

CHAPTER 7

INVENTORY OF DEER STALKING ACTIVITIES IN THE SCOTTISH BORDERS

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7. INVENTORY OF DEER STALKING ACTIVITIES IN THE SCOTTISH BORDERS

Summary of Main Survey Findings

Survey Sources

The inventory was based upon a combination of postal questionnaire surveys and consultations with key local stakeholders. The latter included the Deer Commission for Scotland (DCS), the British Deer Society, Scotland (BDS), the British Association for Shooting and Conservation, Scotland (BASC), the **Eskdalemuir Deer Management Group, the Forest Enterprise, members of BFRS and local Forestry Companies and Agents.**

- The **survey** results were based on **response rates** in the case of Providers and Participants respectively of **56% and 9%**.

Distinctions and Objectives

A number of **important distinctions** were made in designing and executing the surveys, namely between:

- Those **Providers**, such as the Forest Enterprise and a number of Companies and Estates, **whose primary stalking objective was to protect the forest, as distinct from** those who seek to defray some of the forest management costs through letting **recreational stalking**. In the latter case some Providers showed either as much or more interest in sustaining deer populations as in forest protection
- Those **Participants**, who are recognised to be **professional stalkers**, i.e. those who are paid to cull deer in significant numbers during appropriate seasons, as distinct from those **recreational stalkers** who either pay the Providers for their stalking or who participate as an invited guest stalker

In 1998/99 stalking was required in the Scottish Borders Region, first and foremost to protect the forest crop and naturally regenerating trees against the browsing and territorial habits of roe and sika deer.

Physical Dimensions

- **The total area over which deer stalking took place in 1998/99 was 75,000 hectares**
- **57% of this related to outright protection of the forest crop.** A further 3% related to recreational stalking involving family, friends and guests. **The remaining 40% (32,080 hectares) involved the letting of commercial recreational stalking to UK and overseas clients**

- It was estimated by the DCS that in 1998/99 stalking led to **the culling of approximately 3,300 deer**
- Approximately **70% were shot by professional stalkers**, who killed on average 1 deer per day. This compares with recreational stalkers who killed at the rate of 1.5 to 2 deer per week

Scale of Recreational Activities

- It was estimated that during 1998/99 between 4,900 and 5,000 days were spent by 400 Participants in stalking deer within the Region. Of the total number of days, about 2,250 were contributed by paid professional stalkers. The remaining 2,650 to 2,750 days involved approximately 385 UK and overseas “recreational stalkers”

The Levels of Expenditure

- The **annual total gross expenditures** incurred by both 43 Providers and 400 Participants were identified as having been **between £579,000 and £732,000**
- The **annual total net costs** borne by **43 Providers** was estimated to have been **between £66,000 and £183,000**. The corresponding estimate for the **400 Participants** involved was **£255,000**

The Employment Impacts

- These levels of expenditure by Providers and Participants were estimated to have **generated direct employment of between 14 and 19 FTEs**
- Employment was also directly generated by Providers and Participants through trade and service organisations. This off-site employment was estimated to have amounted to **a further 3.5 to 4 FTEs**
- **The total direct, on- and off-site employment amounted to between 17.5 and 23 FTEs**. These were estimated to have represented between **32 and 41** full-time, part-time and casual **jobs**

The Economic Impacts

- The **annual total revenues** earned by Providers from stalking lets and venison sales amounted to **between £256,000 and £294,000**

Verification

The survey results revealed a number of serious anomalies and outright errors, especially relating to the activities of Participants. This **pointed to the need for an extensive verification exercise, entailing reference to a small team of consultees**, representing deep and wide-ranging experience of

stalking in the Borders. From these consultations the following findings emerged:

Financial Dimensions

- **Typical gross costs incurred by Providers** for whom forest protection was the primary objective were between **£140 and £200 per deer culled**. The corresponding costs net of venison revenues were £115 to £175 per animal
- In the case of **recreational stalking, the costs borne by Providers** who adopted a recreational approach to deer management were as follows:

Type of Recreational Stalking	Gross Costs	Net Costs
	Per deer culled	
➤ Commercial	£62 to £75	- £26 to - £37
➤ Non-Commercial	£46 to £92	£30 to £75

In the case of the Commercial returns cited above, it was considered that such margins may have been the exception and that, more typically, a 'break-even' performance was achieved

- Respectively in the case of commercial and non-commercial recreational stalkers, **gross costs exceeded net costs in the ratio of approximately 2.4 to 1 and 1.5 to 1**
- The principal countries of origin of the **125 overseas stalkers were Scandinavia, Italy and the USA**. The **weekly stalking rentals** paid by UK and overseas visitors varied between **£350 and £480**. Seasonal leases averaged **£3.50 per hectare of the area stalked**
- **The costs incurred** in the case of **Participants** were, as expected, much higher **per deer culled**, namely, for recreational stalkers, between **£225 and £250**
- **Recreational stalking was unanimously considered to be the least cost-effective method of deer control**

Prospects

- **The prospects for expansion of deer stalking were considered to be good**, because of several factors, in particular:
 - the serious increase in deer populations
 - the need to protect the second generation of forest plantations
 - the growing demand amongst foreign stalkers.

External Overview

- Local experts on reading the final draft of this Chapter commented favourably on both its objectivity and overall content, but suggested that the revenue and cost estimates were probably both on the low side. **The extent of that ‘conservatism’ was considered to be between 10% and 20%.**

7. INVENTORY OF DEER STALKING ACTIVITIES IN THE SCOTTISH BORDERS

Introduction

7.1 The compilation of this inventory for the Borders largely entailed breaking new ground, no specific independent surveys of stalking providers and participants having been undertaken previously. In this context ‘providers’ and ‘participants’ were defined as follows:

- **Providers:** landowners and/or tenants, involved in providing facilities for the stalking of deer on their land, be it for crop protection and/or recreational purposes. Thus ‘providers’ include both people for whom provision involves an annual cost and smaller numbers who actually derive financial gain;
- **Participants:** all those people, directly involved in shooting deer either to control populations for the prime motive of protecting the forest crop or/and for recreational purposes. For the majority of ‘participants’ (primarily recreational stalkers) their activities incur annual costs. There are, however, a relatively small number of professional stalkers, who are paid for the culling/forest protection undertaken.

7.2 This Chapter is the product of both preliminary analysis of surveys and of subsequent close consultation with a small panel of people (ref Acknowledgements), whose expert knowledge of stalking in the Borders is widely recognised by people responsible for deer management and control. As will become apparent later in the Chapter, the estimates derived from the combined investigations owe at least as much to the knowledge and records of these consultees as to the information provided by the survey respondents.

Methodology

7.3 Initially the inventory was based upon independent surveys respectively of stalking providers and participants. They were conducted by means of postal questionnaires, which were accompanied by a stamped addressed envelope. The separate questionnaires were carefully designed following extensive discussions with several key stakeholders; notably the Deer Commission for Scotland, the British Deer Society (Scotland), BASC, the Eskdalemuir Deer Management Group, Forestry Companies and members of BFRS. The assistance of the respondents is likewise acknowledged.

Categorisation of Stalking Activities

7.4 Consultations, both when designing and analysing the survey results, revealed that there were marked differences between types of stalking activity. The following categories were noted respectively in the case of providers and participants:

□ **Providers**

- Stalking undertaken primarily to protect the forest. They include the Forest Enterprise, a few Forestry Companies and some individual Estates;
- Recreational stalking undertaken by the Estate owner, family and guests;
- Recreational stalking involving the letting by some Estates, Forest Companies and sporting Agents to UK and overseas' clients.

The first two of the above categories include some Estate owners who, for a variety of reasons including the provision of public access, do not and cannot provide deer stalking on a commercial basis. On most such Estates deer stalking operations do not 'break-even'.

□ **Participants**

- Stalking undertaken by "Professionals", i.e. stalkers paid to cull deer in significant numbers during appropriate seasons;
- "Recreational" Foreign stalkers, who pay to stalk;
- "Recreational" UK stalkers, who pay to stalk (often relatively low sums) and whose contribution to annual cull numbers is relatively modest.

7.5 These categories formed the basis of both the surveys and subsequent analyses. Stakeholders have confirmed that, without such categorisation, the aggregation of survey results would not be reliable.

7.6 Based upon specifications provided by the Study Team's Statistical Adviser, the survey samples were selected by the British Deer Society (Scotland) [BDS] and BASC. The surveys involved the despatch of questionnaires to 43 providers and 279 participants.

7.7 In the case of those involved in providing facilities for all forms of deer stalking in the Borders Region, the survey population was determined on the basis of information provided by the Deer Commission for Scotland. This consisted of a list of organisations making annual returns, covering deer management activities in the Region.

7.8 The survey of deer stalking participants was conducted by carrying out separate, but identical, surveys of the members respectively of BASC and BDS, who are resident in Scotland. The total population of members had to be surveyed, there being no way of identifying from the membership lists those particular members whose activities related either in whole or part to the Borders Region.

- 7.9** The stalking participants' questionnaire was designed so as to distinguish between professional and recreational stalkers. The experience of those people responsible for the management of both forests and deer populations suggests that the efficiency of deer population control is superior where professional stalkers are involved. The relative cost-effectiveness is, however, a matter of both opinion and debate.
- 7.10** Copies of the questionnaires are presented in **Appendix 7.1**.
- 7.11** Careful scrutiny and analysis of the survey results suggested that, helpful as the collective responses were, they did not provide an accurate basis for obtaining credible estimates of the total annual costs and revenues incurred in stalking. Close consultation with several experts confirmed this initial finding. The names of the people who participated as members of this informal 'panel of experts' are included in the acknowledgements at the end of the Chapter.

Survey Response Rates

Stalking Providers

- 7.12** In the case of the providers a good response rate was obtained: 56%. A total of the 43 main providers in the Region were surveyed, of which 24 replied.

Stalking Participants

- 7.13** The response from participants was, however, disappointing. Questionnaires were sent to 130 BDS members and to 149 BASC members with addresses in Scotland. The respective numbers of responses were 19 and 6, representing an overall response rate of only 9%. Discussions with the Directors of the two organisations suggested that the result reflected the comparatively low level of stalking in the Borders compared with other parts of Scotland.
- 7.14** It is well recognised that the total population of stalking participants has two principal sources external to Scotland, namely people who:
- are resident in England and Wales;
 - are overseas visitors, in particular from other parts of Europe.
- 7.15** Information concerning these two external populations of stalkers was not sought from the questionnaire surveys on account of the difficulties and costs associated with identifying and surveying random samples of such stalkers. Thus even before the survey response rates were known, it was recognised that supplementary investigations would be required. Estimates of the activities of these 'external' stalkers were derived from the 'panel of experts' mentioned above.

Survey Results

Stalking Providers

Main Characteristics of the Providers

- 7.16** The average size of stalked land holding owned by the 42 private sector providers (i.e. excluding the Forest Enterprise's Estate) was reported to be 1,044 hectares. Additional land was leased for deer stalking, such that the average area made available for stalking amounted to 1,505 hectares.
- 7.17** Of the 24 respondents, 23 (96%) reported that they were responsible for controlling/managing their deer populations. In turn, 20 (83%) of those responding to the survey indicated that they provided deer stalking facilities.
- 7.18** A total of 6 respondents (25%) indicated that they had deer stalking tenants. The latter numbered 70. This total was dominated by one provider who was responsible for 60 tenants.
- 7.19** Only one of the respondents was involved in providing accommodation on the their holdings. In that case, the average spend per person on accommodation, food and drinks was £26.

Origins of Stalking Tenants

- 7.20** Insights into the levels of external participation were gained from the responses to the stalking providers' survey. The profile of stalking tenants for the 9 providers who submitted information on this item was as follows:

Origin of Stalking Tenants	%
The Borders Region	56
The Rest of Scotland	6
England	22
Rest of the World	16

- 7.21** Overseas visitors were reported to come from Italy, Denmark and the USA.

Main Factors relating to Culled Deer (as reported by Providers)

- 7.22** 19 of the providers (80%) reported only having roe deer on their land. A combination of sika and roe deer were reported by the other 20% of respondents.
- 7.23** A total of 1,493 deer were reported by 19 respondents as having been culled during the 1998/99 season. Of these, 97.5% were roe deer, 51% being bucks. The profile of those involved in the culling was as follows:
- | | |
|---|-------|
| <input type="checkbox"/> Paid staff | 9.5% |
| <input type="checkbox"/> Paying sportsmen | 14.5% |

- Owners/friends/guests 76%

Stalking Employment by Providers

- 7.24** Collectively the survey respondents employed 8.5 full-time equivalent employees. Of these, 8 were full-time employees involved primarily in culling for crop protection purposes, as distinct from recreational stalking. A small amount of part-time employment was associated with supervising/accompanying recreational stalkers.

Annual Stalking Revenues Earned by Providers

- 7.25** 10 of the survey respondents reported earning revenue from the provision of stalking. This totalled approximately £40,000. Of this, 46% was derived from stalking rents, 44% came from the sale of venison and the remaining 10% from trophy fees and other sources.
- 7.26** Approximately 85% of the deer shot was sold to a game dealer. A further 7% was sold privately. The remaining 8% was retained by the stalking provider.

Annual Stalking Expenditures Incurred by Providers

- 7.27** 9 of the survey respondents reported total expenditure of:

<u>Item</u>	£ rounded	%
Labour	55,100	53%
Insurance	2,600	2%
Deer Larder Running Costs	1,800	2%
Transport	30,140	29%
Tree Protection, Woodland & Other Management	11,050	11%
Other	<u>3,190</u>	3%
Total	103,880	

- 7.28** Comparison of the annual revenues and expenditures showed that there was a sizeable deficit in the case of those respondents who provided financial data. Expenditures exceeded revenues in the ratio of approximately 2.6 to 1. From this it was clear that on those particular land holdings deer control/management represented an additional cost. It was assumed that, for the owners and managers of the properties concerned, the extra costs incurred represented a worthwhile investment in protecting their forestry enterprise.

Stalking Participants and their main Characteristics

- 7.29** The postal survey identified different categories of stalkers, namely: 10 of the 25 survey respondents were professional stalkers and 15 classified themselves as recreational stalkers. In addition; the survey questionnaire distinguished between BDS and BASC members.

- 7.30** Virtually all of the professional and recreational stalkers were members of BASC. Almost universal membership of the Countryside Alliance applied in the case of the recreational stalkers.
- 7.31** Analysis of the responses revealed some interesting differences between all of these different categories of stalking participants. These are summarised in **Appendix 7.2**.

The Need for Supplementary Investigations & Information

- 7.32** It was intended that the assessment of stalking in the Borders would be based primarily upon the responses received from postal questionnaire surveys. However, this intention was frustrated due to the discovery of a series of anomalies that became apparent during analysis of the survey results.

Anomalies

- 7.33** Analysis of the Provider Survey results revealed a series of what at best can be termed ‘anomalies’ and at worst, ‘outright errors’. Whatever the reasons, it was clear that the results, in the case of the providers involved in recreational stalking, could not be used to generate ‘grossed-up’ revenue and expenditure estimates for the Borders Region. The nature and extent of the ‘anomalies’ are summarised below:

- **10 Stalking Provider Survey respondents**, whose prime stalking motive was declared to be **forest crop protection**, reported annual total revenue and expenditure as follows:

a) Total Revenue from venison sales & rents	£12,070
b) Total Expenditure (labour, insurance, transport & woodland management costs)	£18,500
Deficit [b) minus a)]	£ 6,430

- **12 Stalking Provider Survey respondents**, who sought to defray forest crop protection costs **through recreational stalking**, reported the following annual total revenue and expenditure:

a) Total Revenue from rents, stalking fees & venison sales	£27,492
b) Total Expenditure (labour, insurance, transport & woodland management costs)	£75,047
Deficit [b) minus a)]	£47,555

- 7.34** The anomaly is readily apparent from comparison of the respective deficits. Rather than reporting a deficit, it would be expected that recreational stalking would either yield a positive margin or, at least, break-even.

- 7.35** Further analysis was undertaken, based upon distinguishing between different types of recreational stalkers: commercial clients on the one hand and non-paying family, friends and guests on the other. The results were as follows:

- **5 ‘Commercial’ Recreational Stalking Providers** reported annual total revenue and expenditure as follows:

a) Total Revenue from rents, stalking fees & venison sales	£26,542
b) Total expenditure	£58,357
Deficit [(b) minus a)]	£31,815

7.36 Again, the reported results were not plausible, given the ‘commercial’ motive. They could not be regarded as providing a reliable basis for generating ‘grossed-up’ estimates for the Borders Region.

- **7 ‘DIY’ Recreational Stalking Providers** reported the following financial profile:

a) Total Revenue	£ 905
b) Total Expenditure	£16,690
Deficit [(b) minus a)]	£15,740

7.37 This result was somewhat more plausible, based on the knowledge that similar profiles are known to apply in the case of lowland game (pheasant) shooting. However, in terms of the relative costs involved and cull numbers achieved, (i.e. cost-effectiveness), this type of stalking could be viewed as being the least beneficial method of forest crop protection.

7.38 It also became apparent that several of the questionnaire respondents had incorrectly classified themselves as ‘professional’ rather than ‘recreational’ stalkers. This was evident from the responses, concerning the average annual numbers of days spent stalking. Whereas in practice the average stalking frequencies of professional stalkers were known to exceed those of recreational stalkers by over 100 days per year, the difference revealed by the survey responses was only 26 days.

7.39 These anomalies demonstrated that real difficulties can be and have been encountered in obtaining accurate information from deer stalking stakeholders. In the light of these analyses, it was clear that the survey results could and should not be used to provide aggregate estimates covering stalking activities in the Borders Region.

Verification Exercise

7.40 This preliminary conclusion was verified through both correspondence and intensive consultation with the representatives of key stakeholders (statutory bodies, Estate factors, Forestry Companies and deer stalking agents). These confirmed that, in terms of the levels of both revenues and expenditures, the anomalies summarised above were real rather than the result of conjecture. As a result, it was agreed that the average levels obtained from the surveys could not be used as a reliable basis for estimating Borders-wide total revenues and expenditures.

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- 7.41** This is not to indicate that the questionnaire survey results had to be totally discarded. On the contrary, they generated some useful information on the structure of stalking activities, the associated employment levels, the numbers of deer culled and the stalking ground areas. Furthermore they prepared the ground for further stakeholder discussions.
- 7.42** Through these verification consultations, it was decided that the generation of reliable aggregated ('grossed-up') revenue and expenditure estimates should be based upon typical revenue and cost profiles/guideline data provided by the key consultees.
- 7.43** The remainder of this note summarises the guideline financial profiles that emerged from the supplementary consultations. It ends with the presentation of aggregated expenditure and revenue estimates for both stalking providers and participants. Finally, the scope for generating additional stalking and associated economic activity in the future is considered.

Verification/Estimation Process

- 7.44** The estimation process was complicated by two factors, namely that:
- many different forms of stalking activity (commercial, recreational, DIY, professional etc) were undertaken; and
 - not all stakeholders, especially providers, viewed their expenditures in the same way. This applied in the case of providers who control deer using their own staff (e.g. game keepers), whose responsibilities and overheads may be apportioned between several different 'departments' or enterprises. It also applies to those involved as either the providers of DIY recreational stalking or as the invited participants.
- 7.45** However, despite these differences, it has been possible to compile a general picture of revenues and costs for those involved in providing and undertaking stalking in the Region. The process has involved a combination of
- correspondence and telephone conversations with the representatives of landowners and Forestry Companies;
 - meetings with 5 of the major stakeholders, representing statutory organisations, private forest companies and stalking agents/managers, who are involved in the management of stalking in the Borders and who had been consulted earlier when the questionnaires were designed. A prime function of these meetings was both to review the anomalies reported above and to identify representative expenditure profiles for the different categories of stalking;
 - careful interpretation of the survey results, in so far as the responses were regarded by the consultees as being credible.

- 7.46** The aim of these follow-up survey investigations was to obtain more detailed insights into the profile of stalking in the Borders Region, in order to determine reliable grossed-up financial estimates. The results of these consultations are reported in the sections that follow.

Guideline Financial Profiles

Providers: Revenues & Costs

- 7.47** Although in 1998/99 not all of the culled deer were sold or consumed as venison, an average value of £25 per animal culled has been assumed for estimation purposes. Additional sources of income in the case of recreational stalking providers involved the payment of weekly rentals and seasonal leases by local, UK and Overseas visitors. Weekly rentals varied between £350 and £480. The seasonal leases were reported to amount to approximately £3.50 per hectare.
- 7.48** As reported above, the type of stalking provided varied considerably dependent upon the main motives. The latter range between (a) protecting a forest crop and sustaining its revenue generating potential on the one hand and, on the other, (b) providing recreational stalking as a means of off-setting some or all of the costs of forest protection. In the latter case it was recognised that some providers have demonstrated either as much or more interest in sustaining the deer population as in protecting the forest crop.
- 7.49** For those **providers committed first and foremost to forest protection** the costs per deer culled were identified as being relatively high. As a general yardstick, consultees regularly mentioned an average cost of between £90 and £100 per deer culled (net of the average value of the venison, namely £25 per animal). Yet further investigation revealed that typical costs were even higher as summarised below:

□ Annual Cost Profile for Forest Protection Providers:	£
➤ Full-time Labour (Wages, NI, Pensions & Perks)	15,000 to 17,000
➤ Running Costs (Insurance, Deer Larder, Fencing Management, Ammunition, Rifles, Clothing, Dog Costs & 'Overheads')	5,000 to 7,000
➤ Transport (Vehicle Running Costs & Overheads)	8,000 to 9,000
Total	28,000 to 33,000

- 7.50** Based on an annual cull of between 150 and 200 animals per employee, the average gross cost per deer was between £140 and £200. These estimates were equivalent to net costs of between £115 and £175 net. However, the estimates presented in Box 1 tell a different story: the net cost (deficit/item C) per deer culled was between £38 and £98 net.

- 7.51** In the case of **providers primarily interested in recreational stalking**, the costs per deer culled varied quite widely, depending upon the facilities and the level of supervision (in many cases zero) provided. The range of gross costs

summarised in **Box 7.1A** was between £46 and £92 per deer culled in the case of DIY recreational providers and between £62 and £75 per deer for commercial recreational providers. The higher figure for DIY recreational providers reflects lower efficiency in conducting culling operations.

BOX 7.1A: ESTIMATED GROSS ANNUAL COSTS INCURRED BY DEER STALKING PROVIDERS IN 1998/99

Item	Unit	Type of Provider			Total
		Forest Protection by dedicated deer control by professional managers/stalkers	Recreational Stalking by family, friends & guests	Recreational Stalking on a commercial basis	
Approx Area of Forest/Woodland Covered	Ha	40,500	2,420	32,080	75,000
Total Gross Costs	£	260,000 to 395,500	5,000 to 10,000	58,500 to 71,250	323,500 to 476,750
Deer Culled	No.	2,260	110	950	3,320
Gross Cost Per Deer Culled	£/Deer	115 to 175	46 to 92	62 to 75	98 to 144

7.52 The revenues resulting from the stalking provision were estimated as displayed in **Box 7.1B** overleaf. These were then deducted from the gross costs to derive the net cost estimates, presented in **Box 7.1C** on the next page.

7.53 In terms of net costs, the estimates per deer culled varied between £30 and £75 for non-commercial recreational stalking. In contrast, commercial recreational stalking showed a positive margin of between £26 and £37 per deer culled. It is reported that such margins may have been the exception and that more typically a 'break-even' performance is achieved. The provision of accommodation and food is said to have a strong influence upon the size of any margin.

Participants' Costs

7.54 Where the stalking is undertaken by a '**professional stalker**' (approximately 15 in number in the Region) directly employed by the providers, the participation costs have in effect been met by the providers. None of the costs is directly borne by the participants themselves. 'Professional stalker' is the term used to describe someone who is qualified to stalk unaccompanied/unsupervised and achieves an average cull over the season of 1 deer per day and a total cull of at least 150 deer.

BOX 7.1B: ESTIMATED ANNUAL REVENUES EARNED BY DEER STALKING PROVIDERS IN 1998/99

Item	Unit	Type of Provider			Total
		Forest Protection by dedicated deer control by professional managers/stalkers	Recreational Stalking by family, friends & guests	Recreational Stalking on a commercial basis	
Approx Area of Forest/Woodland Covered	Ha	40,500	2,420	32,080	75,000
Revenue Source					
1. Seasonal/Annual Lets	£	128,000 to 140,000	0	68,000 to 92,000	196,000 to 232,000
2. Venison	£	45,300	1,700	14,800	61,800
Total (1+2)	£	173,300 to 185,300	1,700	82,800 to 108,800	257,800 to 293,800
Deer Culled	No.	2,260	110	950	3,320
Revenue Per Deer Culled	£/Deer	77 to 82	15.5	86 to 112	77 to 88

BOX 7.1C: ESTIMATED NET COSTS INCURRED BY DEER STALKING PROVIDERS IN 1998/99

Item	Unit	Type of Provider			Total
		Forest Protection by dedicated deer control by professional managers/stalkers	Recreational Stalking by family, friends & guests	Recreational Stalking on a commercial basis	
Approx Area of Forest/Woodland Covered	Ha	40,500	2,420	32,080	75,000
Total Net Costs	£	- 86,700 to -210,200	-3,300 to - 8,300	24,300 to 35,500	-65,700 to -182,950
Deer Culled	No.	2,260	110	950	3,320
Net Cost Per Deer Culled	£/Deer	-38 to -93	-30 to -75	26 to 37	-20 to -55

- 7.55** Deer Commission statistics for 1998/99 recorded that the total number of deer culled in Borders Region was 3,320 (rounded). Consultations revealed that of the total number of deer shot by stalkers in Borders Region, ‘professional stalkers’ were responsible for about 70%. Thus the total number shot by the ‘professionals’ was estimated to have been approximately 2,320.
- 7.56** In sharp contrast the term ‘**recreational stalker**’ is used to describe a person who, despite having received basic training in using a rifle, requires supervision and is unlikely to achieve an average cull rate in excess of 1.5 to 2 deer per week.
- 7.57** In the case of **recreational stalkers from overseas**, the culling rates achieved are normally double those of other recreational stalkers. The cost estimates for participants from overseas (in particular, Scandinavia, Holland, Germany, Italy and the USA) have been derived in the manner described below.
- 7.58** Stalkers from overseas are known to spend significantly whilst pursuing their sport in the Borders. A reliable starting point for data on the numbers of overseas stalkers was considered to be the annually published data on the numbers of visitor firearms permits issued for each of the Scottish constabularies. The annual Statistical Bulletins, issued by the Scottish Executive, provided the following data on Visitors’ Firearm Permits for the Lothian and Borders Constabulary area:

Year	Numbers of Firearms Permits Issued to Stalking Sponsors (Providers or Agents)
1996	145
1997	136
1998	128
1999	149

- 7.59** It was considered reasonable by BASC (Scotland) to assume that at least 90% of the permits related to stalking in Borders Region. Based on a 4 year average, the number of overseas stalkers operating in the Borders has been 125. Of this total, it has been estimated that the 4 main Borders’-based sponsors (Providers or Agents) of overseas’ stalkers were responsible for 90% of the foreign stalking trade. Typically foreign stalkers visit the Borders for a week, during which time the profile of their average expenditure within the Region was estimated to be as follows:

<u>Item</u>	<u>£ per week</u>
<input type="checkbox"/> Stalking fee incl VAT	350 to 480
<input type="checkbox"/> Accommodation (modest)	150
<input type="checkbox"/> Food	60
<input type="checkbox"/> Presents	75
<input type="checkbox"/> Permit	20
<input type="checkbox"/> Vehicle Fuel to Harwich	25
<input type="checkbox"/> Trophy (average)	100
<input type="checkbox"/> Total	930 to 1,060

- 7.60** Based on an average of 125 foreign stalkers per year, the estimated total annual expenditure amounted to approximately £116,000. This was corroborated by estimates, based on the average costs incurred per deer killed. It was estimated that foreign stalkers have been responsible for shooting about 490 deer annually, i.e. almost an average of 4 deer per overseas' stalker. The average cost per deer killed was estimated to be £225 per deer shot. This represented an estimated annual total cost of about £110,000 (i.e. 490 x £225 per deer shot).
- 7.61** Consultations with the Deer Commission for Scotland suggested that the total number of UK based stalkers who stalk deer regularly in the Borders Region has been approximately 275. Of those, around 125 were estimated to be local to the area. The average cost per deer shot by these stalkers was estimated to be £250. This reflected a lower level of culling efficiency rather than higher total costs incurred on accommodation, food etc during a typical week. Indeed, many of these UK recreational stalkers tended to spend modest amounts on accommodation (shared caravan facilities) and food over a season. However, the average numbers of deer killed by them during the season has tended to be small.

Aggregated Estimates

Scale of Recreational Activities

- 7.62** It was estimated that during 1998/99 between 4,900 and 5,000 days were spent by 400 Participants in stalking deer within the Region. Of the total number of days, about 2,250 were contributed by paid professional stalkers. The remaining 2,650 to 2,750 days involved approximately 385 UK and overseas "recreational stalkers"
- 7.63** In the case of the **Providers**, estimates of both total, as well as average, revenues and costs are presented in **Boxes 7.1A, 1B and 1C**. They show that both Forest Protection and DIY Recreation Providers have incurred substantial net costs. This has been in sharp contrast to the commercial recreational providers, who have earned a positive margin of between £26 and £37 per deer culled, with which to offset the annual costs entailed in managing their forests. They are estimated to have earned a total margin of between £24,300 and £35,500. However, overall it has been estimated that providers have to meet a deficit of between £66,000 and £183,000 annually.
- 7.64** Estimates of the total annual costs incurred by recreational stalkers are presented in **Box 7.2**. In total they have amounted to approximately £255,000 per year, though the transport costs largely benefited businesses located outside of the Region.

BOX 7.2: ESTIMATED NET COSTS INCURRED BY DEER STALKING PROVIDERS & PARTICIPANTS IN 1998/99				
Item	Unit	Providers	Participants	Total
Deer Culled	No.	3,320		3,320
Net Costs	£	66,000 to 183,00	255,000	321,000 to 438,000

- 7.65** When combined, the total annual net costs in 1998/99 that Providers and Participants had to meet in undertaking a range of deer control activities amounted to between approximately £321,000 and £438,000. This represented between £4.28 and £5.84 per year per hectare of forest/woodland in the Borders Region.
- 7.66** The total gross costs incurred by Providers and Participants combined was estimated to have been between £578,500 and £731,750 (£476,750 plus £255,00).
- 7.67** Consistent with the unanimous support from the ‘panel of experts’ consulted for the verification exercise, the aggregation estimates met with general approval. However, in one case this was qualified with the comment that whilst the overall conclusion is broadly correct, the estimates of both the total incomes and expenditures were considered to be on the low side by between 10 and 20%. In view of the difficulties encountered in obtaining reliable information from the questionnaire surveys, this overall result was gratifying.

Estimation of Direct Employment Generated by Stalking Providers & Participants

- 7.68** The grossed-up estimates of on-site and off-site (i.e. through trade purchases) employment generated by Providers were, in round terms, between 16 and 22 FTEs. These were estimated to have represented between 23 and 32 full-time, part-time and casual jobs. On the basis of the figures displayed in **Box 7.3**, it was estimated that Participants’ spend on stalking-related goods and services supported approximately a further 1.75 FTEs in the Borders. These jobs were in addition to the grossed -up direct employment estimates for Providers cited above. Thus, in round terms, the total direct employment related to stalking in 1998/99 was estimated to have been between 17.5 and 23 FTEs.

Indirect and Induced Expenditure & Employment Estimates

- 7.69** **Box 7.1A** indicated that the estimated total gross expenditure by Stalking Providers in 1998/99 ranged from £323,500 to £476,750.
- 7.70** Excluding labour costs and spend outwith the Borders (18% of spend), it was estimated that the spend by Providers on intermediary goods and services totalled between £122,800 and £180,900. Applying a multiplier range of 1.31 - 1.34 to these estimates indicated that expenditure on intermediate goods and

services by Providers generated between £38,100 and £64,550 additional indirect and induced expenditure in the local economy.

7.71 **Box 7.3** shows that the direct spend by Participants with stalking-related suppliers, based in the Borders, amounted to approximately £87,432. Research has estimated that for rural areas, the output multipliers range from **1.31** to **1.34**. Applying these multipliers to the direct spend by Participants with stalking-related suppliers based in the Borders suggested that between £27,000 and £30,000 additional indirect and induced expenditure was generated.

BOX 7.3: DIRECT EMPLOYMENT WITH FROM STALKING-RELATED SUPPLIERS RESULTING FROM PARTICIPANT EXPENDITURE IN THE SCOTTISH BORDERS

Expenditure Category	% of total spend for recreational participants [^]	Spend by category	Spend in Borders*	Output per FTE ⁺	Direct FTEs at stalking related suppliers
Ammunition	4%	£10,775	£8,835	£58,200	0.15
Licences & Permits	1%	£2,149	£1,762	£20,500	0.09
Equipment, accessories & repairs	5%	£12,273	£10,064	£58,200	0.17
Clothing	5%	£13,838	£11,347	£58,200	0.19
Insurance	1%	£2,828	£2,319	£123,300	0.02
Trophy Fees	0%	-	-	£58,200	-
Trophy Mounting	0%	£471	£386	£58,200	0.01
Transport by car	0%	£32,051	£26,281	£46,200	0.57
Transport by train	13%	-	-	£83,600	-
Transport by other means	0%	-	-	£70,700	-
Keeping a dog for stalking & shooting deer	0%	£8,390	£6,880	£58,200	0.12
Other	3%	£848	£696	£71,700	0.01
Accommodation	0%	£5,986	£4,908	£41,300	0.12
Food & Drink	2%	£10,181	£8,348	£41,300	0.20
Gifts	4%	£6,834	£5,604	£58,200	0.10
TOTAL	56%	106,625	£87,432*		1.75

Notes: [^] Excludes expenditure on labour and on items accruing as revenue to Providers;

* Percentage of spend within the Borders by participants revealed in the Lowland Game Shooting Survey has been applied (82%);

+ Based upon Scottish Input Output Tables 1996.

- 7.72** The average gross output per FTE in the 1996 Input Output Tables was £72,000 (adjusted to 1999 prices, and rounded to nearest 100). Applying this ratio to the indirect and induced expenditure estimates above suggested that this secondary spend supported the levels of additional employment displayed in **Box 7.4**.

BOX 7.4: INDIRECT AND INDUCED EMPLOYMENT FROM STALKING WITHIN THE SCOTTISH BORDERS

Expenditure category	Indirect and Induced Employment (FTEs)
Expenditure by Participants	0.4
Expenditure by Providers	0.5 - 0.9
Total	0.9 - 1.3

Source: SWRC Survey

Future Potential for Deer Stalking in the Rural Economy

- 7.73** As with many rural based activities, the future potential for stalking is revealed, at least in part, by examining the past. During the period when the establishment and management of commercial forests were encouraged through Government grants and fiscal incentives, there was greater interest in stalking amongst landowners and managers than applies now. Then, there were over 30 full-time jobs associated with the provision and management of deer stalking in the Borders, as distinct from the present 15.
- 7.74** With many of the forests nearing the end of their first rotations and with the large increase in deer populations, there is understandably great concern over the ability of landowners and forest managers to establish and sustain a second rotation. Success is considered by many of the consultees to depend significantly upon the extent to which deer numbers will in future be effectively controlled. This applies particularly to the efficiency of the female cull during winter months.
- 7.75** Thus part of the package of measures required in support of second generation forest crops is thought to lie in the providing landowners with financial incentives to control deer populations effectively. An important condition attached to the provision of such incentives is considered to be essential. This should involve the preparation, implementation and enforcement of a Deer Management/Control Plan backed by a legally binding (statutory) Agreement before the receipt of any financial incentives by landowners. Such an Agreement should link the provision of financial incentives to co-operation between adjacent landowners in the interests of achieving integrated deer management. Variations in culling performances across the Region, coupled with differences between forest areas in the vulnerability to deer damage, point to the need for co-operation.

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- 7.76** Probably the greatest scope for improvement lies in increasing the effectiveness of the culling activities provided by many of the Forestry companies for their clients. In this context the activities of Deer Management Groups, which are acutely aware of the need for increased professionalism through the training of amateur stalkers, deserve to be supported. Only through increasing the professionalism of culling programmes and operations will deer densities in vulnerable forest areas be reduced to acceptable levels.
- 7.77** It is also considered that there may be scope to reduce the area of stalking grounds offered to any one seasonal stalking tenant or overseas stalker, thereby increasing both the total number of stalking lets and the revenue generating opportunities that can be gained from recreational stalking.
- 7.78** In short, the prospects for stalking are likely to be determined by a combination of financial incentives provided for a range of forest protection and rural diversification/recreational activities. However, important as those measures will be, they are unlikely to provide an automatic solution. The Study has revealed that there is a shortage of skilled stalkers, pointing firmly to the need for the provision of training that will increase the numbers of both professional and competent recreational stalkers. It has been estimated that the number of professional stalkers should be increased to at least three times the present numbers. The effective delivery of second generation forests, especially the broadleaved component, is considered to depend on such an increase. This suggests that there are good grounds for statutory intervention in the multi-functional interests of promoting cost-effective timber production, encouraging conflict-free recreational management and conserving/enhancing wildlife diversity.

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