b>
Retail	*	770,410	2,384,500	<b>3,158,910</b>	<b>11.2%</b>
Tourism Accommodation	98,000	981,300	1,905,652	<b>2,984,952</b>	<b>10.6%</b>
Forestry	36,351	847,266	1,439,329	<b>2,322,946</b>	<b>8.3%</b>
Residential Accommodations	342,800	755,716	838,212	<b>1,936,728</b>	<b>6.9%</b>
Ag Tenancy	20,000	263,781	1,073,097	<b>1,356,878</b>	<b>4.8%</b>
Heritage		32,300	1,303,400	<b>1,335,700</b>	<b>4.7%</b>
Sports & Recreation	*	558,415	755,500	<b>1,321,415</b>	<b>4.7%</b>
Conservation	40,800	317,000	753,500	<b>1,111,300</b>	<b>4.0%</b>
Renewable	*	269,000	536,350	<b>810,350</b>	<b>2.9%</b>
Business		49,450	503,669	<b>553,119</b>	<b>2.0%</b>
Food & Beverage	*	*	100,000	<b>308,000</b>	<b>1.1%</b>
Adding Value		*		<b>*</b>	<b>0.7%</b>
Minerals & Quarrying	*	*	*	<b>*</b>	<b>0.4%</b>
Other Activities		*	*	<b>*</b>	<b>0.1%</b>
Fish Farms		*		<b>*</b>	<b>0.1%</b>
Professional Services		*		<b>*</b>	<b>0.1%</b>
Horticulture		*		<b>*</b>	<b>0.0%</b>
<b>Total</b>	<b>2,916,183</b>	<b>8,469,981</b>	<b>16,745,851</b>	<b>28,132,014</b>	

\*Removed to preserve anonymity

Using the income figures reported by the financial sample (Table 3.35) multipliers were used to calculate the total economic impacts of the sample. Table 3.36 shows that from the £28.1 million direct income (output) generated this was estimated to have led to another £14.3 million of income being generated across the Scottish economy as the suppliers of goods and services in turn purchased inputs and so on down the supply chain (indirect output). The movement of money throughout the supply chain also increased household incomes whose purchases then were estimated to have increased general output within the wider economy (induced output) by another £6.6 million. This means that the 44 businesses used in the financial analysis were estimated to have contributed £49 million output in the Scottish economy, with £29 million attributable to the large businesses, £15 million to the medium and £5 million to the small. Overall this equated to £127 per hectare of total economic output. Understandably the smaller units had higher per hectare impacts

due to (a) quality of land, (b) running of other businesses on this land and (c) the income not being diluted over large areas of relatively unproductive moorland.

Using the Income Effect Table 3.36 also shows that from the direct output it was estimated that the activities in these landholdings contributed £9.2million to Scottish household incomes through direct and indirect effects with a further £1.7 million generated through induced effects. This means that overall the income generating activities of the financial sample were estimated to have contributed £28 per hectare of land owned to Scottish household incomes.

Using the Employment Effect (Table 3.36) it was estimated that as a result of the income generated by the sample landowners that there were 615 FTE jobs reliant on these businesses and throughout the supply chain (direct and indirect) with a further 71 reliant on induced effects resulting from additional general household expenditure across the whole economy. This was the equivalent of a FTE job maintained across the Scottish economy for every 564 hectares within the financial sample's land holding.

The GVA Effect also allows an estimate to be made of the impact on the GVA of the Scottish economy from the income generated by the financial sample. Table 3.36 shows that it was estimated that this sample directly and indirectly (through respond in the supply chain) contributed £16.9 million to Scottish GVA with a further £3.3 million contribution from the additional household spend through additional induced household spending. The combined effect was that it was estimated that Scotland's GVA benefited by £54 for each hectare owned by the sample.

**Table 3.36** Estimated multiplier impacts from income generated as reported by financial sample

Multiplier	Type of Impact	Small	Medium	Large	Total
	<b>Direct Output</b>	<b>2,916,183</b>	<b>8,469,981</b>	<b>16,745,851</b>	<b>28,132,014</b>
Output multiplier	Total Indirect Output	1,684,539	4,616,207	7,982,334	14,283,080
	Total Induced Output	527,756	1,969,402	4,164,695	6,661,854
	Total Output	5,128,478	15,055,590	28,892,880	49,076,948
	<b>Total Output Impact per Ha</b>	<b>1,266</b>	<b>140</b>	<b>105</b>	<b>127</b>
Income Effect	Total Direct & Indirect Income	733,809	2,733,211	5,787,876	9,254,896
	Induced Income	137,953	511,470	1,086,780	1,736,203
	Total Income	871,762	3,244,681	6,874,657	10,991,099
	<b>Total Income Impact per Ha</b>	<b>215</b>	<b>30</b>	<b>25</b>	<b>28</b>
Employment effect	Direct & Indirect Employment (FTEs)	61	184	370	615
	Induced Employment (FTEs)	6	21	45	71
	Total Employment (FTEs)	67	205	414	686
	<b>Total FTE Impact per Ha</b>	<b>0.0165</b>	<b>0.0019</b>	<b>0.0015</b>	<b>0.0018</b>
GVA effect	Direct and Indirect GVA	1,485,515	5,100,222	10,318,454	16,904,191
	Induced GVA Effect	264,168	979,411	2,081,082	3,324,661
	Total GVA Effect	1,749,682	6,079,634	12,399,537	20,228,853
	<b>Total GVA Impact per Ha</b>	<b>432</b>	<b>57</b>	<b>45</b>	<b>52</b>

Using these per hectare figures across the different land size categories estimates were made for the total income derived economic impacts resulting from landownership in the Cairngorms National Park. Table 3.37 shows the total estimated impacts arising from landowning activities in the CNP. From the updated database of landholdings in the CNP (Section 2.1,1) it was estimated that there were 96 owners holding 438,982 hectares, with the majority of land (58%) held by 15 large estates (> 10,000Ha) and the majority of owners (56%) in the medium (1,000 – 10,000Ha) grouping. It was estimated that these businesses generated £31.9 million income, which contributed £55.5 million to Scotland's output after indirect and induced impacts were included. After accounting for direct,

indirect and induced effects the income generated by the CNP landowning group was also estimated to have contributed £12.5 million to Scottish household incomes, maintained 778 FTE jobs and contributed £22.9 million to Scotland's GVA.

**Table 3.37** Estimated (income derived) total economic impacts from all CNP landowners

Type of Impact	Small	Medium	Large	Total
CNP Landowners	27	54	15	100
CNP Hectares	8,855	174,208	255,919	438,982
Total Direct Output	6,376,414	13,758,124	15,542,912	31,908,766
<b>Total Output</b>	<b>11,213,735</b>	<b>24,455,389</b>	<b>26,817,359</b>	<b>55,665,578</b>
Total Direct & Indirect Income	1,604,518	4,439,662	5,372,104	10,497,375
<b>Total Income Effect</b>	<b>1,906,161</b>	<b>5,270,463</b>	<b>6,380,815</b>	<b>12,466,666</b>
Direct & Indirect Employment (FTEs)	134	298	343	697
<b>Total Employment Effect (FTEs)</b>	<b>146</b>	<b>332</b>	<b>385</b>	<b>778</b>
Total Direct and Indirect GVA Effect	3,248,170	8,284,492	9,577,228	19,173,596
<b>Total GVA Effect</b>	<b>3,825,789</b>	<b>9,875,389</b>	<b>11,508,815</b>	<b>22,944,596</b>

### 3.3.2 Expenditure derived impacts

In addition to estimating income derived impacts expenditure derived impacts were also estimated to account for instances where economic returns are not the principal motivation of landowners. In such instances (e.g. investing in sporting activities for personal enjoyment) expenditure may well exceed income meaning an income derived estimate of impact underestimates the true economic impacts. Table 3.38 shows that £5.3 million was spent on inputs by the financial sample with the large businesses responsible for 60% of the total. £1.9 million was reported as being spent on inputs for sporting activities with £1.5 million on agricultural inputs, £0.9 million on forestry inputs and £0.8 million on inputs for conservation activities.

**Table 3.38** Total input expenditure reported by financial sample

Sector	Small	Medium	Large	Total
Sporting	2,100	436,950	1,441,345	<b>1,880,395</b>
Agriculture	467,146	689,933	425,980	<b>1,583,059</b>
Forestry	8,334	258,500	652,900	<b>919,734</b>
Conservation	25,700	174,000	632,200	<b>831,900</b>
Residential Accommodation	1,500	100,600	6,646	<b>108,746</b>
Adding Value	-	*	-	*
Fish Farms	-	*	-	*
Professional Services	-	*	-	*
Other Activities	-	*	*	*
<b>Total</b>	<b>504,780</b>	<b>1,659,983</b>	<b>3,159,071</b>	<b>5,323,834</b>

\*Removed to preserve anonymity

The financial sample businesses reported that they spent £6.9 million on repairs and capital investments across different components of their business (see Table 3.39). The large businesses accounted for 60% of that investment expenditure. £1.42 million was reportedly spent on residential accommodation with £1.37 million on sporting, £0.96 million on agricultural tenancies, £0.85 million on agriculture and £0.65 million on forestry.

**Table 3.39** Total capital investment and repair expenditure reported by financial sample

Sector	Small	Medium	Large	Total
Residential Accommodation	99,200	273,101	1,046,809	<b>1,419,110</b>
Sporting	*	292,250	1,017,209	<b>1,369,459</b>
Ag Tenancy	*	128,500	828,933	<b>962,433</b>
Agriculture	285,428	358,595	211,627	<b>855,650</b>
Forestry	11,244	428,620	213,327	<b>653,191</b>
Tourism Accommodation	19,000	200,467	279,331	<b>498,798</b>
Heritage	-	57,500	161,000	<b>218,500</b>
Sports & Recreation	*	157,845	5,536	<b>209,581</b>
Fish Farms	-	*	-	<b>*</b>
Conservation	-	58,000	118,000	<b>176,000</b>
Other Activities	-	-	120,000	<b>120,000</b>
Renewables	-	82,705	33,000	<b>115,705</b>
Business	-	20,300	66,312	<b>86,612</b>
Adding Value	-	*	-	<b>*</b>
Minerals & Quarrying	*	-	-	<b>*</b>
<b>Total</b>	<b>526,872</b>	<b>2,102,883</b>	<b>4,101,085</b>	<b>6,930,840</b>

\*Removed to preserve anonymity

The financial sample reported that they spent £0.88 million on sales and marketing of their various activities (see Table 3.40). 34% of the total was spent on the sale and marketing of sports and recreational activities, with 16% on tourism accommodation and a further 16% on agricultural produce.

**Table 3.40** Total expenditure on sales and marketing reported by financial sample

Sector	Small	Medium	Large	Total
Sports & Recreation	30,250	276,845	1,076	<b>308,171</b>
Agriculture	124,903	11,564	13,000	<b>149,467</b>
Tourism Accommodation	25,400	43,472	75,416	<b>144,288</b>
Heritage	-	*	94,000	<b>124,000</b>
Forestry	-	*	*	<b>104,672</b>
Sporting	*	10,300	29,815	<b>45,115</b>
Business	-	*	*	<b>3,700</b>
Residential accommodation	-	*	*	<b>2,800</b>
<b>Total</b>	<b>185,553</b>	<b>422,481</b>	<b>274,178</b>	<b>882,212</b>

Using non-staff direct expenditure multipliers for each of the activities were used to provide an estimate of the total non-staff expenditure derived economic impact by the financial sample. Table 3.41 reveals that from £12.4 million direct expenditure it was estimated that this contributed to £8.59 million (indirect) output along the supply chains with a further £3.85 million (induced) output across the wider Scottish economy due to additional expenditure by households from wage effects. This is equivalent to £64 per hectare. Note that whilst the large businesses had a lower per hectare impact this was due to the large amounts of moorland that they control and they indeed had a very large overall economic impact.

It was estimated that the £12.4 million direct non-staff expenditure contributed £6.36 million to Scottish household incomes (or £16 per hectare) through wages along the different sectoral supply chains (£5.35 million) and induced impacts. Additionally, direct non-staff expenditure was estimated

to have maintained 269 FTE jobs across the Scottish economy and contributed £10.76 million (or £28 per hectare) to Scottish GVA.

**Table 3.41** Estimated (non-staff) expenditure derived economic impacts from financial sample

Type of Impact	Small	Medium	Large	Total
<b>Total Direct Expenditure</b>	1,156,556	3,774,430	7,273,155	12,404,141
Total Indirect Output	729,926	3,321,341	4,740,692	8,591,959
Total Induced Output	351,901	1,315,531	2,180,304	3,847,735
<b>Total Output</b>	<b>2,238,382</b>	<b>8,411,302</b>	<b>14,194,151</b>	<b>24,843,835</b>
<b>Total Impact per Ha</b>	<b>553</b>	<b>78</b>	<b>51</b>	<b>64</b>
Total Direct & Indirect Income Effect	489,294	1,829,156	3,031,563	5,350,012
<b>Total Income Effect</b>	<b>581,279</b>	<b>2,173,029</b>	<b>3,601,484</b>	<b>6,355,792</b>
<b>Total Income Impact per Ha</b>	<b>144</b>	<b>20</b>	<b>13</b>	<b>16</b>
Direct & Indirect Employment Effect (FTEs)	22	78	127	228
<b>Total Employment Effect (FTEs)</b>	<b>26</b>	<b>93</b>	<b>151</b>	<b>269</b>
<b>Total Employment Effect (FTEs) per Ha</b>	<b>0.0063</b>	<b>0.0009</b>	<b>0.0005</b>	<b>0.0007</b>
Direct and Indirect GVA Effect	809,421	3,015,541	5,007,613	8,832,575
<b>Total GVA Effect</b>	<b>985,564</b>	<b>3,674,029</b>	<b>6,098,961</b>	<b>10,758,554</b>
<b>Total GVA Impact (excl. Staff) per Hectare</b>	<b>243</b>	<b>34</b>	<b>22</b>	<b>28</b>

Scaling the financial sample results to all CNP landowners Table 3.42 shows that it was estimated that there was £14.1 million non-staff direct expenditure made by the landowners which contributed £28.2 million to the Scottish economy. This expenditure also contributed an estimated £7.2 million to Scottish household incomes, maintained 306 FTE jobs and contributed £12.2 million to Scotland's GVA.

**Table 3.42** Estimated (non-staff) expenditure derived economic impacts from all CNP landownership

Type of Impact	Small	Medium	Large	Total
Landholdings	27	54	15	100
Hectares	8,855	174,208	255,919	438,982
Direct Expenditure	2,528,881	6,130,956	6,750,688	14,069,410
Total Output	4,894,361	13,662,810	13,174,513	28,179,145
Direct & Indirect Income Effect	1,069,871	2,971,170	2,813,790	6,068,257
Total Income Effect	1,271,002	3,529,737	3,342,771	7,209,064
Direct & Indirect Employment Effect (FTEs)	48	127	118	258
Total Employment Effect (FTEs)	56	151	140	306
Direct and Indirect GVA Effect	1,769,848	4,898,263	4,647,891	10,018,357
<b>Total GVA Effect</b>	<b>2,154,997</b>	<b>5,967,870</b>	<b>5,660,842</b>	<b>12,202,900</b>

In addition to expenditure on inputs, sales and marketing and repairs and investments these landowners also reported to have spent £12.1 million on staff. £2.79 million was spent on staff involved in sporting activities (shooting, fishing, etc) with £1.84 million on staff running and servicing tourism accommodation with £1.78 million on staff involved in wider sports and recreational activities. The large businesses accounted for 57% of all staff expenditure.

**Table 3.43** Total expenditure on staff reported by financial sample

Sector	Small	Medium	Large	Total
Sporting	*	849,180	1,835,894	<b>2,785,214</b>
Tourism Accommodation	7,600	368,246	1,466,493	<b>1,842,339</b>
Sports & Recreation	*	1,308,050	17,388	<b>1,775,538</b>
Agriculture	324,638	532,849	468,498	<b>1,325,985</b>
Heritage	-	219,000	1,055,000	<b>1,274,000</b>
Forestry	17,107	365,300	623,700	<b>1,006,107</b>
Conservation	*	188,500	701,500	<b>916,000</b>
Residential Accommodation	*	210,068	321,300	<b>682,368</b>
Ag Tenancy	5,700	39,400	349,855	<b>394,955</b>
Renewables	-	32,300	*	<b>57,300</b>
Business	-	10,620	41,589	<b>52,209</b>
Minerals & Quarrying	*	*	-	<b>*</b>
<b>Sample</b>	<b>1,084,285</b>	<b>4,124,513</b>	<b>6,906,217</b>	<b>12,115,015</b>

Using income multipliers for the various sectors the impact of the financial sample's staff expenditure on Scottish household incomes was estimated to be £29 million or £75 per hectare. The £12.1 million direct staff expenditure was estimated to have contributed £12.3 million to household incomes along the supply chains (indirect) and a further £4.5 million through induced effects.

**Table 3.44** Estimated staff expenditure derived economic impacts from financial sample

	Small	Medium	Large	Total
<b>Direct Wage Expenditure</b>	<b>1,084,285</b>	<b>4,124,513</b>	<b>6,906,217</b>	<b>12,115,015</b>
Indirect Income Impact	1,186,289	3,851,824	7,292,384	12,330,496
Induced Income Impact	426,859	1,499,519	2,669,278	4,595,655
<b>Total Income Impact</b>	<b>2,697,432</b>	<b>9,475,856</b>	<b>16,867,878</b>	<b>29,041,167</b>
<b>Total Income Impact per Hectare</b>	<b>666</b>	<b>88</b>	<b>61</b>	<b>75</b>

Scaling the financial sample results to the CNP landowners it was estimated that £13.74 million was spent directly on staff by the CNP landowners (Table 3.45). This contributed nearly £14 million to household incomes of workers through the supply chains and overall contributed nearly £33 million to Scottish household incomes.

**Table 3.45** Estimated staff expenditure derived economic impacts from CNP private landownership

	Expenditure on Staff - CNP Sample			
	Small	Medium	Large	Total
<b>Direct Wage Expenditure</b>	2,370,857	6,699,610	6,410,108	13,741,468
Indirect Income Impact	2,593,894	6,256,670	6,768,535	13,985,878
Induced Income Impact	933,353	2,435,727	2,477,530	5,212,627
<b>Total Income Impact</b>	<b>5,898,103</b>	<b>15,392,007</b>	<b>15,656,174</b>	<b>32,939,973</b>

### 3.3.3 Employment derived impacts

Details were collected from the financial sample on the number of full-time, part-time and seasonal employees by different activity (note casual labour was not included due to difficulties for landowners in quantifying and reporting this). Table 3.46 shows the estimated number of FTEs employed in each sector by the landowners in the financial sample (Direct) and also the estimated multiplier impact (using the employment multiplier) in the Scottish economy once indirect and induced impacts are accounted for (Total). The sectors of activity where there was the highest level of direct employment were tourism (168 FTEs) and sporting (129 FTEs) with an estimated 493 FTEs employed by the 44 landowners in this sample. Using the multiplier these 493 FTEs employed in the CNP were estimated to have maintained a further 335 FTE jobs in the rest of the economy, through the supply chain (243 FTEs) and wider induced impacts (92 FTEs).

**Table 3.46** Estimated FTEs from financial survey reported number of employees

Sector	Small		Medium		Large		Total	
	Direct	Total	Direct	Total	Direct	Total	Direct	Total
Administration	2	5	12	32	49	129	64	166
Agriculture	4	5	16	25	19	29	38	59
Forestry	1	1	8	14	14	23	22	38
Sporting	5	8	37	58	86	133	129	199
Conservation	1	2	13	21	18	28	33	51
Renewables	-	-	-	-	-	-	-	-
Residential Accommodation	1	3	7	17	19	48	26	68
Tourism	1	1	42	57	125	169	168	227
Commercial / Business	-	-	-	-	-	-	-	-
Mineral	-	-	-	-	-	-	-	-
Other Activities	-	-	11	15	3	4	14	20
<b>Sample Total</b>	<b>15</b>	<b>26</b>	<b>147</b>	<b>239</b>	<b>332</b>	<b>563</b>	<b>493</b>	<b>828</b>

Aggregating these direct employment figures to the full CNP landowning body it was estimated that 559 FTE jobs within the CNP area were reliant on the landowning sector (direct). Once indirect and induced impacts were been accounted for it was estimated that 940 FTE jobs (Total) across the whole Scottish economy were dependent on the land area of the CNP held by private landowners (see Table 3.47).

**Table 3.47** Estimated number of FTE employees resulting from CNP landowners area

Sector	Small		Medium		Large		Total	
	Direct	Total	Direct	Total	Direct	Total	Direct	Total
Administration	4	11	20	53	46	119	72	188
Agriculture	8	12	26	40	17	27	43	67
Forestry	1	2	13	23	13	22	25	43
Sporting	12	18	61	94	80	123	146	225
Conservation	3	5	22	34	17	26	37	58
Renewables	-	-	-	-	-	-	-	-
Residential Accommodation	2	6	11	28	17	45	30	78
Tourism	2	3	68	92	116	157	190	258
Commercial / Business	-	-	-	-	-	-	-	-
Mineral	-	-	-	-	-	-	-	-
Other Activities	-	-	17	25	3	4	15	22
<b>Sample Total</b>	<b>32</b>	<b>56</b>	<b>238</b>	<b>389</b>	<b>308</b>	<b>523</b>	<b>559</b>	<b>940</b>



Over half of these jobs were reliant on the 15 large estates (>10,000 hectares) and the tourism sector was most prominent (258 FTEs) followed by sporting activities (225 FTEs) and administration (188 FTEs).

### 3.3.1 Trends and stability of employment

As apparent from Table 3.48, the majority of survey respondents felt that there would be no change in employment levels across all sectors over the next ten years. For some sectors some respondents indicated that an increase in employment levels was likely over the next ten years, with agriculture (8), tourism and leisure (7), sporting land uses (5) and renewables the activities most commonly viewed as increasing in terms of future levels. For all sectors very few respondents indicated that employment was likely to decrease. Notably, while not incorporated in the preceding analysis of employment on landholdings, a further 563 were recorded as employed (no FT/PT level specified) on crofts, tenant farms or tenant businesses on landholdings.

**Table 3.48** Total number of respondents indicating whether employment in key sectors on their landholding is likely to increase, decrease, or stay the same over the next ten years

	Increase	Decrease	No Change
Sporting land uses	5	0	24
General administration	2	0	22
Forestry and woodlands	1	2	19
Residential property	2	1	16
Agriculture	8	2	13
Conservation	2	1	11
Tourism/leisure	7	1	10
Other	1	1	7
Com Prop	0	0	5
Renewables	4	0	3
Minerals	2	0	3

Interviewee respondents provided further comments on the stability of employment. On the majority of landholdings in the interview group staffing levels had been consistent over the preceding 5-10 years, with one large private estate having made significant staffing reductions in the 1980s with the closure of an estate sawmill and forestry operations (switching towards a contractor led approach) and one large estate having made some reductions as part of a streamlining of staffing in the last five years. Employment had increased marginally on 3 private estates due to increased commercialisation and diversification. A change in areas within which staff were employed was evident over a longer time frame, with a decline in employment in traditional land management and a corresponding increase in employment in tourism and other diversified activities. Employment on NGO owned properties had generally increased in recent years, with direct employment on public landholdings lower but stable. Employment levels varied widely, from the owner carrying out most activities (with contractor support) on the smallest holdings, to 25-30 employees on NGO landholdings in the high season and 85 full time and 40 seasonal staff on the largest private estate.

### 3.3.4 Locality of expenditure

Table 3.49 indicates the degree to which spending on landholdings occurred in the local area or beyond the local area by presenting the average figures for these local and beyond local spending estimates across the respondent group. The number of respondents varied across sectors and the four areas of expenditure. These figures represent estimates and as such should be treated with caution and only as indicative of the general balance on local versus external spending between sectors. Notably, the earlier sectoral analysis highlighted that for certain sectors relatively high levels of expenditure are on contracted staff or external suppliers. However, it is apparent from the high levels of estimated local spend shown in Table 3.49 across almost all sectors, that much of this spending on contractors and 'external suppliers, occurs in the local area or wider region, an argument supported by interview findings (Section 3.3.5)

**Table 3.49 Mean estimated % of total spending by sector which occurs in the local area\***

Sector	Staff and Management	Inputs	Sales and marketing	Repairs and Investments
<b>Agriculture (In-Hand)</b>	92	75	94	80
<b>Agriculture (Tenanted)</b>	92	-	-	94
<b>Forestry and Woodlands</b>	93	81	97	82
<b>Sporting Land Uses</b>	89	77	74	86
<b>Conservation management</b>	97	89	-	93
<b>Renewable Energy</b>	78	-	-	42
<b>Residential Accommodation</b>	100	-	97	89
<b>Holiday Accommodation</b>	95	-	73	88
<b>Visitor Attractions</b>	89	-	85	80
<b>Leisure Activities</b>	93	-	80	87
<b>Commercial Property</b>	98	-	93	97
<b>Minerals and Quarrying</b>	100	-	-	70
<b>Average for expenditure area</b>	<b>93</b>	<b>81</b>	<b>87</b>	<b>82</b>

\*Data not gathered for all four areas of expenditure for all sectors

#### 3.3.4.1 Locality of spending – interview findings

Interviewees collectively viewed the majority of their spending as being captured locally. This included spending across a wide range of local businesses in most cases, including local shops, tradesmen, agricultural contractors, agricultural suppliers, building and decorating contractors, laundries, bakeries, food suppliers, sporting supplies and the use of local garages. Contractors often represented a significant proportion of expenditure, with local contractors working across a range of areas on landholdings, including track construction and repair, building work, golf course development, forestry management and agricultural harvesting. The majority stated that (whether an explicit aim or not) local spending was the norm, due to local suppliers and contractors most often representing the best value for money, in part due to lower transport costs. Two interviewee from larger private estates also noted that spending locally ensured the money was retained in the local economy, which had a circular and beneficial effect for both the community and the estate.

*'In a place like this the margins are very tight everywhere, whether it is our margins or the post office margins or the bakers margins, and the only way the thing works is if you have a mini-economy. It doesn't work any other way.' – hence why keeping expenditure local is important'*  
[Private Estate factor]

However, for certain areas spending locally was difficult, due to the absence of the required product or service in the local area. As three respondents noted, normal practice was to check locally and

then move to regional or national level suppliers based on availability (e.g. Ballater, Deeside, Aberdeen, Edinburgh). Large capital items (e.g. farm machinery) or specialised items (e.g. snow machines), often required landowners to use national or global markets. This also applied to complex projects, such as renewable energy schemes, which often required external consultants and components developed out-with Scotland or the UK.

### **3.3.5 The role of landowners in local economic development – key interview findings**

#### **3.3.5.1 Economic viability**

Individual businesses on landholdings varied in terms of their perceived long term viability and profitability. One farm unit was operating at an annual loss, while two were economically sustainable, while the business base on four small-medium sized (moderately diversified) sporting estates was viewed as *'breaking even'*:

*In an average grouse shooting year you can just about carry the costs of managing for that, but you couldn't buy a new vehicle or improve a building, but you can just about tick over, costs just about match the income'* [Smaller private estate respondent]

Medium and larger sized landholdings varied in terms of their economic viability as stand alone units, with this in part dependent on their overall *emphasis* on business development and diversification generally. Two medium to large private estates, for example, were focused primarily on developing high quality private sporting and utilised significant external funding to deliver their objectives. Most larger private estates were viable as independent diversified rural businesses – with the qualification that this was based on the continuation of public support payments at existing (or similar) levels. NGO-owned sites did have a number of income sources, although were loss making as independent units, being dependent on organisational funding for their long management. Public landholdings (SNH and HIE) were also dependent on public funding to deliver their objectives.

#### **3.3.5.2 Innovation and diversification**

Interviewees noted the importance of a diversified business base to ensure that over the longer term an annual loss in one area (e.g. sporting) could be subsidised by profits in another (e.g. tourism), thereby increasing the overall resilience of the landholding and the local economy to market fluctuations and changes in support streams. Diversification also represented an opportunity for negating the seasonality of tourism income streams, with mountain biking viewed as one potential avenue for increasing income in the summer months from ski facilities for example. Innovating and diversifying commonly involved responding to opportunities, with renewable energy and tourism two of the most dominant emergent markets. The availability of farm diversification grants had supported diversification on some landholdings. Areas across which landholdings had diversified their business bases included:

- Running events, including conferences, horse trials and other sporting events
- Utilising historic estate properties as wedding venues in partnership with local caterers
- Holiday accommodation, including campsites, holiday cottages and all year round cabins
- Eco-tourism and adventure/activity holiday packages, often in partnership with adventure businesses based on site or in the wider area
- Golf courses and recreational fisheries
- Hydro electricity schemes and biomass (e.g. wood pellets and logs) production

- Deer farming
- Farm/estate shops selling farm/estate produce (e.g. beef and venison)
- Mountain biking venues
- Utilising historic properties, and estates generally, as film venues

### 3.3.5.3 *Providing a context for business growth and development*

Due to the long term ‘asset improvement’ perspective of most landowners an investment driven approach was apparent on most landholdings. This included investment in let properties, maintaining infrastructure (roads and tracks), fencing, and facilities on tenanted farms. On the majority of landholdings the level of annual investment related directly to income, with at least two landholdings regularly investing large amounts of external funding, with these landholdings recognised as *‘not being designed to make a profit’*. The Crown Estate had invested heavily on both farming tenancies and tourism related infrastructure on Glenlivet, including establishing a (part grant funded) mountain biking facility, including a ‘hub’ incorporating a café business run by a local couple. This investment related activity provided a continual source of work for a variety of local businesses. Business units had also previously been developed on the Glenlivet Estate to facilitate the development of private businesses, with two private estates also noting examples of developing facilities which has subsequently been occupied by incoming businesses.

In certain cases, landholdings provided a key role within the local economy, with one public landowner facilitating the continuation of a major ski facility, thereby ensuring the continuation of a range of winter-tourism industries locally. The presence of very high profile historic visitor attractions on a small number of estates also had considerable knock-on effects in the local economy through attracting high visitor numbers.

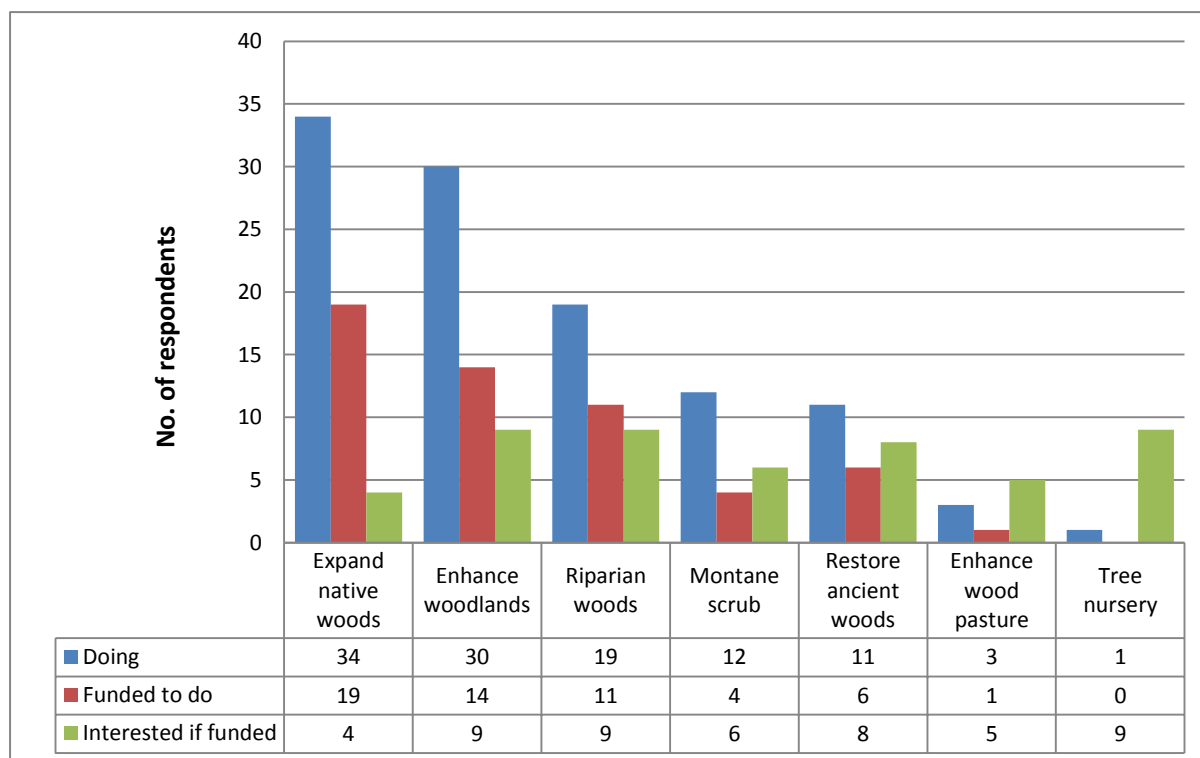
Interviewees provided regular examples of engaging in formal or informal partnerships with tenants or external businesses to diversify the wider business base on their holdings. This included establishing agreements with local contractors relating to regular estate road and tracks maintenance, utilising farm tenants as forestry contractors and venison processing and linking woodfuel production with the installation of woodfuel boilers in local businesses. One area included the development of partnerships between adventure activity providers (including high wires, quad biking, water sports, archery, 4 by 4 driving etc.) and local estates in Strathspey, who provide facilities and buildings and can link the resultant activity opportunities with their holiday accommodation. A number of estates commented that it is often more feasible to support a new business partner through providing facilities and support than establishing new businesses in certain areas of activity themselves, thereby diversifying their business base while sharing the associated risk.

Public and NGO landholdings and a number of private estates viewed their activities as being focused on providing a very high quality visitor experience for the general public or a *‘whole family experience’*, which drove the diversification of products being offered. In contrast, a smaller number of (usually sporting focused) private estates viewed their focus as being on providing a high quality specialist holiday package for sporting clients, with less emphasis on partnering with external activity providers as a result.

### 3.4 Landowners, environmental enhancements and deer management

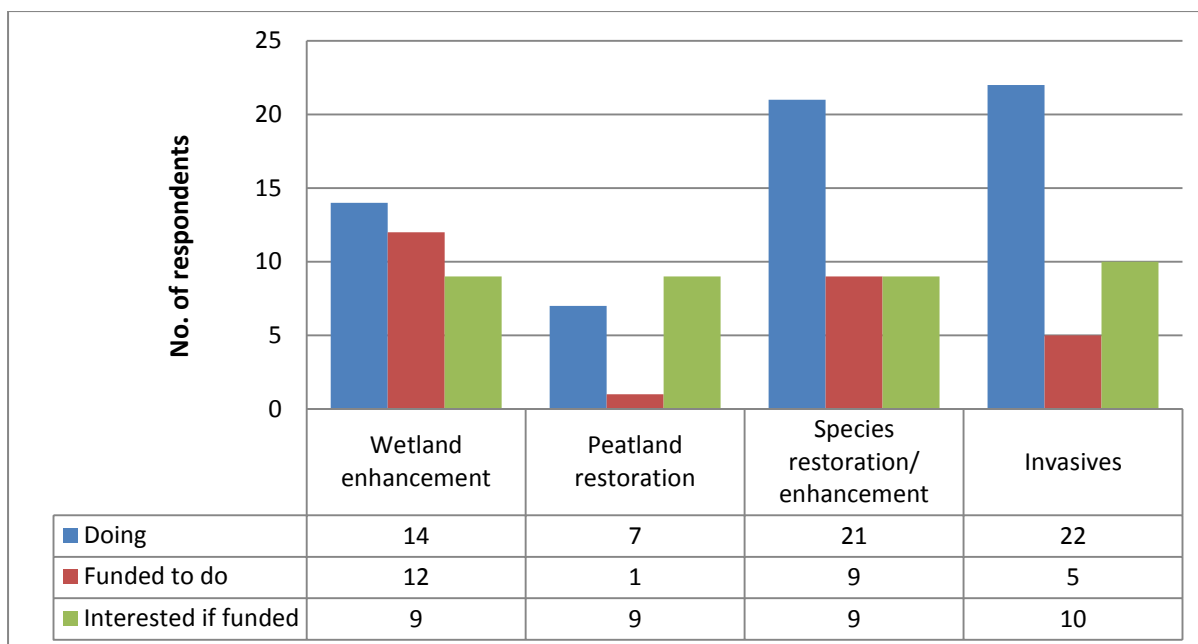
#### 3.4.1 Environmental enhancements

Survey respondents were provided with a list of potential environmental enhancements and asked to indicate which they already carried out, which they were funded to carry out and which they were interested in if funding was available. Respondents were able to tick more than one of these three choices for each proposed environmental enhancement.



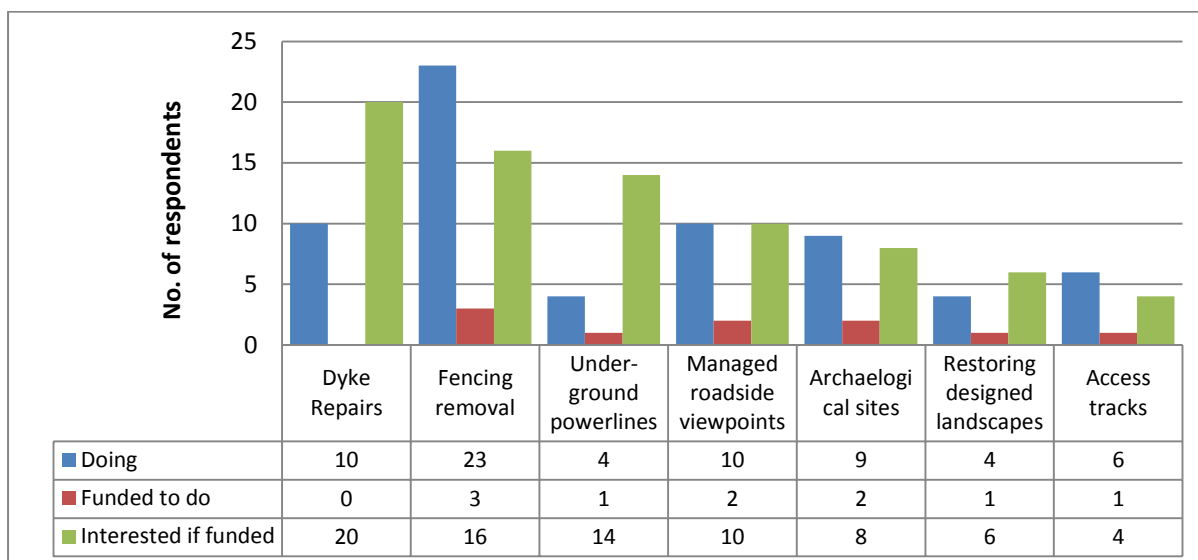
**Figure 3.9** Number of respondents currently doing or interested in specific areas of woodland management

In relation to woodland management-related options (Figure 3.9) native woodland expansion and woodland enhancement were the most prevalent, with significant numbers receiving funding to support these activities. As respondents were able to tick multiple options some may have ticked that they were doing an activity if they had at some point planted or regenerated woodlands, while some may only have ticked that they were funded to do it if they were currently receiving grant aid to carry out this activity. This may explain the disparity between the numbers doing this activity and funded to do it (as native woodland expansion is ordinarily a funded activity).

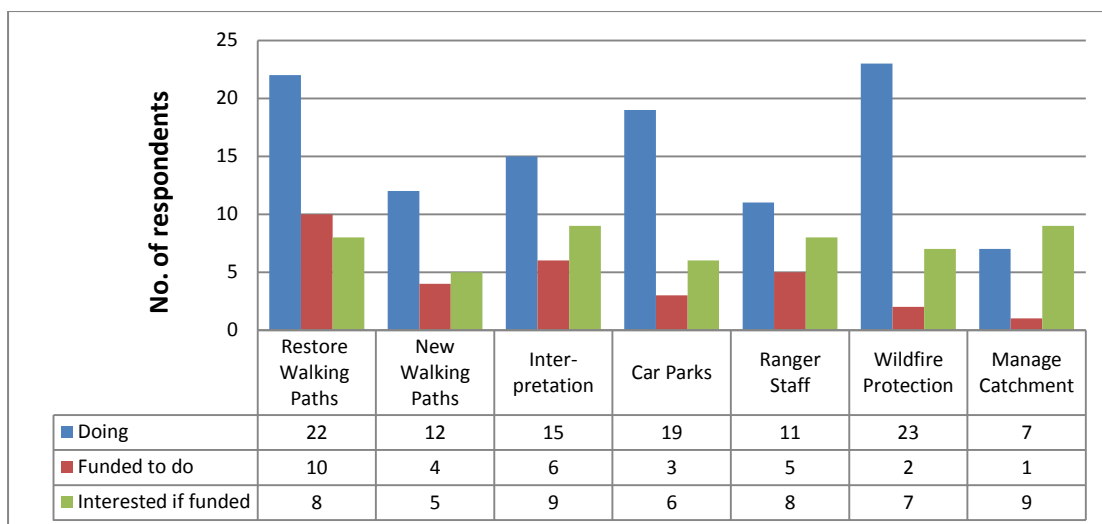


**Figure 3.10** Number of respondents currently doing or interested in conservation activities

Figure 3.10 demonstrates that the most common conservation related activities (of the supplied options) were species restoration and enhancement and control of invasive species. Notably, Figures 3.11 and 3.12 demonstrates a strong level of interest in access and interpretation measures and in a variety of landscape enhancements, with a comparatively very low level of funding available for these activities relative to woodland and biodiversity measures.



**Figure 3.11** Number of respondents currently doing or interested in landscape enhancement activities



**Figure 3.12** Number of respondents currently doing or interested in access and interpretation and other activities

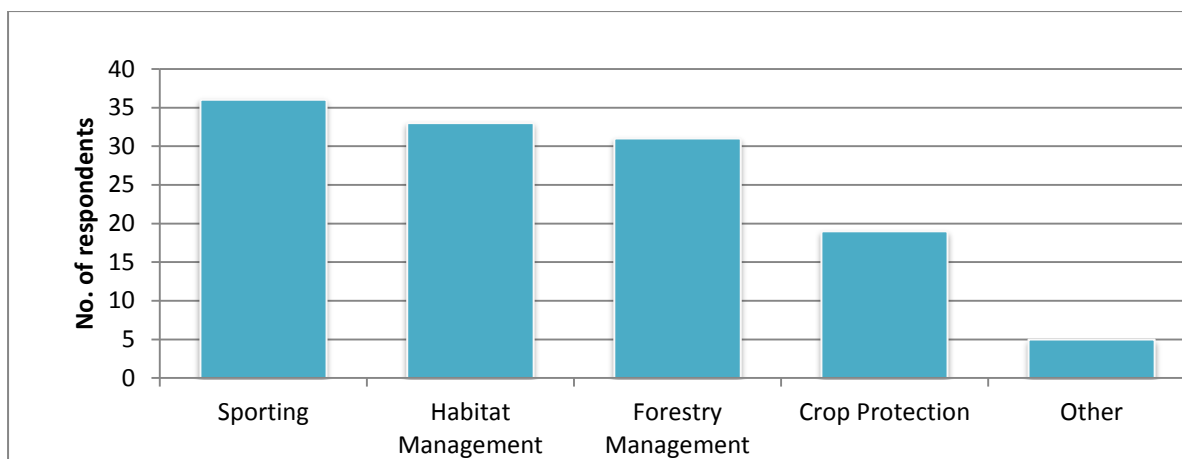
### 3.4.2 Deer management

From the respondent group, 46 stated that they managed deer, 4 said they did not manage deer and two did not answer this question. Table 3.50 and Figure 3.13 show the frequency of different primary management objectives and the desired deer densities for deer across respondent landholdings.

**Table 3.50** Deer management objectives on respondent landholdings and target deer densities

	Deer Management Objectives					Desired Deer Density		
	Sport	Managing Habitats	Forest Management	Crop Protection	Other	0-5	6-10	10+
Number of Responses	36	33	31	19	5	16	13	11

Managing deer for sporting purposes is the most frequently occurring objective (36), followed by managing deer for habitat management (33) and forestry management (31). Objectives listed in the 'other' category included managing deer to reduce tick burdens on grouse moors (2), for venison production (2) and for employment. One respondent also stated additionally that deer represented an important attraction for guests staying in their holiday cottages and that they were planning to develop wildlife watching weekends.



**Figure 3.13** Frequency of deer management objectives on respondent landholdings

The average number of objectives for deer management across the respondent group was 2.7, with 11 respondents indicating that they had only 1 main objective, 8 having 2, and 12 and 14 respondents having 3 and 4 objectives respectively. For those ticking only one objective, 5 ticked sporting, 3 forestry, 2 habitat management and 1 crop protection. Table 3.51 shows the overlap between deer management objectives across the respondent group. This table indicates that, despite five landholdings having sporting management as their only objective for deer and two managing deer only for habitat management (two public landholdings), managing deer for multiple objectives is more common. For example 26 landholdings manage deer to achieve both sporting and habitat management objectives and 21 manage deer for both sporting and forestry management reasons simultaneously.

**Table 3.51** Frequency table of deer management objectives on respondent landholdings

Management Objectives	Sporting	Habitat management	Crop protection	Forestry management
Habitat Management	26			
Crop Protection	17	16		
Forestry Management	21	25	14	
Other	5	3	3	4

Twelve respondents indicated that they were receiving public funding to deliver their deer management objectives (including seven private estates), 34 indicated that they received no public funding to support deer management and six did not answer this question. Thirty respondents regularly attended a Deer Management Group (DMG), 16 did not and 6 did not answer this question. Of those regularly attending a DMG 25 found their DMG to be effective and 16 of those either attending a DMG or not attending a DMG raised concerns around the effectiveness of DMG processes (or the lack thereof) in their area. Reasons for not attending DMGs and general concerns raised included:

- A lack of a DMG in Donside, due to low deer numbers; the recent formation of the Strathdon DMG was noted as important for addressing deer issues going forward.
- DMGs criticised by some as poorly managed ‘talking shops’ dominated by ineffectual discussion and extreme reactions.
- A lack of protocols for deer population monitoring and habitat condition monitoring agreed between SNH and the ADMG to ensure consistency of management.
- A lack of development and implementation of effective deer counts and cull targets.



- The need for a more balanced approach from SNH which recognises deer as an economic asset and greater support from SNH for the running of DMGs.
- The impact of deer fencing in the Angus Glens on the potential effectiveness of managing deer at a landscape scale in the area.
- A lack of effective communication between DMG members and the slow speed with which objectives are agreed and/or implemented.
- The large and 'unwieldy' nature of some DMGs and a lack of available time to attend and/or contribute to the running of DMGs.
- A lack of flexibility with respect to the objectives of different types of landholdings (e.g. conservation NGOs, public landholdings and sporting estates) resulting in an inability to adjust management according to the wishes of a DMG group as a whole, entrenched positions and slow or no progress.

### **3.4 Landowners, local communities and rural development**

Seven interviewees from private estates stated that their activities contributed significantly to maintaining and developing the local community in their area. Contributing to community development was viewed as an explicit objective on six, with rural development less of a directly stated site management objective in relation to publicly owned sites. However, public landowners noted that their management had considerable impacts on local rural development, with the retention of the ski facility on the publicly owned Cairngorm Estate for example, having a clear set of knock on impacts in relation to local economic development around the ski industry.

The management of public and NGO owned sites for nature conservation and visitor enjoyment was also viewed as representing a fundamental element of the underlying fabric and context for rural development in the area, particularly in relation to providing a resource for visitors and local tourism businesses to utilise. Three very large private and two medium sized estates in particular emphasized the importance of their role in relation to providing local employment and housing and ensuring the retention, diversification and expansion of the local community. These landholdings placed particular emphasis on the importance of housing for those working locally, particularly young families, to ensure the survival of the community and associated facilities (e.g. schools, village halls and shops) long term. The Crown Estate's Glenlivet Estate also had a significant impact on local rural development, through a policy of investment in estate businesses and releasing sites for business development, with a preference stated for a community of twice the size in Tomintoul to ensure longer term community viability

#### **3.4.1 Community facilities on landholdings**

In total 16 survey respondents indicated that they owned or maintained community facilities on their land, with 33 not owning or maintaining any community facilities and 3 not answering this question. These included places of worship (1), meeting rooms (1), village halls (2), sporting facilities (2), parks and gardens (6) community footpaths and walking trails (3), adventure playgrounds and play parks (2), car parks and picnic spots (20), a shinty pitch, ploughing demonstration area (1) and visitor centre (1)<sup>15</sup>. Twenty-three respondents also indicated that they provided land for community events and two provided the golf course on their landholding for charity events, with one NGO landowner also providing their ponies to the community for special events. One private landowner had also donated the community used property on his land to the community. Community facilities

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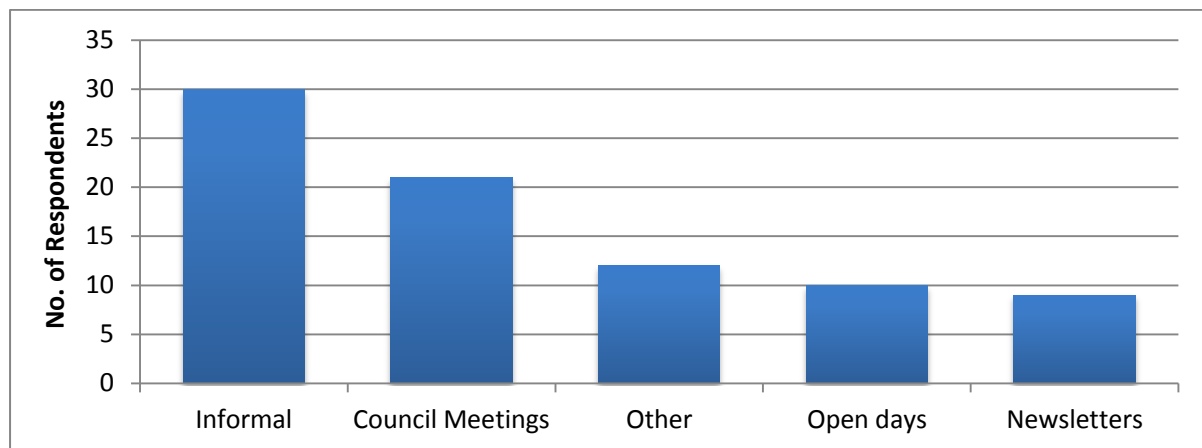
<sup>15</sup> Additionally, a number of facilities were listed as being owned and maintained by other parties, but occurring on respondent landholdings, including village halls (4), sports pavilions (3), parks and gardens (6), a graveyard (1) and storage facility (1).

provided by third parties on surveyed landholdings included a graveyard and a storage facility for a local heritage society. Of those providing community facilities, 11 listed their associated annual expenditure, which (across all 11) totalled £58,300 with total investment of £6500 and total income of £6757.

Four respondents (private and public/NGO) within the interviewee sample also noted the importance of the paths, car parks and hill track networks developed and maintained by their landholdings to local and wider communities for access and recreational enjoyment – including the highest public car park in Britain. Two interviewees also noted the importance of businesses run on their landholdings as community ‘hubs’, one of which included a café and farm shop and represented a key focal point (and local employer) for the surrounding community.

### 3.4.2 Community engagement and involvement in decision making

Thirty-seven survey respondents stated that they regularly communicated with the local community, 8 said they did not and 7 did not answer this question. The most prevalent form of engagement across the respondent group was informal communication (30), followed by attendance at community council meetings (21) (Figure 3.14).



**Figure 3.14** Number of survey respondents using different forms of community engagement

Forms of community engagement listed within the ‘other’ category included:

- Landowners/managers being members of local organisations, community groups, committees and community associations and school parent councils (6)
- Scheduled (annual/bi-annual) meetings with local community representatives, stakeholders (e.g. CNPA) and neighbouring landowners (5 - public/NGO/ private)
- Hosting school groups on landholdings (2)
- Hosting local events and games (2)
- Informal contact - landowners and land managers attending church, using local shops and attending local events (3)
- Consultations on management plan revisions, Long Term Forest Plans and Environmental Impact Assessments (2)

Of the 37 respondents stating they engaged communities 16 noted one form of engagement, with 13 and 11 using 2 and 3 forms of engagement respectively and seven landholdings using 4 or more forms of community engagement. Twenty respondents also stated that they used volunteer groups on their landholdings in some capacity, with 26 not using volunteers and 6 not answering this

question. Fourteen were interested in making greater use of volunteers on their landholdings in the future.

#### 3.4.2.1 Engagement and community involvement – interview findings

Conflict between landholdings and communities was rarely recognised, with the examples provided (2) relating to access issues around deer fencing and community concern around a renewable energy proposal. The potential for conflict, particularly between landholdings and new community members or ‘in-migrants’, was recognised by some (3) and two noted that the need to consult and involve local communities had increased in recent years:

*‘more so now than ever it’s very important that the community should get a say in how an estate is run, how certain parts are managed and get an involvement in decisions...it has to be economically viable, but community involvement is very important and a landowner would be very naive to say it isn’t.’*

Across the interviewee group there was a wide variability evident in relation to emphasis on community engagement and community involvement in management planning. Interviewees confirmed that formal consultations were carried out on their landholdings in conjunction with site management plans or forest plans, with the largest and most intensive of these on public and NGO landholdings due to their high profile and natural heritage value. Four private landholdings also referred to Long Term Forest Plan (LTFP) consultations, although numbers at these meetings were acknowledged as sometimes being very low due to a lack of interest or concern in the local community. A number of respondents reiterated the importance of regular (including formalised) communication with one or more formal community structures, such as a community councils or associations, to ensure any potential concerns were recognised at an early point. Three also emphasized that formal approaches be complemented with an ‘open door policy’ and a ‘two-way’ approach to communication, with visible (on-site) representatives noted as key to ensuring adequate contact between landholdings and local communities.

One private estate owner also noted the balance required for estate owners between ensuring regular representation or attendance at community council meetings, while also ensuring the community organisation did not feel imposed upon in any way. Interactions between smaller estates and farms and local communities were recognised as generally being less frequent and less formal, with two smaller landowners stating the local community rarely expressed any interest in their activities. The dispersed nature (or complete absence) of community members also made engaging with a community difficult for a small number (3) of landowners.

One very large private estate respondent also noted the importance of short term (3yr) management plans for communicating the ‘*direction of the estate*’ to the local community as this ‘*enables you to say this is what we said we were going to do, we’ve done it, it is very much built on the achievement rather than just planning to plan*’. Engagement on publicly owned and NGO landholdings often related to interpretation and visitor management/facilitation, which included local community members, although publicly owned sites (unlike NGO sites) did not always have land managers present on-site, which was acknowledged as a potential weakness with respect to engagement of the local community – although staff were present in the wider local area, regularly visited sites, attended local community meetings and formally liaised with locally community groups. Other mechanisms used to engage local communities and strengthen relationships with communities elaborated by interviewees (not noted in the previous section) included:

- Rangers liaising with local community members and facilitating educational visits (3)

- Providing donations to community events, groups, local charities and sporting events, annual Christmas trees, logs at Christmas for the elderly (2)
- Community surveys, which two private landholdings noted as having conducted to identify community concerns, or opinion on specific proposal (2).
- Coordinating volunteer groups, which one private landholding noted as generating considerable community spirit. Two noted volunteer groups as not cost effective due to organisational and supervisory costs, although both recognised their potential in terms of community engagement value.

### ***3.4.3 Community initiatives and partnerships with landowners***

Sixteen survey respondents stated that they were involved in ‘community initiatives’, while 28 stated they were not involved in community initiatives. Specific projects with which landowners were involved as well (as the areas of activity outlined in the previous section) included:

- Bringing children/students to landholdings to learn about traditional land uses and/or conservation land management (6, including 3 private landholdings)
- Provision of a site to the community for a community co-op (1)
- Facilitating and assisting with events such as Highland Games, races and fairs/festivals (2)
- Community orchards and community gardens developed with community groups (1)

**Landowner-community partnerships** were explored further with interviewees, with a number of specific examples including:

- A private sporting estate exploring opportunities to create pilot ‘wood lot agreements’, to allow local people to rent a small area of woodland and manage it according to set requirements (with agreed extraction limits) to facilitate the development of wood-based businesses (wood crafts, woodfuel supply etc.).
- Two renewable energy (wind turbine) initiatives (in planning) linked to community benefit funds. One of which had been applied for through a community energy scheme by a private landholding in partnership with a local community organisation which would gain ownership of 20% of the (single) wind turbine and an annual income of £8,000.
- A long term partnership between a private Estate and a Community trust, which had resulted in a range of specific estate-community initiatives including: planting of a school wood for education purposes; development of a community woodland; development of a community path through the estate for school children; and transfer of historical buildings from the estate to the community trust, resulting in their refurbishment. This estate had a particularly strong emphasis on community engagement and also provided a number of other community facilities.
- The development of the Tomintoul and Glenlivet Trust, which resulted in part from the earlier engagement with stakeholders on Glenlivet and the establishment of a business and marketing group in the 1990s. Following the development of the CNP the group progressed to a more formal steering group (of HIE, CNPA and Glenlivet) structure which became the Development Trust. The trust is now overseen by a board of directors, which includes local community members, and has secured funding to appoint a project officer, marketing officer and third staff member. The trust has a strategic perspective which goes beyond Glenlivet and has engaged in a number of feasibility studies and community meetings and surveys to identify key community priorities.

### 3.4.4 Housing provision on landholdings

Twenty-one survey respondents stated that they had made sites or plots available for new housing developments on their landholdings and 29 had not made any available. Seven had also specifically sold sites for the development of affordable housing<sup>16</sup>, while 22 had not. Respondents recorded a total of 474 homes which had been facilitated on their landholdings through plot sales (or sales of ruined or derelict housing and steadings) and a further 143 homes categorised as ‘affordable’ rental properties. A further 475 private homes not owned by landowners (but existing on their landholdings) were recorded by 15 respondents. Table 3.52 shows the number of respondents interested (or not) in making land available for housing developments, with higher numbers (21) interested in mixed (affordable and market rent) developments.

**Table 3.52** No. of respondents interested in making land available for market and/or affordable housing

	Market housing (n=28)	Affordable housing (n=27)	Mixture of both (n=37)
Yes	14	11	21
No	14	16	16

Notably, 24 respondents also stated that they had vacant or derelict housing on their landholdings, with 20 interested in refurbishing these properties for use as rental housing. Fifteen respondents requested to meet with the CNPA’s housing officer and 31 did not. The emphasis on housing was therefore very variable. Interviews demonstrated that public landholdings were not viewed as suitable for housing due to their locations and sensitivities, with some limited scope on NGO properties. Some (particularly larger) private landholdings (4-5) placed a strong emphasis on housing and viewed housing development as critical to community retention, with most interested in a mixture of housing types and rental rates. Among those with an interest in housing provision, a strong emphasis was evident on providing homes for people living and working locally and particularly young families:

*‘we don’t have a points system for letting properties, such if you have kids which might attend the school you get an extra point, but if it is a family house...then they would naturally hope that a family would live in it...the core influence on property rental is whether people are locally employed, but we are not social engineers [Factor from a large private estate]*

Twenty six survey respondents stated that barriers existed to letting or refurbishing houses or making land available for new housing, and 17 identified potential areas for further support, with key themes of open ended responses (supported by further interview findings) including:

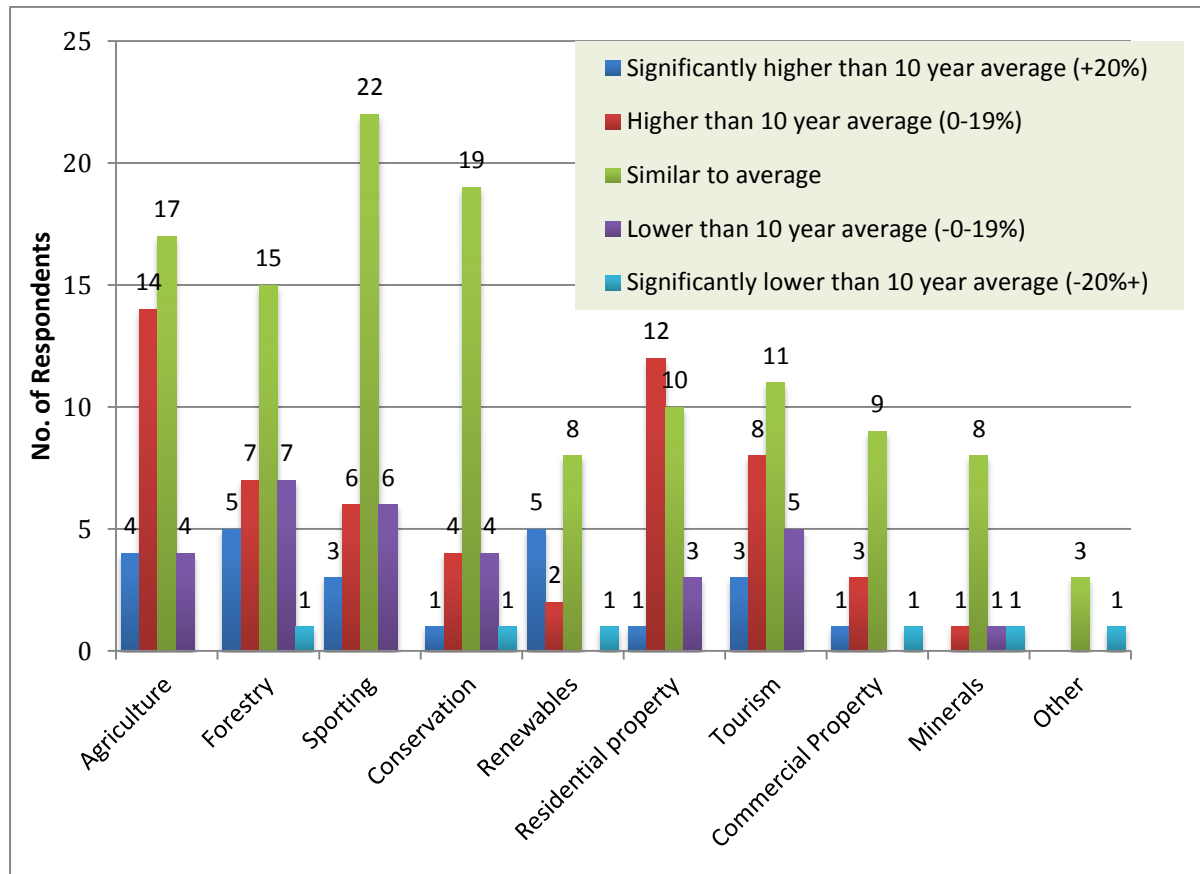
- i) **A perceived lack of availability of grant funding and/or lost cost finance** for private landowners (9). Refurbishment and subsequent maintenance costs (including non-recoverable VAT) required to comply with increasingly demanding building and letting regulations were also viewed as higher than returns from rental income (3), particularly for affordable homes. Greater availability of low-cost loans or grants and facilitating mixed (affordable and market rent) developments (3) was viewed as key (4) to ensuring greater involvement of private landowners in affordable housing developments. Current schemes were viewed as either targeted as housing associations or at holiday type letting (SRDP), with a perceived requirement for additional support of high quality short assured tenancies.

<sup>16</sup> Defined as selling sites to the local authority, housing association or housing trust for development of affordable rental homes or shared equity scheme housing.

- ii) **A view of planning authority requirements as being overly restrictive and planning decisions as requiring overly long time periods**, with cost implications for landowners (11). A perception (3) that planning requirements, combined with current values, make the sale of plots and/or development of housing unattractive at the current time. A relaxation of planning requirements and simplification of both the planning application and grant application processes around housing which supported, rather than inhibited housing developments, was urged (4). Specific support such as 'rural empty property grants' was requested (3) towards refurbishing and reinstating derelict housing
- iii) Specific concerns were raised (2) around future possible requirement for a minimum Energy Performance certificate rating which was viewed as potentially making the renting of some older properties no longer financially viable.
- iv) Some private landowners (4) emphasized **a need for support in providing affordable housing for retirees who had worked locally long term** and were moving from tied housing, to avoid these retirees having to move to council housing in urban areas. Further support was called for to ensure housing developments resulted in housing provision for local workers and families, as opposed to being sold as holiday homes.
- v) **A small number (3) of respondents viewed their landholdings as overly remote to be suitable for housing**, with 4 noting a lack of demand for housing in their area as far as they were aware. One also perceived the CNPA as placing an emphasis on affordable housing near settlements, of which there were none on his landholding.

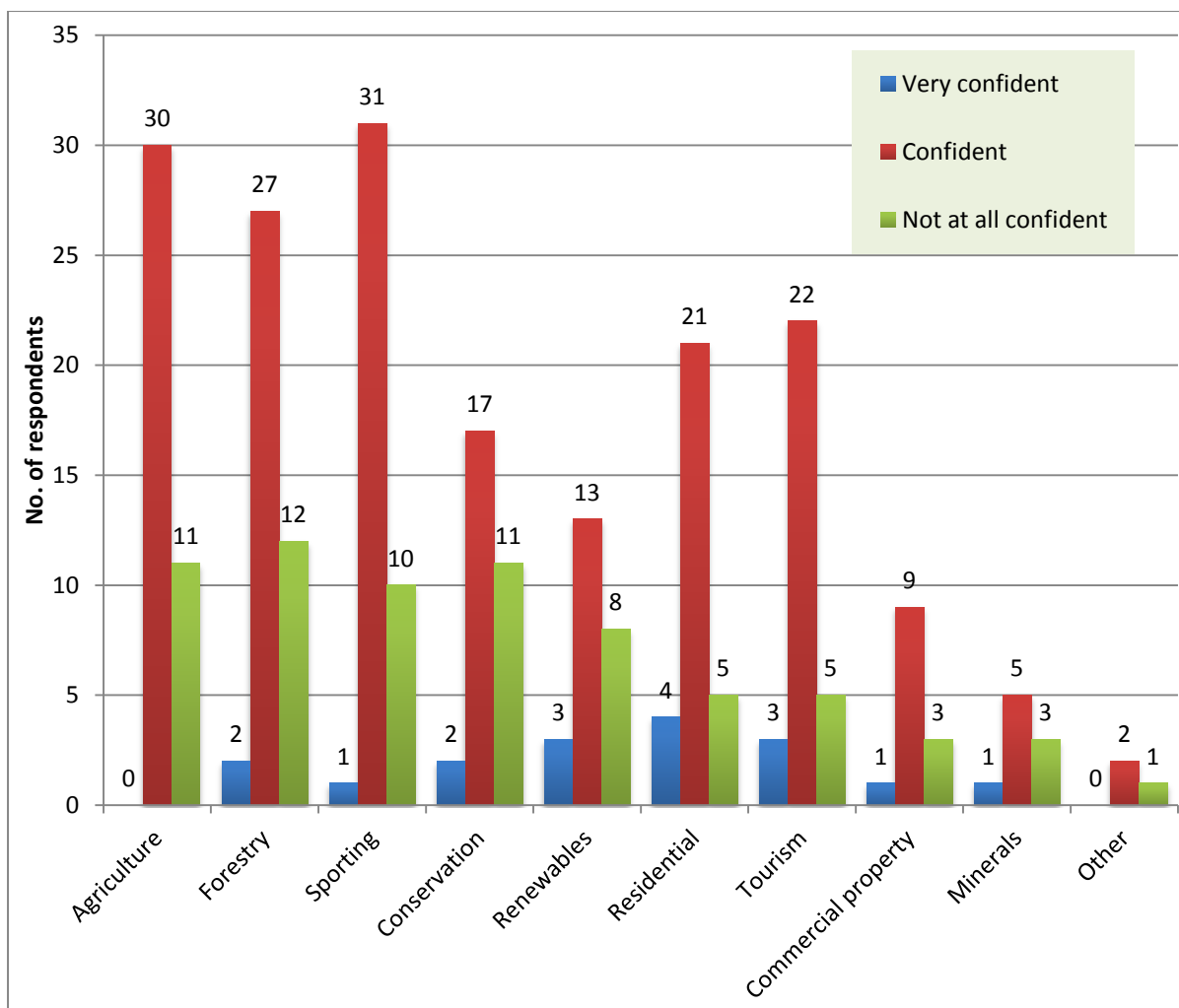
### 3.5 Landowner confidence, challenges and opportunities

Figure 3.15 provides an indicative measure from across the survey respondent group of sectoral income levels for the last twelve months relative to the previous ten years. The 'other' category includes income from radio masts and fish farming. The majority for most sectors ranked income as similar to the ten year average, with income from residential property the only sector where the largest number ranked income as higher than the ten year average, with agricultural income also comparatively high.



**Figure 3.15** Perceived income levels on respondent landholdings across sectors in comparison with income over the last ten years

Respondents were generally confident that income levels over the last three years were likely to be maintained (Figure 3.16), with particularly high numbers confident relative to those not confident for residential property and tourism, indicating the perceived growth potential of these activities. The highest numbers were confident in relation to traditional land uses, although these areas also received the highest numbers of respondents who were not confident. The majority of respondents were also confident in maintaining (or increasing) annual levels of investment in their landholdings (Figure 3.17).

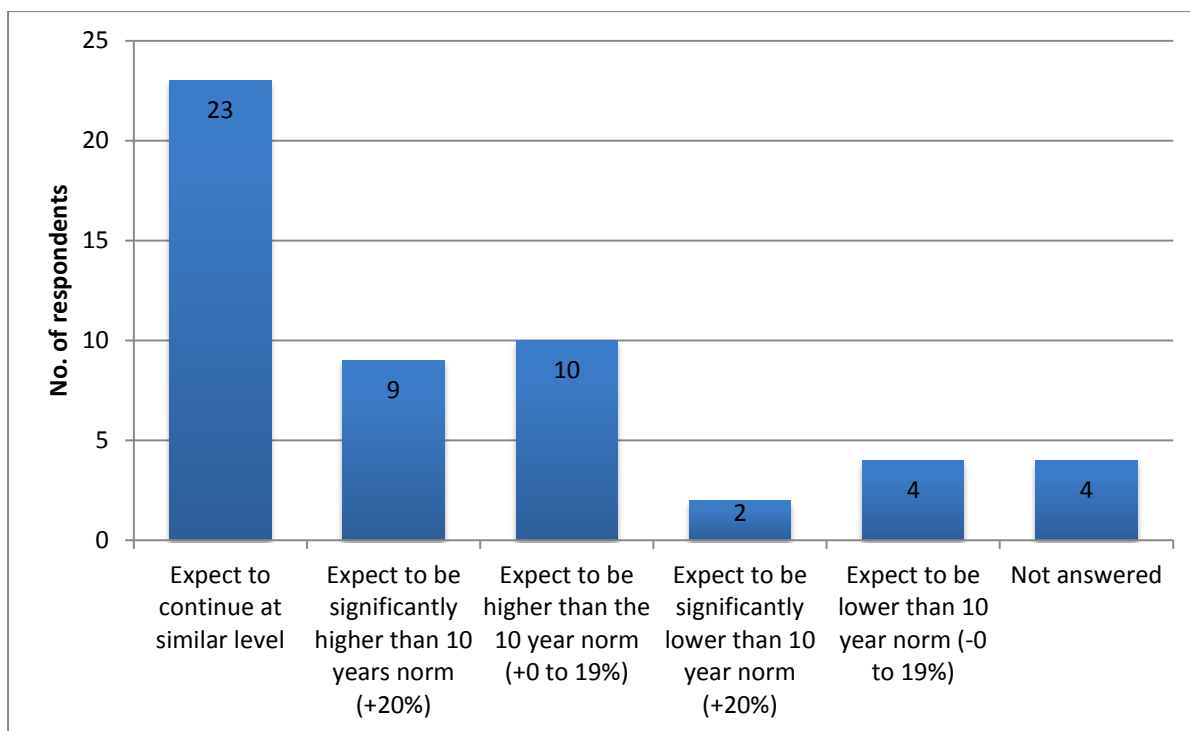


**Figure 3.16** Landowner confidence that income levels (by sector) on their landholdings over the past three years are likely to be maintained in future years

Respondents were also asked about why they were either confident or lacked confidence in relation to future spending. The majority of comments related to those who expressed a lack of confidence overall, with three noting reasons for being confident in their future. These related to a confidence in the stability of their major markets, which were either essential primary markets, contracted (locked in) or relating to affordable rentals; a large area of timber being near-ready for felling; and the continuing devaluation of the UK currency, viewed as making food, timber and tourism imports more attractive. Comments provided relating to low confidence can be summarised as:

- Uncertainty around future government incentive schemes/subsidy payment as detailed in Section 5.3.1 in relation to constraints (5);
- The perceived threat of implementation of an absolute right to buy for tenant farmers viewed as eroding landowner confidence in investing in tenant farms (see Section 5.3.1) (2);
- Perceived threats to the sporting industry from pressure groups viewed as resulting in increased regulation and associated cost increases (2);
- A decline in tourism spend (2) due to the availability of low cost foreign holidays, impacting on confidence in holiday cottage investments;
- Other issues viewed as impacting on confidence included planning constraints (1) the age and fitness of one farmer (1) and a lack of diversification opportunities on remote properties (1).





**Figure 3.17** Respondent expectation in maintaining current levels of capital investment in their landholdings over the next 3-5 years

### 3.5.1 Landowner perspective on key challenges

Survey respondents and interviewees were asked about the key challenges they faced with respect to progressing their objectives. A number of key themes emerged from comments which have been summarised below with the number of distinct comment shown in brackets for each theme.

- I. Potential changes to land reform legislation and specifically the potential for granting tenant farmers an **absolute right to buy** their farm holdings (10). This was viewed as having resulted in a decreased willingness among landowners to make land available under agricultural tenancies and an unwillingness to invest in existing agricultural tenancies due to the potential for these landholdings to be removed (through being bought out) from the estate asset base. Some respondents noted that farm tenants was there preferred option for their agricultural land, but concern around reforms was leading to land being taken back in hand where possible. The break up of estates potentially resulting from an absolute right to buy was viewed as potentially leading to a disruption of the cohesiveness and integrated nature of the land management on these landholdings.
- II. **Declining availability of support payments and grants for agriculture, forestry and conservation land management** and uncertainty/inconsistency around future support was viewed as making future business planning difficult (6). Particular concern was expressed around the impacts of declining Single Farm Payments on marginal livestock farming (5), including tenant farmers, and a perceived lack of new entrants to farming (2), with potential knock-on impacts for landscapes and habitats. The increasingly complex nature of grant applications was also noted as being off putting and very difficult to engage with without costly professional support (3). Public debt levels were viewed as resulting in continually

declining availability of wider grant funding sources (2). Increased difficulty in accessing loan funding was also noted as decreasing the availability of start-up capital for projects, with the uncertainty around public support mechanisms exacerbating this issue. **Uncertainty around renewable energy grant payment rates** over the longer term in particular was noted as a barrier to securing the required start-up capital. Two respondents noted that general political uncertainty around support for land management was being further exacerbated by wider uncertainty around the independence referendum, which was viewed as potentially impacting on general business stability through factors such as changes to taxation.

- III. The **restrictive nature of requirements for designated areas** and requirements associated with general health and safety legislation and building/letting legislation (see Section 3.4.4) were also collectively viewed as overly bureaucratic and resulting in considerable time and cost impacts for the sector (7). Designations in particular were noted as creating difficulties with respect to identifying suitable routes for timber extraction and carrying out muirburn effectively (2).
- IV. The **requirements of planning authorities** (and other key stakeholders) in relation to renewable energy, housing, hill tracks and business development were noted by some (6) as being overly restrictive, with the planning process viewed as slow moving and resulting in significant time and financial costs for applicants with no guaranteed return. Planning authorities were criticised for a lack of 'joined-up' thinking which discouraged development applications and created a high degree of uncertainty and risk around the development application process for landowners.
- V. Future potential **changes to wildlife management legislation**, including a potential ban on snaring and corvid control, were viewed as detrimental to the viability of driven grouse shooting (4). This activity was viewed as coming under increasing pressure generally, with requirements for deer culls also noted as having cost implications in terms of control costs and losses to sporting income.
- VI. Respondents (6) from private and NGO landholdings perceived increasing potential for **land use conflicts relating to visitor pressures**. This included: i) the challenge of balancing the need for species and habitat management with providing recreational opportunities (2); and ii) a requirement for consideration of the impacts of walkers on deer movements and on deer culls, with walkers viewed as impacting on deer range use and disturbing deer culls in progress. These respondents noted a greater need for consideration of how visitor access in such situations could be managed more effectively under the Scottish Outdoor Access Code (SOAC).
- VII. **A range of environmental/physical challenges** were also noted, including the impacts of invasive species such as ragwort and bracken on land uses (2), geese numbers (1), tree diseases (2), damage from wild fires (2), flooding on low ground (1), access difficulties in winter (2) and a complete reliance of the ski industry on snowfall for its viability. Climate change and the general unpredictability of future weather patterns was noted as an 'unknown' factor for land managers (2), with a lack of clarity around impacts on invasive species, bracken, tick and wild fires.
- VIII. **Other challenges** noted by a minority included: declining visitor numbers (2), a decline in local shops and markets (1), the lack of a finishing facility for livestock in the Strathspey area, difficulty in finding competent, qualified staff and new farm tenants and increasing costs of fuel and transport (2).

### **3.5.2 Landowner perspective on key future opportunities**

Survey respondents and interviewees were also asked about what they viewed as the key opportunities in relation to delivering their objectives in the future, with key themes from open ended responses and interviews summarised below.

- I. **Renewable energy schemes (5)** and particularly hydro and biomass schemes (using on-site woodlands to heat estate properties) were viewed as having particular potential to increase overall income (see Section 3.2.5 for further details). Two respondents also noted the potential for partnerships between landowners and local communities to facilitate access to wider funding streams and create a coalition of support for renewable energy projects.
- II. Due to the national park designation and the high profile of the area, **tourism (4)** was noted as a key growth area for the future. Specific opportunities identified included developing all-year round cabin accommodation and linking accommodation with other recreational and leisure based activities.
- III. **Partnerships and collaboration between landholdings and with wider organisations and businesses (4)** were noted as widening potential for diversification and facilitating leverage of additional/alternative funding, as well as representing a form of risk sharing. Specific opportunities noted included developing package holidays based around estate accommodation and partnerships with a range of activity and leisure businesses. Partnership working between landowners was also noted as facilitating effective fire control and deer management over large areas, with farm tenant collaboration offering potential for woodfuel market development. Landowner collaboration also represented an effective base for managing sensitive areas which are subject to land use conflicts, with two landowners noting the potential for collaboration, in combination with payments for ecosystem services, to provide a basis for ecosystem management based approaches to land management.
- IV. **Landowner-community working (3)** was also highlighted by a minority (see Section 3.4 for further detail) as a key opportunity for ensuring strong and supportive future relationships between communities and landowners. Estate 'hubs' (e.g. farm shops) were noted as opportunistic in relation to community engagement through the development of a focal point for estate-community interactions.
- V. Some respondents (5) noted the opportunity for **greater support of agricultural and sporting land uses based on 'rewarding good practice' and taking a pragmatic approach to policy delivery based on 'joined up thinking'**. In particular, a need for greater support for new farming entrants was highlighted (2), with increasing demands on food supply in future decades recognised as ensuring continued demand for agricultural products. Sporting land uses and tapping into foreign sporting markets was also noted as a continuing opportunity (3), with grouse shooting noted as a unique and high quality sporting product.
- VI. **Support (advice and funding) for developing housing** and refurbishing derelict properties for use as rental properties (See Section 3.2). One respondent also highlighted the potential for old folks homes given the continuing growth in pensioners in the area.
- VII. Establishing a **'Monitor Estates' initiative (1)** within the park akin to the Monitor Farms initiative, which is based on sharing ideas and best practice through selecting key sites and facilitating discussion groups and critical evaluation of specific activities (e.g community engagement or muirburn). Such initiatives should be 'owned and operated' by land owners

and managers themselves, centred on the sharing of internal 'industry' expertise and potentially facilitated by the CNPA.

- VIII. **Control of invasive species** across multiple landholdings, potentially coordinated by the CNPA (2).
- IX. The development of specific **visitor management measures** within the SOAC (2) to facilitate visitor zoning or exclusion in relation to areas of sensitive habitat and/or limit walker impacts on deer culls.
- X. **Provision of and payment for ecosystem services** (2), including removal of floodwalls to allow natural floodplain management, with potential benefits recognised for farm tenants.
- XI. Two landowners noted the potential for **improvement of transport links** to certain areas of the park, with improved links between Aviemore and the Cairngorm Mountain Ski area noted as one example.

### ***3.5.3 Perceptions of and linkages with the park***

From the survey response group 31 felt that the CNPA did have an impact on them achieving their management objectives, with 18 stating that the CNPA had no impact and three not answering this question. All 31 provided additional comments, 24 of which could be described as relating to the positive impacts of the CNPA, 9 of which related to negative impacts and four of which were neutral. Neutral comments related to the general observation that the CNPA could influence developments either positively or negatively through planning powers (2) and that the CNPA did not appear to have had either positive or negative impacts (2). Positive comments provided by survey respondents can be summarised as:

- The value of park led/partnership training initiatives (3<sup>17</sup>)
- Supportive staff and useful advice (10);
- Specific advice and guidance on visitor management (2)
- The role of the park as a project partner (2) and specific recognition of support for developing visitor infrastructure on landholdings (2)
- The role of the CNPA in relation to developing networking events and structures (2) and disseminating good practice (1)
- The role of the CNPA in promoting and marketing the area and disseminating information and corresponding increase in tourism demand (6), with the park recognised as a brand with international recognition (2)
- The support the park provides for rangers (2)

Comments relating to the negative impacts of the CNPA on respondents achieving their objectives predominantly related to a view of the CNPA as a further layer of planning bureaucracy with associated restrictions and cost/time-input implications (7), with other negative comments relating to:

- Negative outputs from planning applications (1) including renewable energy schemes (1);
- A lack of interest in and recognition of the role of landowners in the park by the CNPA (1);

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<sup>17</sup> A number of additional positive comments were provided on training but in the specific section on training, which are deleted on the following page.

- A failure to ensure adequate protection of the natural heritage in parallel with promotion of access (1).

Further more in-depth commentary on these areas based on analysis of answers to open ended questions and analysis of interview transcripts is provided below

### 3.5.3.1 Training provision and networking

The impact of the CNPA most widely praised by survey respondents and interviewees was their role in facilitating basic skills training opportunities for land managers, including courses on chainsaw handling, dry stone walling, ATV handling and the Level 1 Deer Stalking Certificate (DSC1). Private estate respondents (7) praised the park in this respect and requested that such training continue and in the future consider courses on regulations for gamekeepers and customer care for estate hospitality staff. Specific suggestions by interviewees/survey respondents for other future training courses included:

- Health and safety training for employees (6)
- Awareness and training around meeting requirements of the Green Deal scheme (3)
- Training for basic scoping of renewable energy development proposals (3)
- Venison marketing, venison processing and hygiene regulations (2)
- Tourism and marketing (2)
- Small-scale woodland management and tree nursery establishment (2)
- Leadership and management training (and development of management plans) (1)
- Skill sets for staff/managers in remote location (1)
- IT skills (1)

CNPA land management staff were generally viewed as positive, supportive and pragmatic in their approach:

*“Their ethos is helpful and realistic and they are always there with the intention to help rather than to regulate...the Park’s style is very helpful for providing a person in the middle and they are good partners, they have a style of asking enough questions but not too many”* [Private estate factor]

The networking opportunities provided by the park relating to land management were also recognised, with four private estates specifically commenting on the usefulness of the Land Management Forum and two considering whether the forums role could be widened. Interviewees and survey respondents identified a number of key areas wherein they would welcome further support and advice from the CNPA, including:

- Advice and support on SRDP/agricultural support schemes (6), increased security around Single Farm payments (3) and support for farm business development (1)
- Greater availability of advice and financial support for forestry and woodlands (4)
- Generally greater availability of financial support for land management (3)
- Advice on development of renewable energy proposals and the Feed In Tariff (3)
- Promotion of responsible access and visitor management for sensitive sites (3)
- Advice and support on community engagement mechanisms (1)
- Financial support for landscape enhancements (e.g. fence removal) (1)
- Active support for sporting land management as a valued traditional activity (1)
- Communication of developments in rural affairs and policy (1)
- Support for improving vacant properties (1)

- Continued development of regional forums for airing views and mitigating conflicts (1) and increased collaboration and communication with neighbours (1);
- Advice and support around tourism (1)
- Reduced bureaucracy (1)
- Public statements of strategic support which legitimise conservation management (1)

A minority of interviewees (2) viewed the CNPA as unnecessary and as having had *'no impact on landowners whatsoever'* beyond representing an *'additional layer of bureaucracy'* and further diminishing the autonomy of landowners with respect to land management and decision making.

### 3.5.3.1 *The presence of the CNPA*

Private estate respondents recognised the role of the CNPA in supporting estate ranger services and interpretation initiatives in the area. However, some argued that the CNPA had a distinctly low local profile, with a very limited presence in key access points such as Aviemore and Cairngorm Mountain. This was viewed as being exacerbated by the existence of 12 different ranger services in the region, with the CNPA viewed by two interviewees as failing to present a coherent visible presence across the park. One respondent also argued that the park *'needed to bring more to the table to increase the importance of their role in the eyes of land managers'*, potentially including the distribution of SRDP and LEADER funding in the region in the future.

### 3.5.3.2 *Planning decisions and housing*

As noted above, some survey respondents expressed concerns about the CNPA as an additional layer of planning bureaucracy. Two interviewees specifically questioned the need for two planning authorities, which was viewed as having increased the complexity of the planning process. Concern was expressed in relation to major planning decisions being made by the park, with some (4) questioning the parks support of the major new housing development at Camus Mor:

*'The Park makes no difference from what I can see, apart from building this huge village in Aviemore...some of the planning decisions are simply extraordinary, I don't actually think that village would have been happening if the park hadn't come into existence, which really is odd when you think about it'* [Private landowner]

Housing was viewed by some (3) as an over-stated issue by the CNPA, with these respondents calling on the park to shift their emphasis towards the creation of sustainable local employment prior to providing housing. These concerns were linked with the view that the CNPA was overly focused on tourism and that the designation of the park was leading to the *'creation of a single industry economy of tourism and bureaucracy and increasing housing demand, mainly as retirement homes and second homes'* [Private landowner]. One respondent argued that *'local working people'* not involved in the tourist industry (e.g. farmers and gamekeepers) were failing to benefit from the park, despite the fact that the *'National Park landscape is still a working landscape rather than being just a picturesque tourist landscape'* [Private landowner].

### 3.5.3.3 *The park as an authoritative voice*

A minority (3) argued that the CNPA should *'nail their colours to the mast'* and utilise their wider perspective and policy awareness to become more publicly involved in key debates, including on landownership and deer management. This included taking a robust stance on key issues where necessary and engaging government constructively on behalf of landowners and managers.

*'The park could be a great test bed for some of these issues and questions and I would like them to be more involved in that debate [about landownership] – they tend to keep their heads way, way down'*  
[Private estate factor]

One landowner noted the potential for the national park to develop longer term stability for land managers than other areas, while cautioning that some initiatives were very difficult for landowners to become involved with, due to the constraints on their time. Concern was also expressed about the continued lack of landowner representation on the park authority board despite their importance in relation to the management of the area. Other more specific suggestions in terms of future areas of activity for the CNPA included:

- A greater focus on the built heritage, including providing or facilitating access to support for restoring derelict historic buildings (2)
- The establishment of a post with the specific aim of assisting with SRDP applications and advising on land management related grant applications more generally (1)

## 4. Discussion

### 4.1 Methodological critique and potential sources of bias

The data presented within this report is based on a self-selecting sample of landowners representing an estimated 66% of the CNP. As noted in Section 3.1, a small number of both large and medium landholdings and a considerable number of smaller landholdings did not respond. The length and detail required in the survey may have discouraged these respondents and a small number acknowledged an interest but a lack of time to complete their response. Nevertheless, the return rate is broadly similar to that of previous landowner surveys in the region, with the 1999 landowner survey receiving 62 responses and accounting for 70% of the surveyed region. Notably these previous surveys related to the (651,000Ha) Cairngorms Partnership Area incorporating 152 landowners, with responses equating to 70% (450,000ha) of the surveyed area and a 41% response rate. This can be compared to the 407,341ha accounted for in this survey (66% of which was in the 452,800 CNP) and the 54% response rate. Given the size of the sample relative to the total number of landowners and area of the CNP the diversity of activities, businesses, perspectives and levels of income and expenditure, can therefore be considered as broadly indicative of those likely to be found across the whole of the park.

As survey respondents were self-selecting, there may be some potential for bias, with the sample group potentially skewed toward certain 'types' of landholdings. It is possible that landholdings with resident owners or resident factors (relative to landholdings managed by 'external' land agents) would have been more likely to respond and this would appear to have been the case – as only one respondent classified himself as a land agent. It is likely to be the case that further landholdings wholly or partly within the CNP are managed by land agents not located on the landholding. A small number of those respondents classifying themselves as factors may also be employed by a land agency and contracted to act as the factor for the landholding on a full or part-time basis. A relatively low number (7) self-classified themselves as sporting estates. Furthermore, on average respondents had 2.8 activities ranked as important and a further 2.4 ranked as being of moderate importance, suggesting that the majority of landholdings had at least some level of diversification. Sporting land uses were the second most commonly occurring activity overall (after forestry); however, within this sample they commonly occur within a diversified estate context. It may be the case therefore that estates which are more solely focused on sporting, or landholdings having a lower than average economic impact, are under-represented within the survey sample (which could result in artificially high estimates being given for the total population during aggregation). Interviewees were also largely self-selecting and therefore potentially skewed towards more diversified landholdings with resident landowners or factors.

The financial data presented in this report is based on survey responses – all findings are therefore summaries of data provided by self-reporting respondents as opposed to definitive statements on the income and expenditure of landowners in the CNP in 2013. The survey was not an accountancy exercise and it is possible that in instances guesswork may have occurred, or rounding up (or down) of figures to affect the results in a certain manner. Figures were requested based on the average over the previous years – in some instances the data may have been for only a single year to ease completion. Any such actions may influence the overall results. Figures provided for percentage of spending in the local area (with 'local' not defined) were also estimates and presented only as a basis for determining for which sectors economic leakage is least/most prevalent as opposed to any accurate determination of the extent of local spending. All financial summaries therefore represent estimated figures and should be treated as indicative as opposed to definitive. Furthermore, income and expenditure within different sectors can vary widely from year to year in relation to factors such as timber harvesting and fluctuations in grouse populations and visitor numbers.



Due to the small sample size relative to samples from larger populations, opportunities to segment the data were limited. Meaningful segmentation by ownership type, for example to compare means of direct or indirect impacts between private and NGO or publicly owned land, was not considered feasible due to the small numbers of public and NGO landowners within the sample. For some response areas (e.g. renewable energy) the respondent group was also reduced further due to lower numbers responding to specific questions within that section of the survey. Data has therefore only been segmented for a small number of questions by landholding size, to demonstrate how direct and indirect economic impacts and other factors vary between landholdings of different sizes. The aggregation of indirect economic impacts to the whole of the CNP area is also based on estimated percentage in the park figures for each landholding. Complete accuracy regarding the total population of landowners and the exact extent to which they occur within or outside of the park is not possible without basing the analysis on an up-to-date GIS database of landownership boundaries.

## 4.2 Results in relation to previous landowner surveys in the Cairngorms

As noted in Section 4.1, the overall area and number of landowners surveyed in previous landowner surveys varied slightly to that of the current survey. Furthermore, exact methods of recording information varied between the two surveys and direct comparisons should be treated as indicative only and with some caution. Nevertheless, previous work provides a very strong basis for identifying key changes over time and key findings from the current survey are compared below with findings from the 1999 landowner survey (which related to the 1998-1999 financial year).

Twenty four landholdings recorded **having in-hand farming** in 1999 compared to 28 in 2013, with 238 let farms (totalling 111,888ha) recorded in 1999 compared to 285 (totalling 82,895ha) in 2013. Total expenditure on in-hand farming has increased from £2.82M in 1999, of which £818K (29%) was from grants and subsidies, to £3.9M in 2013, £2.6M (44%) of which was from grants and subsidies. The proportion of public funding has therefore apparently increased. Employment levels are similar with 41 FTEs in 1999 and 36.8 full time jobs and 10 part-time in 2013. The emphasis (beef, sheep and some arable) remains similar.

Forty two landholdings engaged in **forestry and woodland management** in 1999 compared to 44 in 2013. Total expenditure on forestry and woodlands has decreased slightly from £2.8M in 1999, £468K (17%) of which was from public grants, to £2.6M in 2013, £884K (34%) of which was from grants. The proportion of grant income therefore appears to have increased considerably<sup>18</sup>. Timber production was higher in 1999, with 214,817 tonnes of timber produced on 26 landholdings compared to 105,888 tonnes on 30 landholdings in 2013.

Forty six engaged in **sporting land uses** in 1999 compared to 41 in 2013, with 289K hectares of managed rouse moor recorded in 1999 and 189K in 2013. Numbers of grouse shot are down by nearly 35%, from 20,358 in 1999 to 15,954 in 2013. Total expenditure on sporting has increased significantly from £3.69M (on 47 landholdings) in 1999, to £6M in 2013 (on 32 landholdings). Employment is similar, with 199 FTEs in 1999 compared to 116 full-time, 95 part-time and 116 seasonal jobs in 2013.

The **commerce and tourism** section of the 1999 survey recorded 31 landholdings having a total of 86 self-catering holiday properties, with 9 providing 25 retail units and a range of other tourism businesses, with 14 providing paid visitor activities. No income or associated expenditure was

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<sup>18</sup> This 2013 figure includes management and planting grants, it is unclear if the 1999 figure includes planting grants, almost half the 2013 total for income from public funding.

provided, although based on key figures activity in the tourism sector would appear to have increased, with 125 self-catering holiday properties recorded in 2013, with combined expenditure on tourism accommodation and visitor attractions in 2013 of £3.73M. Landowners (27) recorded £1.27M on recreation and access provision in 1999; £1.6M of expenditure was recorded against leisure activities in 2013, although this is unlikely to be a direct comparison (with the 2013 data more focused on related business activities, although some access development spend is included).

Respondents in 1999 had 1000 full-time **homes rented or provided** on their landholdings, with 61 landholdings providing 263 tied homes to staff, with a total spend on housing in 1999 of £1.5M, £39,000 of which was from public grants. The extent of residential housing appears to have increased since 1999, with 1193 houses recorded on 38 landholdings, with the number used as tied housing similar (259). Total associated expenditure has increased to £2.1M. A higher number (31) provided community facilities in 1999, compared to 16 in 2013. The strong emphasis on providing housing for locally employed residents among landowners has remained and has arguably increased in the intervening period.

**Total direct employment** on landholdings in 1999 was 422 full time posts with a further 126 FTEs accounted for by part-time positions, similar to the 429 full time 159 part-time employees and 199 seasonal employees recorded in 2013. Total overall **direct expenditure on landholdings in 1999 was £19.1M compared to £25.3M in 2013**. Spending has therefore increased by £6.2M; however, **inflation in the intervening time period (47%) more than accounts for this increase and in fact suggests a decreased level of spending by some £3M overall**.

In 1999 landowners had relatively low **confidence** in relation to the future of forestry, agriculture and tourism, with more than half positive about the future of field sports. In the 2013 sample confidence in future income and investment was correspondingly higher in relation to tourism and residential accommodation, reflecting increased income levels and continually increasing demand in these sectors. Confidence was somewhat lower in relation to traditional land uses due to perceived threats. Notably renewably energy has emerged as a relatively new activity area since 1999 and based on aspirations is likely to be a growth area in the future.

### **4.3 Discussion of results in a wider context**

It is clear from the results presented here and from the comparison with previous surveys (Section 4.2) that agriculture, sporting land uses and forestry remain of core importance in relation to the objectives and economic outputs of landholdings in the Cairngorms region. Notably however, an increasing shift is evident towards tourism (including tourist accommodation, recreation and heritage based businesses) and the provision of residential accommodation. This reflects the designation of the region as a national park and the resultant increasing demand for housing locally and increased visitor numbers. The emphasis on sporting versus other objectives varies between estates, as illustrated by the land management typology presented in Section 3.1.5.2. A singular or core focus on sporting land management in a 'private estate residence' context does have economic impacts, particularly in relation to employment and use of local contractors and suppliers. However, these landholdings are likely to have less of a long term focus on diversification and 'change' (depending on the degree of external funding). Where sporting land uses occur in a more diversified estate context, or where the landholding is necessarily driven to increase their income streams due to a lack of (or limits on) external funding, stronger likelihood of future diversification and business development exists if opportunities should arise. Notably, despite a considerable emphasis on sporting land uses overall in the CNP sample, it would appear (from survey and interview data) that, in general, it is more common for sporting land uses to occur on estates within a diversified context.

Arguably a continuum exists, from the least diversified most 'sporting focused' private residence, to the most diversified and business focused landholding, with all estates sitting at some point along this continuum.

Across all sectors agriculture constitutes the most significant component of direct outputs (22%), followed by sporting (15.9%), with forestry representing 8.3% of direct outputs. However, a significant component of agricultural income (44%) is from agricultural subsidies and support payments, with forestry also 39% publicly funded (with overall recorded public funding of land management on private or NGO-owned land within the CNP sample totalling £3.9M, relative to a total income for these land use types (including conservation) of approximately 9.4M). These land uses (agriculture and forestry) are therefore largely non-viable should public funding be removed. Notably, when compared to the results from the national estates survey (Hindle et al. 2014), sporting land uses (in the CNP sample) represent a significantly larger component of the direct outputs of landholdings (15.9% in the CNP relative to 7.6% of the total direct output for the national sample). Similarly, agriculture and agricultural tenancies represent a much higher component of the direct income of estates in the national sample (34.5% and 9.2% respectively) and account for the highest level of expenditure and investment, with sporting land uses and residential accommodation receiving the highest levels of investment and expenditure in the CNP sample. Sporting land uses are also relatively marginal; however, unlike agriculture and forestry, these activities are predominantly funded by incomes generated either from the sporting activities themselves and/or private funds from other on or off-estate sources. As sporting land uses also have a relatively high staffing requirement (with employment in tourism and leisure the only equivalent on landholdings in the CNP sample), with associated knock-on indirect and induced impacts, such land uses arguably generate a higher level of GVA for a lower investment of public funding, with these activities of comparatively greater economic importance in the CNP area than nationally.

Overall, the estimated aggregated total GVA effect of all landowners (all activities) in the park (£22.3M) represents some 6-7% of the total GVA (£400m) of the park economy. However, it is important to note that both forestry and agriculture represent primary industries, which produce outputs which have considerable knock on impacts in the supply chain. As identified by the 2010 report on the economic and social health of the CNP (COGENTSI 2010), the forestry industry and related forest product industries (e.g. sawmills) contribute a total of £11M in GVA to the economy of the park. Agriculture and associated processing and food industries generate a further £40M in GVA to the park economy and provide employment for over 900 park residents (COGENTSI 2010). Land based industries therefore represent an important engine of wider wealth and employment, often in relatively remote areas with comparatively limited opportunities for diversification. COGENTSI (2010) further note that forestry and agriculture (which as a category within the report includes estates) represent two of the most distinctive elements of the park economy relative to the national economy, with these land uses also representing a component of the landscape and cultural fabric of the region.

Tourism and recreational/leisure based activities represents the second cornerstone of the economic activities of landholdings in the CNP and capitalising generally on visitor spend. Tourism accommodation provision in particular, which is less dependent on public funding, generates £2.9M with an associated spend of £2.1M, with leisure and retail generating £4.8M compared to a much lower spend of £2M. Heritage visitor attractions also generate £1.3M, with a spend of £1.6M, with considerable associated benefits in relation to visitor engagement and interpretation – with rangers providing a high profile interpretation role on a number of public and private landholdings for example. Tourism accommodation represents some 10.6% of total direct economic output on landholdings in the CNP sample, relative to 4.6% in the national landowner sample group, with expenditure on sports and recreation, heritage and retail outlets on landholdings in the CNP also representing a significantly larger component of total direct spend than in the national landowner

sample (Hindle et al. 2014). Tourism and sporting related employment impacts (as for sporting related employment) also represent a significantly larger relative proportion of total employment than for the national landowner sample group.

Residential property represents a key growth area, with landowners in both the CNP and national landowner samples (Hindle et al. 2014) indicating a relatively high level of recent activity and future confidence in housing provision. Notably however, income from residential property in the CNP sample (£1.6M) is less than expenditure (£2.1M), which reflects open ended and interviewee comments that maintenance and upgrading costs can override income, with future energy efficiency requirements viewed as a constraint to making older properties viable as rental units in the future. It should be noted however, that this does not account for the increased capital value of the asset base. Overall, residential accommodation provision is of greater relative importance to landowners in the CNP than nationally, accounting for 12.4% of direct income relative to 6.9% nationally, with nearly 1200 residential properties owned by landowners in the CNP sample – some 15% of the total 7500 houses in the CNP area (COGENTSI 2010).

In relation to environmental enhancement a range of activities are evident on CNP landholdings, with a specific focus (and interest in) native woodland expansion, riparian woodlands and control of invasive species, with considerable (£1.1M) associated spend, including a non-public component. Clearly, landowners (private, public and NGO) also deliver a wide range of access and interpretation related initiatives. Of note however, is the strong interest among landowners in landscape enhancements (e.g. dyke repairs, fencing removal and undergrounding of powerlines), which receive comparatively little associated public funding relative to woodland and biodiversity initiatives. The development of landscape-improvement related incentive schemes and the taking of a coordinating role by the CNPA in relation to large-scale landscape improvements and/or the control of invasive species across multiple sites would appear to represent an opportunity in this regard.

The prevalence of formal community engagement mechanisms on landholdings varies considerably, with formal measures more common on public, NGO and large or very high profile private estates, although school visits were common across a range of sites. This is largely related to the disproportional impact of larger estates on communities with respect to housing provision and employment impacts. Overall, the number providing community facilities and engaging in formal community engagement was arguably somewhat low, with informal 'ad-hoc' engagement more common. Opportunities would appear to exist in this area, particularly given the current policy-level discussions around land reform and community empowerment more generally. A limited number of examples of long-term community engagement and partnerships between communities and landholdings were identified; considerable potential for sharing of best practice between landowners relating to such initiatives exists. Specific areas for future consideration by both landowners and the CNPA include community needs surveys on estates and initiatives such as community-estate renewable energy partnerships and community woodlands.

The development of renewable energy initiatives represents a key potential growth area in the future, with this aspiration reflected in the national landowner survey sample (Hindle et al. 2014). The development of this sector and specifically biomass and hydro scheme initiatives represent a key potential mechanism for contributing to the development of a low carbon economy (a key focus of the CNP Plan). However, the expansion of renewable energy in the CNP (and nationally) is largely dependent on a favourable incentives framework, with key additional challenges including high start up costs and planning constraints. More generally, landowners appear to be confident in relation to residential property, with concerns more evident in the longer term, particularly in relation to traditional land uses (forestry, sporting and agriculture) largely due to uncertainty around future support payments and political pressures. Nevertheless, these land uses (at different levels and with

different emphases) remain the core focus of the majority of landholdings, together with residential housing and tourism going forward.

As a group, landowners and their representatives appear to have mixed views on the designation of the CNP and the CNPA as a body. Clearly, the potential for the National Park brand to act as a tourism driver is welcomed by many, due to the increased potential for income, with the training and networking role and potential of the CNPA to act as a project partner also often valued. However, concern is evident in relation to the perceived increased planning requirements and restrictions associated with the park designation. Furthermore, a deeper uncertainty and concern is evident among some landowners and their representatives relating to their future role in what is viewed as a changing socio-economic context, towards a greater emphasis on a visitor based economy and a declining emphasis nationally on support for rural land uses.

#### **4.4 Increasing the contribution of landowners to the Park Plan – Recommendations for the CNPA**

Based on the findings and the discussion of findings presented in this report, the following recommendations are made in relation to maintaining and strengthening the role and contribution of landowners to the society, economy and environment of the CNP and contributing to the delivery of the National Park Plan.

1. Continue to recognise the key role of CNPA-led training initiatives for landowners and land managers with respect to strengthening relationships and partnerships with the landowning and land management community. Support and develop further training initiatives in partnership with landowners and land managers from across the CNP.
2. Consider opportunities for the development of/leveraging support for landscape enhancements to capitalise on existing landowner interest in this area and the existing funding gap. Explore funding potential in parallel with opportunities for the sharing of good practice in relation to landscape enhancements at estate scale and the potential for large-scale collaborative approaches to landscape enhancement.
3. Explore the potential to provide support to landowners in relation to specific community engagement mechanisms. This to potentially include sharing of good practice and communication of specific examples from case study landholdings and supporting estate 'community priorities surveys and workshops'. Identify specific opportunities to support and promote community-landowner partnerships such as community-energy schemes.
4. Explore potential options relating to housing developments and providing support for refurbishment of derelict and vacant housing for use as affordable rental accommodation. Identify the likely key impacts of future energy efficiency regulations in relation to the scale of affected housing and the potential economic implications for landowners.
5. Explore options for strengthening the promotion of responsible visitor access on landholdings and investigate the need and possibilities for specific zoning and/or limiting of access in areas/during times of particular sensitivity.
6. Continue to explore options for joint working with landowners and facilitating wider partnerships between landowners, the CNPA, local communities and wider public and private partners.
7. Consider in the longer term the possible role of the CNPA with respect to the potential for delivery of specific incentive and support schemes (e.g. LEADER. SRDP etc.), particularly in relation to the development of a pilot park-wide targeted grant scheme to support integrated habitat network development and payments for ecosystem services.

8. Continued support for the development of renewable energy schemes, including potential training and/or information sharing on scoping and establishing biomass and hydro schemes at an estate or collaborative/partnership level.
9. Identify the scope for the CNPA to take a coordinating role with respect to control of invasive species at a cross-boundary level in collaboration with landowners and managers.
10. Further development and updating of a spatial database of landownership for the CNP area, in conjunction with the landowning community. Utilisation of this database as the basis for future landowner surveys and the mapping of key information layers from the survey response group (e.g. estate type, management structure, core objectives, aspirations, employment levels and public spend).
11. Commissioning of a repeat landowner survey within a five year timescale to ensure continued recognition of changing trends in management objectives, aspirations, challenges and economic, social and environmental contributions.
12. Consideration of the potential mechanisms to encourage and/or facilitate a member of the landowning and/or land management community to obtain a seat on the CNPA board, with a view towards continued relationship building with the landowning community to i) increase the potential contribution of landowners and managers to delivering the CNP Plan and ii) strengthen the relationship between the national park and the landowning community through the establishment of a direct conduit between the board and the landowning community.

## 5. References

- Cairngorms Partnership (2002) Cairngorms Estates; A third survey of landowners in the Cairngorms Partnership Area, Cairngorms Partnership 2002.
- Cairngorms Partnership (2001) Cairngorms Estates; A second survey of landowners in the Cairngorms Partnership Area, Cairngorms Partnership 2002.
- Cairngorms Partnership (1999) Cairngorms Estates; A survey of landowners in the Cairngorms Partnership Area, Cairngorms Partnership 1999.
- Cairngorms National Park Authority (2012) The park plan
- Cairngorms National Park Authority (2003) Cairngorms Estates; A fourth survey of landholdings in the Cairngorms Area. The Cairngorms National Park Authority 2003.
- COGENTSI (2010) The economic and social health of the Cairngorms National Park. Cairngorms National Park Authority 2010.
- EDMA (2009) *Working Positively with Rural Estates, the scale and nature of rural estates and their contribution to the East Midlands*; Rural Estate Sustainability, Forum for the Future, 2006; North East Rural Estates Framework, One North East, 2004 – 2009
- Edwards, D., Morris, J., O'Brien, L., Sarajevs, V. and Valatin, G., (2008). The economic and social contribution of forestry for people in Scotland.
- Fraser of Allander Institute (2010) An economic study of Scottish Grouse Moors: an Update.
- Glass, J.H., Scott, A.J. and Price, M.F. (2013). The power of the process: Co-producing a sustainability assessment toolkit for upland estate management in Scotland. *Land Use Policy*, 30(1), 254-265.
- Glass, J., Mc Morran, R. and McKee, A. (2012) Working together for sustainable estate communities; Exploring the potential of engagement and partnerships between estates, communities and wider partners in upland Scotland. Centre for Mountain Studies, Perth College, University of Highlands and Islands.
- Hindle, R, Thomson, S., Skerratt, S., Onea, P., and Mc Morran, R. (2014) Economic contribution of estates in Scotland; An economic assessment for Scottish land and Estates. Scottish Land and Estates 2014.
- Kerr, G. (2004) *The Contribution and Socio-Economic Role of Scottish Estates*, Scottish Agricultural College, Edinburgh. <http://www.sebg.org/news/publications/SACEstatesReport.pdf>.
- Leontief, Wassily W. (1986) *Input-Output Economics*. 2nd ed., New York: Oxford University Press.
- Mackey, E.C., M.C. Shewry and G.J. Tudor (1998) Land Cover Change: Scotland from the 1940s to the 1980s. HMSO.
- Moorland Working Group (2002) Scotland's moorland; The nature of change. Battleby, Scottish Natural Heritage.
- McKee, A. (2010) The role of private landownership in facilitating sustainable rural communities in Upland Scotland, *first draft* of unpublished thesis submitted for the degree of PhD at the University of Aberdeen.

Mc Morran, R. and Glass, J. (2013) *The socioeconomic benefits of the ownership and management of land by environmental non-governmental organisations*. Centre for Mountain Studies Commissioned Report.

Mc Morran, R. and Scott, A. (2013) Reconstructing sustainability; participant experiences of community land tenure in North West Scotland. Submitted to *Journal of Rural Studies* (Under Review).

Mc Morran, R. (2010) Benefits and impacts of the grouse shooting industry – The rural community perspective. *The Heather Trust – Promoting integrated moorland management*. Annual Report 2010.

Mc Morran, R. (2009). *Red grouse and the Tomintoul and Strathdon communities - The benefits and impacts of the grouse shooting industry from the rural community perspective; a case study of the Strathdon and Tomintoul communities in the Cairngorms National Park*. The Scottish Countryside Alliance Educational Trust Commissioned Report.

Mc Morran, R. (2008) *Constraints and opportunities for integrated multifunctional forest management in the Cairngorms Region of Scotland*. PhD Thesis, University of the Highlands and Islands.

Mc Morran, R. (2008) Scale Mis-matches in Social-Ecological Systems: A case study of multifunctional forestry in the Cairngorms region of Scotland. *Aspects of Applied Biology* 85, p41-48.

Mc Morran, R., Price, M.F. and McVittie, A. (2006). *A review of the benefits and opportunities attributed to Scotland's landscapes of wild character*. Scottish Natural Heritage Commissioned Report No. 194 (ROAME No. F04NC18).

Miller, D., Schwarz, G., Sutherland, L-A., Morrice, J., Aspinall, R., Barnes, A., Blackstock, K., Buchan, K., Donnelly, D., Hawes, C., McCrum, G., McKenzie, B., Matthews, K., Miller, D., Renwick, A., Smith, M., Squire, G., Toma, L. (2009) Changing land use in rural Scotland – Drivers and decision-making: Rural land use study (Project 1). Scottish Government, 2009.

PACEC (2006) Contribution of Deer Management to the Scottish Economy

Royal Society of Edinburgh (RSE) (2008) *Committee of Inquiry into the Future of Scotland's Hills and Islands*. Report, September 2008.

Rose, R (2010) *Sustainable Deer Management; A case study report for the Deer Commission for Scotland*. DCS, 2010.

Scottish Government (2011) *Getting the best from our land – A land use strategy for Scotland*. Scottish Government, 2011.

Scottish Government (2009) Climate Change (Scotland) Act 2009. Office of Public Sector Information.

Scottish Government (2006) *Scottish Forestry Strategy*. Scottish Government, 2006.

Scottish Natural Heritage (2011) *Code of Practice on Deer Management*, Scottish Natural heritage 2011.

Skerratt, S., Atterton, J., Hall, C., McCracken, D., Renwick, A., Revoredo-Giha, C., Steinerowski, A., Thomson, S., Woolvin, M., Farrington, J, and Heesen, F. (2012), *Rural Scotland in Focus 2012*, Edinburgh: Rural Policy Centre, Scottish Agricultural College.



Skerratt, S. (2011) *Community Land Ownership and Community Resilience*. Rural Policy Centre Research Report, Scottish Agricultural College, June 2011.

Skerratt, S., Hall, C., Lamprinopoulou, C., McCracken, D., Midgley, A., Price, M., Renwick, A., Revoredo, C., Thomson, S., Williams, F. and Wreford, A. (2010), *Rural Scotland in Focus 2010*, Edinburgh: Rural Policy Centre, Scottish Agricultural College

Thomson, S. (2012) Chp 1, An update on population and housing trends in rural Scotland. In: Skerratt, S., Atterton, J., Hall, C., McCracken, D., Renwick, A., Revoredo-Giha, C., Steinerowski, A., Thomson, S., Woolvin, M., Farrington, J, and Heesen, F. (2012), *Rural Scotland in Focus 2012*, Edinburgh: Rural Policy Centre, Scottish Agricultural College.

TNS Travel and Tourism (2004) Country sports tourism in Scotland

Warren, C.R. and McKee, A.J. (2011). The Scottish Revolution? Evaluating the impacts of post-devolution land reform. *Scottish Geographical Journal*, 127 (1), 17-39.

Warren, C.R., Lumsden, C., O'Dowd, S. and Birnie, R.V. (2005) 'Green on Green': Public perceptions of windpower in Scotland and Ireland. *Journal of Environmental Planning and Management*, **48** (6) 853-875.