

CHAPTER 4

INVENTORY OF ANGLING ACTIVITIES IN THE SCOTTISH BORDERS

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INVENTORY OF ANGLING ACTIVITIES IN THE SCOTTISH BORDERS

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4. INVENTORY OF ANGLING ACTIVITIES IN THE SCOTTISH BORDERS

Summary of Main Survey Findings

Survey Sources

This inventory of Angling in the Scottish Borders Region was based on two complementary surveys. These were conducted respectively by the Deloitte and Touche Consulting Group (DLT) in 1996 for the Tweed Foundation and by SWRC/SAC on behalf of BFRS in 1999. The broad findings resulting from these two sources found that angling, as hitherto, had made important contributions to the socio-economic and environmental features (river corridors) of the Region in the two years (1996 and 1999) for which the surveys were conducted.

The highlight contributions identified were as presented below.

Scale & Origins of Recreational Activities

- The **142 angling Providers** (Proprietors and Angling Associations) facilitated **participation on just under 155,000 days by between 33,000 and 38,000 anglers** in salmon, sea trout, brown and rainbow trout and coarse fishing
- **68% and 52% of the participants came from outside** respectively the Borders and Scotland

The Levels & Nature of Expenditure

- Together the Providers and Participants generated **annual total direct expenditure of between £7.0 and £8.0 million**
- **Providers** accounted for between **£2.9 million and £3.9 million of the annual grand total expenditure** on angling. This represented between 36% and 56%

The Employment Impacts

- Providers also supported total direct employment of approximately **309 full-time, part-time and casual jobs**. Collectively these represented about **142 FTEs**
- It was estimated that in addition there were approximately **147 off-site jobs relating to the provision of accommodation and angling goods/services**. These represented about **67 FTEs**
- The **total direct employment** associated with angling was estimated to have been **460 jobs, representing 210 FTEs**

Environmental Contributions & Impacts

- It was estimated that between **4% and 5% of the annual total expenditure** by providers was incurred on tasks undertaken in **managing their waters, banks and associated wildlife, in the interests of both conserving/improving the fishing and the environment** in general. Proprietors, either alone or in combination with lessors, were responsible for the majority of this **£0.1 million to £0.2 million annual expenditure**
- The **main riparian landscape conservation and improvement tasks** undertaken involved:
 - **Clearing bank-side vegetation**
 - **Clearing weed**
 - **Arresting erosion**
 - **Removing trees to relieve shading**
 - **Fencing buffer zones**
 - **Tree planting**

The employment associated with these tasks was estimated to represent between 5% and 8% of the total number of angling jobs in 1999

The Economic Impacts

- The **average annual revenue earned** by each of the 97 proprietors, responding to the survey was nearly **£28,500**. This covered individual expenditures ranging between £3,000 on the tributaries to £75,000 on the Lower Tweed. Significant differences in the sizes of catch and the lengths of the beats were the prime reasons responsible for this wide range. 75% and 65% respectively of the annual revenues originated from visitors external to the Scottish Borders Region and outside of Scotland
- It was estimated that the direct expenditure generated **secondary expenditure of between £1.5 million to £1.65 million locally**. This represented additional employment of between **21 and 23 FTEs**

Verification

In order to facilitate comparison between the DLT and the SWRC/SAC survey results, the data collected by the former had to be adjusted (a) to reflect inflation and (b) to exclude both the activities and expenditures of non-angling companions (spouses etc) and the non-angling activities/expenditures of the anglers.

Although undertaken by adopting a micro (“bottom-up”) survey approach rather than the DLT macro (“top-down”) perspective, **the results of the SWRC/SAC survey broadly confirmed the earlier findings presented in**

the DLT report. The estimated total direct expenditure was shown by the two surveys to have been broadly between £7million and £8million.

INVENTORY OF ANGLING ACTIVITIES IN THE SCOTTISH BORDERS

4. Introduction

Background

- 4.1** This Chapter focuses on angling on the River Tweed and its tributaries. Its main purpose is to present an analysis of angling surveys, conducted respectively by the Deloitte & Touche Consulting Group (DLT) in 1996 and Scott Wilson Resource Consultants.
- 4.2** Though there were methodological differences, the two surveys were largely complementary, in that the survey conducted by SWRC was intended primarily to determine the extent to which the earlier results obtained by DLT required adjustment. SWRC conducted this verification exercise by surveying the population of riparian owners known to incur expenditure on providing anglers with the facility to fish in the Borders.
- 4.3** As far as possible, the analysis has been restricted to the Scottish Borders. However, it should be noted that, following discussions with the River Tweed Commissioners (RTC), proprietors offering angling on the English bank of the River Tweed on its lower reaches have been included in the analysis, as it is felt that this angling will have an impact within the Scottish Borders. The English bank of the lower reaches of the River falls within the overall remit of the RTC. Furthermore it is included in the Protection Order and the proprietors of it and the Till make returns to the RTC.
- 4.4** This summary outlines the value and volume of angling in the Scottish Borders, the employment it sustains, and the economic impact of spend by visitors to the area. It concentrates on salmon and “other” fishing. The latter includes brown and rainbow trout and coarse fishing. This analysis does not include sea angling.
- 4.5** To aid analysis, angling is not only segregated by type but also by location. The analysis distinguishes between the following 5 main angling locations.
- Lower Tweed (below Kelso);
 - Middle Tweed (Kelso to Ettrick Junction);
 - Upper Tweed (upstream of Ettrick);
 - Tributaries (excluding the Till in England);
 - Lochs and reservoirs.

Methodology

- 4.6** The analysis of angling in the Scottish Borders is based upon both secondary and primary research, namely:

- a review of the “The Way Forward -Economic Impact Study” completed by Deloitte & Touche in 1996;
- consultations with the RTC;
- a review of other published information;
- a postal questionnaire survey conducted in 1999 by SWRC, covering identified providers of angling in the Region.

4.7 Deloitte & Touche (DLT) conducted a study into the economic impact of angling on the Tweed in 1996. This study has proved to be a useful source of information on the value and volume of angling within the Tweed catchment area. To supplement this study, a postal survey of providers identified by the River Tweed Commissioners (RTC) was conducted by SWRC in 1999.

4.8 A comprehensive questionnaire (ref **Appendix 4.1**) was sent to a total of 125 providers, stratified by location and type of provider. In all, 67 responses were received, of which 62 were usable. This gave a response rate of nearly 50%, as shown in **Box 4.1** below.

BOX 4.1: CHARACTERISTICS OF THE POSTAL QUESTIONNAIRE SURVEY CONDUCTED BY SWRC		
Sample Size	Number of Usable Responses	Response Rate
125	62	49.6%

Source: SWRC, 1999

4.9 Due to the comprehensive nature of questionnaire, not all of the questions were answered by respondents, so the analysis was conducted by applying a “pair-wise deletion” approach. This involved including only those respondents, who had provided responses to a particular question, in the corresponding analysis.

Providers

4.10 Based upon consultations with the RTC and a review of published information, it was estimated that there were 145 providers in the Scottish Borders. These are shown by location in **Box 4.2** below.

BOX 4.2: LOCATIONAL DISTRIBUTION OF ANGLING PROVIDERS		
Location	Number	Source
Lower Tweed	24	RTC
Middle Tweed	16	RTC
Upper Tweed	27	RTC
Tributaries	30	RTC
Angling Associations & Clubs	18	RTC
Lochs & Reservoirs	27	SBAG
Total number of proprietors	142	

Sources: RTC = River Tweed Commissioners; SBAG = Scottish Borders Angling Guide

Participants

- 4.11** The estimate of total participants provided in this Chapter is based upon both the findings of the SWRC angling survey and the earlier research conducted by DLT. To aid comparison with the DLT study, participants were segregated into salmon/sea trout anglers and “other” anglers. The latter included brown and rainbow trout and coarse fishing.

Salmon/Sea Trout Angling

- 4.12** The estimate of the volume of salmon/sea trout fishing on the river Tweed was based upon responses to our survey received from proprietors (i.e. the providers), offering this type of fishing on the river. Angling Associations also provide salmon fishing. However, as the vast majority sell permits for other fishing as well, they were included in the “other” fishing analysis presented below.
- 4.13** The average and total numbers of salmon/sea trout anglers by location are shown in **Box 4.3** below.

BOX 4.3: LOCALATIONAL DISTRIBUTION OF SALMON/SEA TROUT ANGLERS

Location	Average Number of Anglers per Proprietor	Number of Proprietors	Total Number of Salmon & Sea Trout Anglers
Lower Tweed	264	24	6,325
Middle Tweed	96	16	1,528
Upper Tweed	27	27	718
Tributaries	31	30	930
TOTAL		97	9,500*

Base = number of usable Questionnaire responses: 28

*Total number rounded to nearest 100.

Source: SWRC, 1999/ RTC

- 4.14** It was estimated that a total of 9,500 anglers fished on the River Tweed. The number of fishing days these anglers spent in the area is shown by location in **Box 4.4** below.

BOX 4.4: LOCALATIONAL DISTRIBUTION OF ANGLING ACTIVITIES

Location	Average Number of Angling Days per Proprietor	Number of Proprietors	Total Number of Angling Days
Lower Tweed	640	24	15,357
Middle Tweed	742	16	11,872
Upper Tweed	324	27	8,743
Tributaries	148	30	4,427
TOTAL		97	40,400*

Base = number of usable Questionnaire responses: 28

* Total days rounded to nearest 100

Source: SWRC, 1999/ RTC

- 4.15** The research indicated that salmon/sea trout anglers fished for 40,400 days on the River Tweed. This represented an average of 4.25 days per angler.
- 4.16** The above estimates of the amount of salmon/sea trout angling activity in the Region include participants who reside in the Scottish Borders. The proportion of trips and days made by residents and visitors is shown in **Box 4.5** below.

BOX 4.5: ORIGIN OF SALMON/SEA TROUT ANGLING ACTIVITY IN THE SCOTTISH BORDERS

Origin	Trips*		Days*	
	Proportion	Number	Proportion	Number
<i>Scottish Borders</i>	38%	3,600	28%	11,300
Rest of Scotland	14%	1,300	23%	9,300
Rest of GB	45%	4,300	45%	18,200
Overseas	3%	300	4%	1,600
Total Visitors	62%	5,900	72%	29,100
Total Anglers	100%	9,500	100%	40,400

Source: SWRC, 1999

Footnote *: Trips were the number of angling journeys made, lasting for one or more days

- 4.17** It was estimated that almost 6,000 visitors were attracted to the Scottish Borders for the purpose of salmon/sea trout angling, and these visitors spent over 29,000 days fishing in the region.
- 4.18** To put the estimates of the volume of angling on the Tweed in context, a comparison is presented in **Box 4.6** below with the estimates produced by DLT in 1996. The DLT estimates shown below were calculated by aggregating the number of staying, day visitor and local salmon fishers, and by summing the total number of “rod” days for each of these sectors. These categories were equivalent to SWRC’s estimate of days spent fishing by anglers.

BOX 4.6: COMPARATIVE ESTIMATES OF THE VOLUME OF ANGLING

Survey	Trips	Days
SWRC, 1999	9,500	40,400
DLT, 1996	13,600	41,500

(Notes: Data rounded to nearest 100; number of days relates to “rod days” in DLT study and excludes non-fishing companions).

- 4.19** ‘Trips’ were defined as the numbers of angling journeys made as distinct from the number of ‘days’ spent fishing. One trip may have extended over several days. The differences in the numbers of trips reflected the different research approaches adopted respectively by DLT and SWRC. From a local economy perspective, the statistic relating to ‘days’ is more important than the number of ‘trips’. Only further research would illuminate which of the two ‘trips’ statistics was correct

4.20 The estimates of the number of angling trips varied significantly between the two studies. However, the estimates of the number of days were broadly compatible. There are many possible reasons for the differences in the estimated numbers of trips. These relate mainly to:

- the different years when the studies were conducted; and
- the methodologies employed.

Furthermore salmon fishing undertaken through Angling Associations was excluded from the SWRC estimates. Instead it was included in the category of “other” fishing. This will have slightly deflated the SWRC estimates in **Box 4.6**.

“Other” angling

4.21 Other game fishing includes coarse fishing (e.g. grayling) and trout fishing, both on the river (brown trout) and on lochs and reservoirs (stocked brown trout and rainbow trout).

4.22 Responses received from Angling Associations offering water on the River Tweed suggests that, on average, 391 anglers fished on each Angling Association’s waters. The average and total number of anglers fishing Angling Associations’ waters is shown in **Box 4.7** below.

BOX 4.7: PARTICIPATION BY ANGLING ASSOCIATION ANGLERS

Provider	Average Number of Anglers per Association	Number of Angling Associations	Total Number*of “Other” Anglers
Angling Associations	391	18	7,000

Base = number of usable Questionnaire responses: 7
* rounded to nearest 100)

Source: SWRC / Scottish Borders Angling Guide

4.23 It was estimated that Angling Associations catered for around 7,000 anglers. The SWRC survey indicated that almost two-thirds of these anglers were residents of the Scottish Borders, and 35% were visitors to the region. This suggested that an average of 137 visitors per Association, and a total of around 2,500 visitors to the Region.

4.24 As Angling Associations sell daily, weekly and season permits, and do not record how often purchasers use these permits, it was not possible to estimate accurately the numbers of days actually fished by permit holders. However, estimates provided by Angling Associations suggested that, on average, anglers fished for an average of 14 days each. This generated a total estimate of 98,000 days.

- 4.25** In addition to “other” fishing through Angling Associations on the River Tweed and its tributaries, stocked brown trout and rainbow trout are fished on lochs and reservoirs in the Borders. For this sector, the estimate produced by DLT has been adopted for the analysis. It was estimated by DLT in 1996 that around 17,000 permits a year were sold on the 30 lochs in the Tweed catchment area. This total was deflated slightly in this study to exclude lochs and reservoirs in the catchment area that are located outwith the Scottish Borders. Applying the average permits sold figure of 386, estimated by DLT for the more “marginal” lochs, produced a revised estimate of 16,000 anglers (rounded to the nearest 100).
- 4.26** Again, it was not possible to calculate the numbers of days spent fishing from the permits sold data. However, a review of the Borders Angling Guide indicated that the majority of lochs and reservoirs only sell day permits, so the number of permits sold was used to provide a minimum estimate of the number of days fished.
- 4.27** The estimated levels of participation by anglers in the Region are summarised in **Box 4.8**.

BOX 4.8: THE ESTIMATED NUMBERS OF ANGLERS & PARTICIPATION LEVELS IN BORDERS REGION		
Type of Angling	Numbers of Anglers	Numbers of Days
Salmon/Sea Trout	9,500	40,400
“Other”		
Angling Association	7,000	98,000
Lochs & Reservoirs	16,000	16,000 (minimum)
Sub-Total	23,000	114,000
TOTAL	32,500	154,400
Source/s: SWRC, 1999 / DLT		

Angling Revenues Generated for Providers

- 4.28** Data was collected in the SWRC angling survey, concerning the average annual total revenue earned over the previous three years by proprietors from the provision of angling on their waters and any associated facilities (e.g. accommodation).

Salmon/Sea Trout Angling

- 4.29** The average annual and total revenues earned by proprietors are shown in **Box 4.9**.

BOX 4.9: AVERAGE ANNUAL TOTAL REVENUES EARNED

Location	Average Annual Revenue per Proprietor	Number of Proprietors	Total Revenue
Lower Tweed	£75,084	24	£1,802,000
Middle Tweed	£37,015	16	£592,200
Upper Tweed	£9,855	27	£266,100
Tributaries	£3,023	30	£97,700
TOTAL		97	£ 2,758,000

Base = number of usable Questionnaire responses: 35

Source: SWRC, 1999 / RTC

- 4.30** It was estimated that revenue earned by proprietors offering salmon/sea trout fishing on the river Tweed totalled £2.8 million. The average revenue per proprietor ranged from £3,000, in the tributaries, to £75,000 on the Lower Tweed. This wide range reflected widely differing sizes of catch, beat lengths and quality of the fishing on offer. The fishing offered on the tributaries has never compared with that on the Lower Tweed. In the lower Tweed discussions with the RTC indicated that, due to the variance in the size of catches along the Tweed, it would be expected that the average revenue would be higher in the lower reaches of the river. In fact, almost two-thirds (65%) of total revenue was generated by fishing on the lower Tweed, and this is reflected in the average revenue generated per day shown in **Box 4.10** below.

BOX 4.10: LOCATIONAL DISTRIBUTION OF ANGLING REVENUES

Location	Total Days	Total Revenue	Average Revenue per Day
Lower Tweed	15,357	£1,802,000	£117
Middle Tweed	11,872	£592,200	£50
Upper Tweed	8,743	£266,100	£30
Tributaries	4,427	£97,700	£22
TOTAL	40,400	£ 2,758,000	£68

Source: SWRC, 1999

- 4.31** The revenue generated per day varied between £117 in the lower Tweed, to £22 in the tributaries, and averaged £68.
- 4.32** The breakdown of total revenue by origin is shown in **Box 4.11** below.

BOX 4.11: ORIGINS OF ANGLING REVENUES

Origin	Trips	
	Proportion	Revenue
<i>Within Scottish Borders</i>	25%	£689,500
a) Rest of Scotland	10%	£275,800
b) Rest of GB	54%	£1,489,300
c) Overseas	11%	£303,400
Total Visitors (a) + b) +c)	75%	£2,068,500
TOTAL	100%	£2,758,000

Base = number of usable Questionnaire responses: 28

Source: SWRC, 1999

“Other” Angling

- 4.33** It was estimated by DLT in 1996 that fishing permit spend averaged £7.13, equivalent to £7.91 at 1999 prices. Given a minimum estimate of 114,000 angling days in this sector, total revenue of providers from the provision of “other” angling was estimated to be £901,700.

Direct Expenditure**Direct Expenditure by Providers**

- 4.34** The estimated total direct expenditure by Providers was as shown in **Box 4.12**. The estimate for salmon and sea trout was derived from the average per rod day costs, adjusted to include inflation. These were obtained from a local Letting Agent and applied to the estimated number of rod days (ref **Box 4.8**).

BOX 4.12: ESTIMATED DIRECT EXPENDITURE BY ANGLING PROVIDERS

Type of Angling Provision	£ million
Salmon & Sea Trout Angling	2.2
Other (Brown & Rainbow Trout + Coarse Angling)	0.7
TOTAL	2.9
Source: SWRC, 1999	

Countryside Management

- 4.35** Part of this expenditure related to the execution of certain countryside management tasks. The survey sought information from the different types of angling providers about ‘the tasks undertaken in managing their waters, banks and associated wildlife, in the interests of both conserving/improving fishing and the environment in general’.
- 4.36** The analyses revealed some interesting insights into:

- ❑ those particular tasks which were undertaken most by the different stakeholders;
- ❑ differences in the extent to which the tasks were performed in different angling waters;
- ❑ those tasks for which no level of activity was reported either by one or more of the stakeholders or for a particular angling water.

Boxes 4.13 to 4.14 inclusive summarise the results of these analyses. Although some of the sub-sample sizes were small, the overall results provide some helpful indications concerning what providers considered at the time to be the priority tasks.

BOX 4.13: THE MAIN CONSERVATION & IMPROVEMENT TASKS UNDERTAKEN BY ANGLING PROVIDERS

TASKS	TYPE OF ANGLING PROVIDER			
	Proprietor	Lessor	Angling Association	Proprietor & Lessor
	28 Respondents	4 Respondents	8 Respondents	15 Respondents
	Percentage Undertaking the Task			
Clearing Bankside Vegetation	79%	33%	0%	93%
Clearing Weed	54%	0%	0%	66%
Arresting Erosion	43%	0%	0%	33%
Tree Removal to relieve shading	21%	0%	0%	33%
Creating Ponds & Riffles	11%	0%	0%	13%
Fencing Buffer zones along banks	21%	0%	0%	7%
Releasing Fish Stocks	7%	0%	38%	13%
Tree Planting on eroding bankside	21%	0%	0%	7%
Dredging	11%	0%	0%	0%
Managing Lake/Lochan	4%	33%	13%	0%

- 4.37** Interestingly, the countryside management tasks were primarily undertaken by proprietors either on their own or in combination with the lessors.
- 4.38** The primary tasks related to maintaining a combination of both open water (vegetation clearance & dredging) and good bank protection/access (arresting erosion & fencing). Relatively small inputs were made in terms of enhancement work, such as tree planting, creating ponds/riffles and releasing fish stocks.
- 4.39** The creation of new ponds did not feature as a task for any of the angling waters.
- 4.40** In terms of angling locations, the highest levels of activity appear to have related to the prime fishing waters, notably the Lower and Middle reaches of the Tweed.

BOX 4.14: THE MAIN CONSERVATION & IMPROVEMENT TASKS UNDERTAKEN BY ANGLING LOCATION

TASKS	ANGLING LOCATIONS			
	Proprietor	Lessor	Angling Association	Proprietor & Lessor
	Lower Tweed	Middle Tweed	Upper Tweed	Tributaries
	11 Respondents	10 Respondents	11 Respondents	14 Respondents
	Percentage Undertaking the Task			
Clearing Bankside Vegetation	82%	100%	73%	43%
Clearing Weed	64%	90%	18%	14%
Arresting Erosion	27%	60%	9%	43%
Tree Removal to relieve shading	9%	30%	0%	36%
Creating Ponds & Riffles	18%	10%	9%	0%
Fencing Buffer zones along banks	0%	10%	0%	21%
Releasing Fish Stocks	18%	0%	18%	7%
Tree Planting on eroding bankside	9%	20%	18%	7%
Dredging	9%	20%	0%	0%
Clearing Bankside Vegetation	82%	100%	73%	43%

4.41 As above, the creation of new ponds did not feature as a task for any of the angling waters.

4.42 It was estimated that the tasks involved between 35 and 40 full-time, part-time and seasonal jobs, which formed part of the overall employment estimates presented later in the Chapter.

“On-Site” Direct Expenditure by Participants

4.43 Research, conducted by DLT into expenditure by participants, and other published sources were used to estimate the spend patterns of participants.

4.44 It was estimated that Providers’ revenue from the direct “on-site” spend of participants (covering permits, fees etc) totalled approximately £2.8 million, as displayed in **Box 4.11**.

“Off-Site” Direct Expenditure by Participants

4.45 In addition to “on-site” spend, it was necessary to estimate “off-site” expenditure (covering accommodation, food, fuel, equipment, gifts etc) by these anglers, in order to derive an estimate of total direct expenditure. Information on participants’ spending patterns was not collected as part of the SWRC angling survey, because the SWRC survey was confined to Angling Providers. However, to provide an indication of total spend by participants, data contained in the DLT study was used. That study found that staying salmon fishers spent on average £160 per day in 1996, equivalent to £177 at 1999 prices (this estimate was based on the Retail Price Index, Scottish Executive, 1999). Day visitors,

who were found to comprise about one in ten visitors, spent an additional £8.75 (£9.70 at 1999 prices) on top of the cost of day permits. The resultant estimated expenditure figures are displayed in **Box 4.15**.

BOX 4.15: ESTIMATED ADDITIONAL ‘OFF-SITE’ DIRECT ON SALMON/SEA TROUT ANGLING ACTIVITIES

Category of angler	Number of Days	Average Daily Spend	Total Spend
Staying	36,360	£177	£6,435,720
Day visitor	4,040	£77.70	£313,908
Total	40,400		£6,749,628

Source: SWRC, 1999 / DLT, 1996

4.46 It was estimated that expenditure by anglers on salmon and sea trout fishing totalled £6.75 million, of which £2.8 million was direct “on-site” spend. “Off-site” spend totalled £3.9 million.

4.47 It should be noted that this analysis does not include spend by non-fishing companions of anglers, and expenditure by anglers on non-fishing days within the Borders.

4.48 Data from the DLT study and the 1998 United Kingdom Day Visits Survey (UKDVS) was used to estimate total spend by “other” anglers. In 1996, it was estimated by DLT that daily expenditure by staying and day visitors in this sector averaged £16 and £15 respectively, equivalent to £18.00 at 1999 prices. This was in line with the £16 daily spend on all day visits in the Borders estimated in the 1998 UKDVS. Applying the £18 daily expenditure rate to the estimate of the total days from the SWRC survey provided a total expenditure figure of approximately £2.1 million, as shown in **Box 4.16** below.

BOX 4.16: ESTIMATED DIRECT EXPENDITURE ON “OTHER” ANGLING ACTIVITIES BY PARTICIPANTS

Sector	Number of Days	Daily Spend	Total Spend
Angling Associations (river)	98,000	£18	£1,764,000
Lochs & Reservoirs	16,000	£18	£288,000
Total	114,000		£2,052,000

Source: SWRC, 1999 / DLT, 1996

- 4.49** Total direct expenditure by anglers within the Scottish Borders is summarised in **Box 4.17** below.

BOX 4.17: TOTAL DIRECT EXPENDITURE ON ANGLING BY PARTICIPANTS	
Category	Total Spend
Salmon anglers	£6.75 m
“Other” anglers	£2.10 m
TOTAL	£8.85 m

Source: SWRC, 1999 / DLT, 1996

Employment

- 4.50** In the SWRC angling survey, providers were asked to provide details of actual “on-site” employment. This information was combined with estimates of employment generated from “off-site” expenditure, in order to produce an estimate of total employment.

Direct “On-Site” Employment By Salmon/Sea Trout Angling Providers

- 4.51** Information provided by respondents was converted to full-time equivalents (FTEs) in the **Box 4.18**, to estimate the average and total employment by providers by location. The estimation of full-time equivalents was based upon the numbers of hours worked during the year; one FTE representing 1,680 hours worked per year (48 weeks x 35 hours).

BOX 4.18: THE DIRECT ON-SITE EMPLOYMENT ASSOCIATED WITH SALMON/SEA TROUT ANGLING			
Location	Average Employment per Proprietor	Number of Proprietors	Total Employment FTEs
Lower Tweed	2.9	24	70
Middle Tweed	1.8	16	29
Upper Tweed	0.3	27	8
Tributaries	1.0	30	30
TOTAL			137

Source: SWRC, 1999

- 4.52** It was estimated that direct “on-site” employment by proprietors totalled 137 in 1999. This was a conservative estimate, in that it related to the main/‘primary’ angling locations, excluding reservoirs and lochs as well as mixed location angling. The survey data obtained concerning these ‘secondary’ locations was so limited as not to provide a reliable basis for ‘grossing-up’.
- 4.53** Excluding accommodation and “other employment”, this conservative estimate represented a net total employment estimate of 115 FTEs. The latter were generated/supported by the on-site revenue of £2.75 million (ref **Box 4.11**). From this it was deduced that for the year 1999 the output per FTE for angling had been £2.75 million/115, i.e. almost £24,000. This served as a useful benchmark for the survey results in that provided a cross-check with the DLT report.

The latter was based on the assumption of £25,000 per FTE (equivalent to £27,725 at 1999 prices) and thus broadly confirmed one of the findings derived from the SWRC survey. It also reflected the low wages earned in the countryside sports sector, where employment has often included non-pecuniary benefits, such as housing and tips.

Direct “On-Site” Employment By “Other” Angling Providers

4.54 It was estimated that revenue earned by providers of fishing at lochs and reservoirs totalled £0.13 million. Applying the above turnover per job ratio for proprietors of £24,000 yielded an estimate of 5 FTEs in this sector.

4.55 It should be noted that this estimate did not include employment by Angling Associations, since the SWRC survey indicated that employment in this sector was minimal.

Direct “Off-Site” Employment

4.56 It was estimated that off-site spend by angling participants totalled £5.1 million (£3.9 million by salmon /sea trout anglers, £1.2 million by “other” anglers). Of this, it was estimated that £4.1 million was spent locally. Applying an average output per FTE job of £72,000 for the off-site trade and service sectors involved (ref the Scottish Input:Output Tables, Scottish Executive, 1996, adjusted for inflation between 1996 and 1999) indicated that this expenditure supported 57 FTE jobs in the local economy.

4.57 Revenue received by Providers from anglers totalled £2.76 million (excluding “other” anglers, as it was assumed that this revenue accrued as income and there was little expenditure on intermediate goods and services). Based on the results of general cost structure investigations (including those undertaken by DLT, it was assumed that two-thirds of this revenue had either been spent on employment or had been retained as profit by Providers. From this it was estimated that the spend by Providers on intermediate goods and services had amounted to £0.91 million. It was estimated that the majority of this was spent within the Scottish Borders (82%), which suggested that the spend on intermediate goods and services amounted to £0.75 million. Applying the average output per job FTE ratio of £72,000 (cited above) suggested that the spend on intermediate goods and services in the Borders by Providers supported between a further 10 and 11 FTE jobs.

Secondary “Off-Site” Expenditure & Employment

4.58 It was recognised that in addition, the direct expenditure would have generated secondary expenditure in the local economy. In total, it was estimated that approximately £4.8 million was spent “off-site” by Participants and Providers in the local economy. Applying a multiplier range of 1.31 to 1.34, based on the Scottish Tourism Multiplier Study, 1992, indicated that this expenditure had generated a further £1.5 million to £1.65 million of secondary expenditure locally. Applying the average output per FTE job of £72,000 suggested that this

secondary spend sustained a further 21 to 23 jobs. In total, it is estimated that “off-site” employment totalled between 88 and 91 FTE jobs.

Summary

4.59 Employment generated by expenditure by anglers is summarised in **Box 4.19** below.

BOX 4.19: ESTIMATED DIRECT EMPLOYMENT ASSOCIATED WITH ANGLING	
Category	FTEs
Salmon & Sea Trout Angling Proprietors	137
Providers of Angling on Lochs & Reservoirs	5
Sub-Total “On-Site” Direct Employment	142
“Off-Site” Direct Employment	67-68
TOTAL	209-210

Sources: SWRC, 1999 and DLT, 1996

4.60 It was estimated that angling providers employed 142 FTEs in the Scottish Borders, and “off-site” expenditure directly supported an additional 67-68 FTE jobs. In round terms, this estimate represented 456 jobs.

Concluding Comments

4.61 The contributions made by angling to the economy of the Region are summarised in **Box 4.20**.

4.62 It will be observed that the estimates presented in **Boxes 4.21** and **4.22** broadly confirmed the results of the survey undertaken by DLT. This applies particularly in the case of the estimates of:

- ❑ the level of angling activity by salmon and sea trout participants in terms of the numbers of rod days;
- ❑ the numbers of ‘other’ angling participants;
- ❑ the total annual expenditure incurred by providers and participants. Other expenditure estimates provided in the DLT report are not directly comparable with those generated by the SWRC survey. The two principal reasons for this were that the DLT survey (a) included expenditures incurred by angling companions and (b) attempted to estimate a Total Economic contribution by including estimated secondary expenditure and employment impacts. The SWRC study also looked at those dimensions, but stopped short of presenting an estimate of the Total Economic contribution on account of the lack of precise and up-to-date multipliers for the countryside sports sector of the Scottish economy;
- ❑ the levels of direct employment.

4.63 In addition the results of the SWRC survey provided further insights into the contributions made by Angling Providers in the Borders.

BOX 4.20: SUMMARY OF CONTRIBUTIONS BY ANGLING ACTIVITIES TO THE REGION			
PROVIDERS		PARTICIPANTS	
Lower Tweed	24	<i>Salmon/Sea Trout Angling:</i>	
Middle Tweed	16	Numbers of Participants	9,500
Upper Tweed Tributaries	27	Numbers of Days	40,400
Angling Associations	30	<i>Brown & Rainbow</i>	
Lochs & Reservoirs	18	<i>Trout/Coarse:</i>	
	27	Numbers of Participants	23,000
TOTAL:		Numbers of Days	114,000
	142	TOTAL:	
		Numbers of Participants	32,500
(Source: RTC/SWRC)		Numbers of Days	154,400
		(Source: SWRC/DLT)	
ANNUAL EXPENDITURE			
<i>Salmon/Sea Trout Angling:</i> £2.2 m		<i>Salmon & Sea Trout Angling</i>	£3.9 m
<i>Brown & Rainbow Trout/Coarse Angling</i>	£0.7 m	<i>Brown & Rainbow Trout/Coarse Angling</i>	£1.2 m
TOTAL	£2.9 M	TOTAL	£5.1 m
(Source: SWRC/DLT)		(Source: SWRC/DLT)	
ANNUAL REVENUE			
Salmon/Sea Trout	£2.8 m	N/A	
Brown & Rainbow Trout/Coarse	£0.9 m		
TOTAL	£3.7 m		
(Source: SWRC/DLT)			
EMPLOYMENT			
Salmon/Sea Trout	137 FTEs	N/A	
Brown & Rainbow Trout/Coarse	5 FTEs		
TOTAL	142 FTEs		
(Source: SWRC/DLT)			

BOX 4.21: ANGLING IN THE BORDERS REGION - GUIDELINE ESTIMATES OF ANNUAL PROVISION AND PARTICIPATION BASED ON SURVEYS BY SWRC AND DELOITTE TOUCHE

ITEM	SWRC	Comparable Deloitte Touche Data ^{*1}	GUIDELINE ESTIMATES
PROVISION			
<i>Level of Angling Provision</i>	142 Providers	Around 310 Rods	Around 142 Providers Around 310 Rods
PARTICIPATION			
<i>Salmon/Sea Trout:</i>			
<i>Participants/ Trips</i>	9,500 participants	13,600 participants*2	10,000-14,000 participants
<i>Days</i>	40,400 rod days	41,400 rod days *3	40,000-42,000 rod days
<i>'Other' Angling:</i>			
<i>Participants/ Trips</i>	23,000 participants	24,300 participants*4	23,000-24,000 participants
<i>Days</i>	114,000 rod days	27,600 rod days	> 100,000 rod days

Notes:

- *1 Non participants and non-fishing days have been excluded from the DLT estimates, in order to identify component
- *2 Based upon 14,700 trips.
- *3 Based on 60,800 days, excluding non-fishing days.
- *4 DLT used UK Tourism Survey data, which suggested 11,500 visitor trips, and included 12,780 day trips based on UKTS data. It was unclear as to whether the survey results excluded the trips by Borders' residents. Sources: DLT Survey, 1996 and SWRC Survey, 1999

BOX 4.22: ANGLING IN THE BORDERS REGION – GUIDELINE ESTIMATES OF ANNUAL LEVELS OF EXPENDITURE AND EMPLOYMENT BASED ON SURVEYS BY SWRC AND DELOITTE TOUCHE

Estimate	SWRC	Comparable Deloitte Touche Data ^{*1}		GUIDLEINE ESTIMATES (rounded)
ANNUAL DIRECT EXPENDITURE				
	1999 prices	1996 prices	1999 prices ^{*2}	1999 prices
Salmon/Sea Trout:				
<i>Provider expenditure</i> ^{*3}	£2.2 m ^{*4}	£3.4m	£3.7m	£3.0m - £4.0m
<i>Other associated participant expenditure</i>	£3.9m ^{*5}	£2.6m	£2.8m	£2.0m - £3.0m
Total expenditure	£6.1m^{*6}	£6.0m	£6.5m	£5.0m - £6.5m
'Other' Angling:				
<i>Provider expenditure</i> ³	£0.7m	£0.2m	£0.2m	
<i>Other associated participant expenditure</i>	£1.2m	0.2m	£0.3m	
Total expenditure	£1.9m	£0.4m	£0.5m	£0.5m - £2.0m
TOTAL Direct Expenditure	£8.0m	£6.4m	£7.0m	£6.0m - £8.5m
EMPLOYMENT				
Direct employment	209-210	296		210 – 300

Notes:

- *1** Non participants and non-fishing days have been excluded from the DLT estimates. Borders residents have been included where possible to identify
- *2** 1999 Retail Price Index = 1.083
- *3** Provider expenditure refers to expenditure resulting from expenditure by participants on fishing costs i.e. permits. Calculated by deducting profit/contribution from participant spend. DLT estimated profits/contributions accounted for 27% of local cost base structure of local salmon/sea trout providers, which itself accounted for 97% of turnover exc. VAT. DLT estimate has been calculated by applying the profit/contribution percentage estimate for the local cost base structure to turnover inc. VAT for salmon/sea trout providers and 'other' providers. The SWRC estimate was produced by assuming expenditure by Providers equated to 80% of turnover (inc. VAT)
- *4** Average rod day costs provided by J. Leeming (adjusted to include VAT) have been applied to SWRC rod day estimates
- *5** Not included in SWRC survey, based on DLT spend data. Assumed 10% of UK visitors are day visitors, overseas spend same as UK staying, and borders residents spend same as day visitors
- *6** Not included in SWRC survey, based on application of DLT spend rates to SWRC estimate

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The River Tweed Commissioners

The Tweed Foundation

Members of the Federation of Border Angling Associations and Angling Club Secretaries

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