Whale-watching in West Scotland

Report for the
Department for Environment,
Food & Rural Affairs

Hebridean Whale and Dolphin Trust

RESEARCH . EDUCATION . CONSERVATION

JULY 2001

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EXECUTIVE SUMMARY

- This study aimed to provide information on the economic impact of tourism businesses reliant upon whales and dolphins in rural West Scotland.
- During the tourist season of 2000, four sets of interview surveys were conducted with a total of 32 boat operators, 8 visitor-centre managers and 324 tourists on whale-watching trips. In addition, 673 tourists and 189 residents were interviewed to record the perceived importance of this industry for the local community and tourism in general.
- From the information provided a profile of whale-watchers was created, as well as an overview of the whale-watching industry in the region. Furthermore, the information allowed estimates to be calculated for the economic value of this specialist sector of the Scottish tourism industry.
- The survey results showed that the majority of whale-watchers in West Scotland are well-educated, middle-class, mature and British.
- The majority of whale-watchers only become aware of cetacean-watching trips when they arrive in the region. However, 23% of whale-watchers visit the region specifically to go on whale-watching trips.
- An estimated 241,952 tourists are involved with whale-tourism activities annually in West Scotland.
- 115 jobs are provided by whale-watching tourism in West Scotland.
- 47% of whale-watching operators considered the industry to be important to the local economy.
- In remote coastal areas, whale-related tourism may account for as much as 12% of the area's total tourism income.
- The direct economic income from whale-watching activities was estimated to be £1,767,971 per annum.
- 16% of whale-watching tourists stayed in the region extra nights as a result of whale-watching, which represents a further £0.9 million in additional tourism income.
- In addition, the associated expenditure (accommodation, travel, food etc) from tourists visiting rural West Scotland specifically to go whale-watching represents an additional £5.1 million in tourism-related income for the region.
- The total income generated by whale-tourism in rural West Scotland was estimated to be £7.8 million.

CONTENTS

INTRODUCTION

This report investigates the economic impact of cetacean-related tourism on the rural communities of West Scotland.

It provides a profile of tourists who go whale-watching in Western Scotland and also examines why tourists visit the region and the role cetaceans or cetacean-related businesses play in this decision.

It assesses the number and variety of tourism operations that rely upon cetaceans as an integral part of their business, or as a way of attracting tourists, and the revenue generated in rural West Scotland by these businesses.

Finally, the report considers the potential areas for growth in cetacean-related tourism and the benefits that this industry could bring in the future to the rural communities of West Scotland.

I. Whale-watching

Whale-watching is defined as "any commercial enterprise which provides for the public to see cetaceans in their natural habitat" (IWC, 1994). It is important to note that although the generic term "whale" watching is used, the term also encompasses the watching of other cetacean species such as dolphins and porpoises.

The whale-watching industry is young **-** the first whale-watch boat started commercially in 1955 along the south Californian coast. For the next twenty years, whale-watching increased at a gradual pace until the mid 1980s, when it expanded rapidly. In the late 1980s, countries such as Australia, New Zealand, Canaries, Japan and Norway started commercial whale-watching, followed by Hong Kong, Taiwan and Iceland in the 90s. In 1993, the International Whaling Commission (IWC) formally recognised whale-watching as a legitimate tourism industry which provided for the sustainable use of these animals.

Whale-watching has increased in all aspects (volume, revenue generated, number of countries involved) in recent years**.** This sector of the tourism industry has grown at an annual rate of 12.1% through the 1990s and by 13.6 % per year from 1994-1998 (Hoyt, 2000).

The World Tourism Organisation (WTO) predicts that world tourist numbers will grow on average by 3-4% annually, beyond 2000. The rate of growth of whale-watching is unlikely to decrease over the next few years and, therefore, it appears inevitable that whale-watching will continue to grow at a faster rate than world tourism for at least a few years to come (Hoyt, 2000).

A total of eighty-seven countries are now involved in whale-watching to some degree. Eighty-five percent of the forty member countries of the IWC now have whale-watching industries: Hoyt (2000) calculated that 86% of whale-watching occurs within the IWC member states.

In an economic context whale-watching is a multi-million dollar global industry. Recent estimates claim that whale-watching now attracts more than 9 million participants a year and generates over US$1 billion (Hoyt, 2000). **Table 1** demonstrates the economic increase in this sector of the tourism industry.

The expansion of the global whale-watching industry is particularly noticeable in developing nations. For example whale-watching in Taiwan grew from nothing in 1994 to a market of over 30,000 whale-watchers by 1998. In South America, the number of whale-watching tourists increased by 1,190% between 1991 and 1998, and this growth has brought an additional US$65 million into the economy of the region.

Table 1. A summary of the rate of growth of the global whale-watching industry (Hoyt, 2000).

Year	Participant countries	Number of whale-watchers	Total expenditure
1991	31 countries	4 million	US$ 318 million
1994	67 countries	-	US$ 504 million
1999	87 countries	1 billion	US$ 1,049 million

At present, the economic benefits of whale-watching as a form of commercial exploitation of cetaceans overshadow and far outweigh the economic benefits of commercial whaling operations even in the biggest whaling nation, Japan. For example, Kyodo Senpaku, the company which conducts Japan's whaling programme, has an annual income of only £28 million, of which £6.3 million is a subsidising grant from the Japan Whaling Association (Economist, 2000). Whale-watching in Japan is now valued at £23 million (converted from dollar value in Hoyt, 2000). The expansion of whale-watching has been demonstrated to be prolific (Hoyt, 2000), and if managed correctly, sustainable.

II. Scotland and cetaceans

The waters around West Scotland have the greatest abundance of cetaceans in the UK and is one of the most important habitats for cetaceans in Europe (Parsons *et al.*, 2000). To date, twenty-four species of cetacean have been reported in this region, ranging from the harbour porpoise to the blue whale (**Table 2**). The most commonly sighted cetacean species in West Scottish waters are harbour porpoises, minke and killer whales and bottlenose, common, white-beaked and Risso's dolphins (Evans *et al*., 1993; Boran *et al*., 2000; Jeewoonarain *et al*., 2000; Shrimpton and Parsons, 2000). Harbour porpoises, minke whales and killer whales are sighted throughout West Scottish waters. The coastal waters of the Small Isles, in particular, have frequent sightings of minke whales and harbour porpoises. Common dolphins are sighted primarily in southern (Scottish) waters between June and August and Risso's dolphins and white-beaked dolphins are primarily sighted in the waters north of the Isle of Skye.

Table 2. Cetacean species occurring in the waters of West Scotland.

ODONTOCETES	
Harbour porpoise	*Phocoena phocoena*
White-beaked dolphin	*Lagenorhynchus albirostris*
Risso's dolphin	*Grampus griseus*
Common dolphin	*Delphinus delphis*
Bottlenose dolphin	*Tursiops truncatus*
Killer whale	*Orcinus orca*
Long-finned pilot whale	*Globicephala melas*
Atlantic white-sided dolphin	*Lagenorhynchus acutus*
Striped dolphin	*Stenella coeruleoalba*
Northern bottlenose whales	*Hyperoodon ampullatus*
Cuvier's beaked whale	*Ziphius cavirostris*
Sperm whale	*Physeter macrocephalus*
Sowerby's beaked whale	*Mesoplodon bidens*
Fraser's dolphin	*Lagenodelphis hosei*
False killer whale	*Pseudorca crassidens*
Pygmy sperm whale	*Kogia breviceps*
Narwhal	*Monodon monoceros*
Beluga whale	*Delphinapterus leucas*
MYSTICETES	
Minke whale	*Balaenoptera acutorostrata*
Fin whale	*Balaenoptera physalus*
Sei whale	*Balaenoptera borealis*
Humpback whale	*Megaptera novaeangliae*
Northern right whale	*Eubalaena glacialis*
Blue whale	*Balaenoptera musculus*

Cetaceans have traditionally been part of Scottish marine heritage and the country's economy. At present, all cetaceans are protected in UK waters from capture, killing, injury and deliberate harassment or degradation of their habitats under the European Habitats Directive and the UK Wildlife and Countryside Act (Shrimpton, 1999).

At one stage there were five commercial whaling stations operating in Scotland, four in Shetland and one on Harris (in the Outer Hebrides). The Harris station was the last whaling station in Scotland and only ceased operating in 1952 (McCarthy, 1998).

Now, instead of consumptive uses of cetaceans in Scotland, whales are increasingly becoming a tourist attraction and there are a growing number of commercial tourism enterprises that draw on this element of the country's marine resources (Thompson, 1994).

III. Whale-watching in the UK

The first British commercial whale-watching operation began in Scotland in 1989 on the island of Mull. By 1994, there were 7 full-time whale- and dolphin-watching operators established in Scotland and West Wales with an additional 14 companies engaged in whale-watching on a part-time basis (Hoyt, 1994). By 1998, this had risen to an estimated 40-44 operators in the UK (Hoyt, 2000).

In 1991, only 400 tourists were involved in whale-watching in the UK, generating a total income of £192,000; this figure rose to 15,000 people generating £6.5 million total income (£850,000 direct expenditure) in 1994 (Hoyt, 1995; Arnold, 1997). By 1998, 121,125 people went whale-watching, generating £1,142,000 in direct expenditure, with an estimated total expenditure of £5 million (Hoyt, 2000). This three-hundredfold increase in the number of participants in just seven years is impressive but, the increase of whale-watching globally, suggests that the UK whale-watching industry has considerable potential for further expansion.

The dramatic increase in the number of whale-watchers in the UK reflects an increase in the number of small, short-duration whale-watching trips which give a greater number of tourists an opportunity to watch cetaceans. These trips tend to be relatively low-cost in comparison to the higher priced, multi-day whale-watching trips which dominated the market in 1994. Therefore, at present, the overall income derived per whale-watcher is lower than in previous years.

Unlike other destinations around the world, UK-based whale-watching tends to be peripheral to most tourists' motivations for visiting an area, adding value to a holiday rather than being the main reason for it. Despite the diversity and accessibility of cetaceans in British waters, they are not seen as a tourism resource and relatively few operators promote whale-watching.

The development of dolphin-watching trips on the Moray Firth on the east coast of Scotland is one example where whale-watching has been successful in raising awareness of conservation issues as well as bringing much needed income to the local community. A dolphin adoption scheme organised by the Whale and Dolphin Conservation Society helped to bring the dolphins of the Moray Firth to the public's attention. Twenty thousand members of the public adopted a Moray Firth dolphin, and 86% of them said that they would try and visit the area to see the dolphins for themselves. It was predicted that an additional 21,000 bednights would be created as the result of this scheme with an accompanying £720,000 in overall expenditure (Arnold, 1997).

Tourism research in the Moray Firth revealed that 28% of visitors stated that the presence of dolphins had been the sole reason for their visit to the region; 14% said that the dolphins had been a factor when choosing the area as a holiday destination and, perhaps more significantly, 16% of those visiting the area said that the presence of the dolphins had resulted in them staying an extra night (Arnold, 1997). This equates to an additional £720,000 being input into the local economy. Hoyt (2000) estimated that, in total, land and boat-based whale and dolphin-watching in the Moray Firth attracted 73,000 tourists and generated £477,000 in direct expenditure and £2.34 million in total tourist expenditure in 1998.

Hoyt (2000) estimated that whale-watching in Western Scotland involved 13,500 visitors in 1998, producing £264,000 in direct expenditure and a total income of £1.5 million. Multi-day whale-watching was estimated to involve 500 patrons, but generated £242,000 and £303,000 in direct and indirect expenditure, respectively. Land-based whale-watching in Shetland attracted 12,000-15,000 visitors in 1998, and although this generated minimal direct expenditure, indirect expenditure (e.g. hotel accommodation and other forms of associated spend) brought in an estimated £109,000. These figures are likely to underestimate the current value of the industry as Hoyt identified only 17 operators, half the number identified in this study.

In 1999, the Hebridean Whale and Dolphin Trust conducted a pilot study to investigate the economic impact of marine wildlife tourism (with an emphasis on the economic impact of whale-watching tours) on the Isle of Mull, a geographically isolated inner Hebridean island with a population of only 2,700. This pilot study discovered that marine wildlife tourism brought a direct income of £650,000 to the Mull economy (Warburton *et al.*, 2000).

To estimate the total income derived from whale-watching (i.e. accommodation, travel, food, and other expenditure by whale-watching tourists, in addition to the direct cost of the whale-watching trip), other researchers have used standard multiplier values ranging from 3.5x the direct expenditure (Kelly, 1983; Hoyt, 1992, 1995) to 7.67x the direct expenditure (Duffus, 1988; Hoyt, 1992, 1995). If similar multiplier values are applied to the data derived by Warburton *et al.* (2000), it gives marine wildlife tourism on the Isle of Mull a total economic value of £2.28 million - £5 million. This represents a major contribution to the economy of this small rural island.

The current study expands the research conducted in this pilot study to the rest of West Scotland. It seeks to determine the importance of whale-watching to the West Scotland economy. In addition, the study investigates the level of local and tourism awareness of cetaceans, who goes on whale-watching tours in West Scotland and the reasons for doing so. It also assesses the potential for growth in this industry.

IV. The nature of whale-related tourism in Scotland

Currently, whale-watching in Western Scotland is a relatively small part of the tourism industry in Scotland, although boat trips to see the scenery and marine wildlife in general are an integral part of a visit to the Scottish coast.

There are, at present, over 60 tour boats operating from the West Coast of Scotland (both from the mainland and the western islands). The trips offered by these operators vary enormously in the size of their operation, the type and length of trip offered. Trips range from 2 hour excursions to see seal colonies or to cross a loch mouth, to 10 day cruises to St. Kilda and around the Hebridean Islands. These boat trips tend to be concentrated in key areas, notably northern Argyll. Of the 60 boat operators working on the West Coast (Masters *et al*., 1998), 35 are in Argyll, with 18 of these operators based on Mull or near Oban.

During discussions with boat operators it become apparent that almost all boat operators observe cetaceans at some time during the year. However, the frequency with which cetaceans were sighted varied from a couple of times a year to several times a day. All operators admitted that cetacean sightings added great value to their trips. However, only a proportion of tour operators sighted cetaceans regularly, and fewer actively searched for cetaceans as part of their trips.

Although, any sighting of cetaceans constitutes whale-watching by the definition above, it was important to distinguish between the different levels at which this activity occurred. For the purpose of this project, the definition of whale-watching needed to be refined.

As this current study is primarily concerned with the economic impact of whale-watching, only those operators that were actually using the possibility of seeing cetaceans as a means to attract passengers (and thereby gaining a potential commercial advantage and additional income through cetaceans) were included in the survey. It was assumed that other trips did not attract "whale-watchers" *per se*, and therefore could not claim to be gaining a commercial benefit from cetaceans in the area. Cetacean sightings on such excursion boats were incidental to the trip rather than the purpose of it.

The IWC (1994) definition was sub-divided into four categories for use in this study and shown in **Table 3**. The locations of the tour operators that qualify for one of these categories are shown in **Figure 1.**

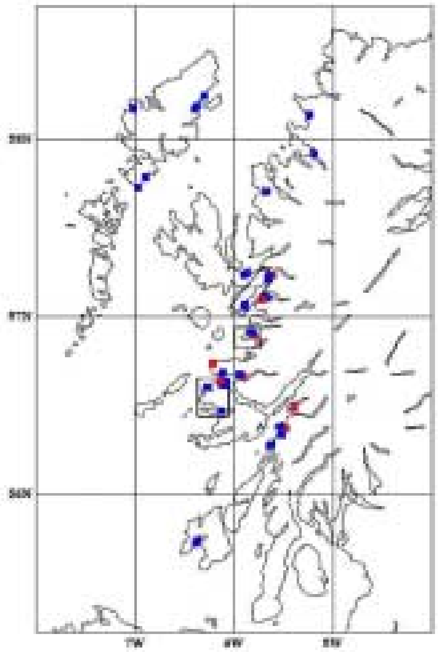

Figure 1. The distribution of whale-watching operators (blue) and visitor centres featuring cetaceans (red) on the West Coast of Scotland. The boxes show the locations of the three survey sites.

Table 3. Categories and definitions of whale-watching.

Category	Definition
1	Marine wildlife tour operator who advertises 'whale-watching' trips (either day trips, charters or cruises). 100% of the operator's income is attributable to using whales and dolphins as a draw for tourists.
2a	Marine wildlife tour operator who draws substantially on cetaceans as a primary species in their marketing but does not specifically mention 'whale-watching'. For example, an operator who states that cetaceans are regularly seen, who uses a cetacean logo or has prominent photographs of cetaceans in their marketing materials. Two-thirds of the operator's income is attributable to using whales and dolphins and a draw for tourists.
2b	Marine wildlife tour operator who draws on cetaceans for marketing purposes to a lesser extent, for example, mentioning that cetaceans are occasionally sighted. One-third of the operator's income is attributable to whales and dolphins.
3	Marine wildlife tour operators who make a brief passing reference to cetaceans in their marketing materials. For example, a statement such as "on our return journey we may be lucky enough to see a porpoise". 10% of the operator's income is attributable to whales and dolphins.

In addition to whale-watching tour operators, there are several visitor centres on the west coast of Scotland, which feature cetaceans to varying degrees. These operations do not fit into the definition of whale-watching as given above as they frequently do not provide for "the public to see cetaceans in their natural habitat". However, these commercial operations do use cetaceans as a means to attract visitors and therefore derive a financial benefit from whales and dolphins. Like marine wildlife tour operators in West Scotland, visitor centres in the region also vary in the role cetaceans play in attracting visitors, from cetaceans being the main theme for the centre to being one aspect of display materials.

As these visitor centres are also a means by which cetaceans may have an input to the local economy through tourism, these centres have also been included in this study. Categories and definitions for these visitor centres are summarised in **Table 4**, and the locations of visitor centres fitting these criteria are displayed in **Figure 1**.

Table 4. Categories and definitions of visitor centres featuring whales.

Category	Definition
1	A visitor centre that has cetaceans as its primary theme, with virtually all its display space dedicated to cetaceans. If the visitor centre has a shop, the majority of the merchandise sold in this shop has a cetacean theme. 100% of the centre's income is attributable to using whales and dolphins as a draw for tourists.
2a	A visitor centre that has the marine environment/natural history as its primary theme, with a significant proportion of its display space, entailing several exhibits, devoted to cetaceans. Cetaceans are given a prominent position in the centre's marketing materials and if the visitor centre has a shop, a sizeable proportion (50-75%) of the merchandise sold has a cetacean theme. Approximately two-thirds of the centre's total income can be attributable to using whales and dolphins as a draw for tourists.
2b	A visitor centre which may have a small display area or one exhibit dedicated to cetaceans. Cetaceans may be mentioned in marketing materials as a passing comment. If the visitor centre has a shop, some of the merchandise sold (20-40%) has a cetacean theme. Approximately one-third of the centre's total income can be attributable to using whales and dolphins as a draw for tourists.
3	A visitor centre which may mention cetaceans in a display about the marine environment/natural history. Marketing materials do not contain references to cetaceans. However, the centre has a shop which includes some cetacean related merchandise (10-20% of total merchandise). Only 10%, or less, of the centre's total income can be attributable to whales and dolphins.

METHODOLOGY

I. Aims of the project

This current project has been conducted in order to assess the economic impact of whale-watching in rural West Scotland. To achieve this main aim, research focussed on the following aims. These are:

- To determine who goes whale-watching in West Scotland and what motivates them to do so.
- To discover the current level of local and tourism awareness of cetaceans in West Scotland.
- To determine the importance of whale- and dolphin-watching to the economy of rural West Scotland.

The report also addresses several additional issues relating to whale-watching in West Scotland including:

- whether there is evidence that particular marketing strategies are effective in encouraging whale- and dolphin-watching;
- the extent to which tourist expenditure is dependent on whale- and dolphin-watching;
- an assessment of the potential for the growth of whale-watching in West Scotland;
- ways in which whale-watching could be developed and marketed to improve its financial contribution to the local economy.

II. The study area

The study was conducted in coastal Western Scotland; this includes the West Coast mainland from the Kintyre Peninsula (Argyll) in the south to Cape Wrath (Highlands) in the north. The study area also includes the offshore islands of the Inner Hebrides (Mull, Coll, Tiree, Islay, Jura, the Small Isles and Skye) and the Western Isles (Lewis, Harris, Benbecula, the Uists and Barra).

Three study regions were identified for detailed case studies: the Sleat Peninsula (Isle of Skye), Arisaig (Lochaber) and Tobermory (Isle of Mull). These locations were identified according to the following criteria:

- Traditionally dependent on primary industries, such as fishing and agriculture
- Rural coastal communities
- Base for marine wildlife tour operators who operate whale-watching excursions.

The Sleat Peninsula (Isle of Skye)

The Isle of Skye receives 427,686 visitors a year who spend £65.7 million during their stays. Eighty-three percent of these tourists stay at least one night. There are two main points of access to the island - the Skye road bridge from Kyle of Lochalsh to Kyleakin, and the vehicular ferry from Mallaig (mainland) to Armadale.

On Skye and the mainland region of Lochalsh, there are over 15 boat operators. Trips range from one-hour trips to see seal colonies to ten-day trips around the islands. These boat trips depart from a number of harbours on the island but predominantly on the more populated, eastern side. Two survey locations were used on Skye: the two access points to the island, Kyleakin and Armadale.

Two boat operators run trips from Kyleakin (one of which was eligible for inclusion in this report). Whales and dolphins are rarely seen in the area, although porpoise sightings are quite frequent. The main tourist attraction in the village is the recently opened Bright Water Visitor Centre and the associated Eilean Ban Visitor Centre. These centres focus on the life and times of Gavin Maxwell, the otters he wrote about and the marine environment in general. A further two boat operators run trips from Armadale pier, one of which contributed to the current study as a whale-watching operator.

Arisaig (Lochaber)

Lochaber is a large and diverse area covering over 2,000 square miles, and includes Ben Nevis (UK's highest mountain) and Ardnamurchan Peninsula (an isolated part of Britain which includes the most westerly point on the British mainland). The population density of the region is 4.4 persons per square mile (the second lowest in the UK). The region receives over half a million visitors each year, the majority of whom pass through the main town, Fort William.

Arisaig is a small village on the 'Road to the Isles' between the towns of Fort William and Mallaig. It can be reached not only by road but also by rail on the West Highland Line.

The population of Arisaig is very low: the village has a population of only 353, of which 71 members are retired, 195 are of working age and 87 are children (Hughes, 2000). Of those community members who are of working age, 8.1% are unemployed - this unemployment rate is approximately twice the Lochaber average for the year 2000 (Hughes, 2000).

In July 1999 the ‘Land, Sea and Islands Centre’ was opened in Arisaig. This visitor centre features several exhibits on the marine environment and information about cetaceans. There is one boat operator offering commercial trips to visitors. The boat that visits the Small Isles (Rum, Eigg and Muck) is one of the main attractions for visitors to the area. The boat offers flexible tickets for passengers wanting to spend more time on the islands and also serves as a local ferry service for residents of the Small Isles.

Although the service does not specifically offer whale-watching trips, during the summer months cetaceans are seen almost on a daily basis, and the schedules are flexible to allow passengers to see the cetaceans as and when they are sighted (primarily thanks to an experienced skipper). Cetaceans are also used substantially in the company’s marketing and publicity materials, with several displays and photographs of cetaceans in the company’s ticket office. This vessel was considered to be a category 2a whale-watching operation.

The Isle of Mull (Argyll)

The Island of Mull has a population of between 2,500-3000 residents and is served by three ferries. These ferries carry over 250,000 visitors to the island each year (Touchstone *et al*., 1999), the main one operating from Oban to Craignure. A high proportion of these visitors are day-trippers who travel down to the southerly tip of the island and cross to Iona, an island of significant cultural and religious importance.

There are eight operators offering boat trips from Mull. These are all day trips and fall into three categories. There are those that offer sea-angling, those that offer trips to the nearby islands of Staffa (Fingal’s Cave) and the Treshnish Islands (seabird and seal colonies), and whale-watching boats. These categories are not exclusive and a number of operators offer different types of trips depending on the clients.

With a population of approximately 800, Tobermory is the largest village on Mull. The village is located on the north east corner of the island, overlooking the Ardnamurchan peninsula. The tourism industry is the largest employer in Tobermory, which is boosted by a variety of events held throughout the year - ranging from music to sporting events (yachting, Highland Games and the Isle of Mull Rally). The events generate considerable revenue for the island as well as extending the length of the tourist season. The Tourist Information

Centre in Tobermory receives 55,000 enquiries annually, a conservative estimate of the number of visitors to the town.

Three boat operators use Tobermory as a base. Two specialise in sea-angling also run wildlife trips featuring cetacean-watching; the third runs whale-watching trips exclusively and has been doing so for over 10 years. A land-based wildlife watching operation also takes tourists to see wildlife by land-rover and this company advertises the potential for watching porpoises from land. The village also has a small, but busy (over 18,000 visitors per annum) visitor centre dedicated to cetaceans and the local marine environment.

III. Materials and methods

The study was designed to collect information from five key stakeholder groups in order to gain a fully-rounded view of whale-watching in the region.

These groups were:

1. *Marine wildlife tour operators* (including operators of visitor centres featuring cetaceans) - the best source of information about the type of cetaceans seen in the region, the frequency with which they were seen and the potential for this type of tourism to develop (i.e. the suppliers of the product).
2. *Whale-watchers* - who could provide information on why they chose their particular trip, what had made them visit the region and the type of person they were (i.e. the consumers).
3. *General tourists* - the baseline against which the whale-watchers could be compared. Did the type of person who went whale-watching differ from the typical visitor to the region?
4. *Local residents* - to contribute to the overall impact of tourism to the particular region. How important did locals see tourism and whale-watching being to the local economy and was a growth in tourism welcome in the area?
5. *Professionals working in the field of rural development, marine conservation and tourism* - to give an overview of the potential for marine wildlife tourism across regions and to comment on the reality of implementing strategies to promote specialist types of tourism.

The methodology for each of the sample groups is given below. Identical methodologies were used at each of the study sites so that the data could be used to provide an overall picture as well as a comparison between the regions. The surveys were piloted during the month of June and appropriate adjustments were made.

Tour operator survey

After defining the study's parameters for the term "whale-watching" (**Chapter 1, Section IV**), a list of tourism businesses involved with cetaceans was compiled. In total 32 boat-based operations and 8 visitor centres were identified on the West Coast of Scotland which made reference to cetaceans in their marketing (**Table 5**).

The businesses were divided into three categories: those running day trips (return to port on the same day), those offering cruise trips (passengers sleep onboard the ship) and visitor centres. Although visitor centres cannot offer whale-watching activity, it was felt that those identified did generate some income from the presence of cetaceans in the region (in terms of displays, merchandise etc) as explained previously (**Chapter 1, Section IV**). The visitor centres included in Category 1 were centres dedicated almost exclusively to cetaceans.

Table 5. A breakdown of the number, types and categories (**Tables 3 & 4, p 10-11**) of tourism businesses examined in the current study.

Category	Day trips	Cruises	Visitor Centre	Total
1	6	3	2	11
2a	11	2	0	13
2b	4	1	2	7
3	5	0	4	9
			TOTAL	**40**

Thirty semi-structured interviews were conducted, either in person or by telephone. Copies of publicity and marketing materials were requested from the businesses (if not already received) as well as information about websites and other marketing media, and where the operators were willing to provide the information, data was collected on the revenue generated and the number of passengers carried.

Whale-watcher survey

Having identified those West Scottish boat operators who use cetaceans in their marketing, a number of boat operators in categories 1 and 2a were approached to assist with the distribution of the whale-watcher questionnaires. Only day-excursion boat operators were approached as it was felt that their passengers were likely to contribute more to the local economy, in terms of spending on accommodation and provisions, than cruise passengers. Operators who run cruise trips tend to take small groups (usually no more than 12) and passengers pay in advance for the trip, usually on an all-inclusive basis. This sector of the marine wildlife tourism industry was not be dismissed entirely, however, and an estimation of the amount of direct tourism income accruing to the boat operator was calculated from tour operator interviews.

Seven operators (from a total of 17) were asked to carry whale-watch questionnaires (four in category 1 and three in category 2a). Five whale-watching operations provided sufficient completed whale-watcher questionnaires to be included in this study.

Researchers met those operators who volunteered to assist with the study to discuss the background to the study and the aims and objectives. Questionnaires were left with the operators together with pre-paid envelopes and contact details should there be any problems. The study period was from 14th June to 31st July (six weeks in total), covering the main tourist season.

The questionnaires were designed to be completed by the passengers, but completion was dependent on the willingness of the skipper/crew to distribute them at an appropriate time during the trip. Several of the operators mentioned that it provided passengers with 'something to do' on the journey back to harbour.

Midway through the project follow-up calls were made and in two cases the research assistants working in the area assisted with the collection of survey data by distributing questionnaires to passengers at embarkation and collecting completed forms on the return.

In total, 324 questionnaires were collected (**Table 6**).

Table 6. A breakdown of the number of whale-watching questionnaires collected.

Category	No. of boats	No. of questionnaires returned
1	2	146
2a	3	178
	TOTAL	**324**

Tourist survey

Researchers were sent to each of the areas where participating boats were operating in order to conduct surveys of general tourists to the area. These study sites were Tobermory (Isle of Mull), Arisaig (Lochaber) and Sleat Peninsula (Isle of Skye). Descriptions of these sites are provided in **Section II**.

Owing to the small size of each village, only one interview point was necessary for each site. Interview points were carefully chosen as a place where visitors would pass and might have time to participate in the study. The location of the interview points and the number of interviews conducted are summarised in **Table 7**.

Table 7. A summary of interview points and sample distribution.

Region	Survey site	Interview point	No. of interviews
Skye	Kyleakin	On the main street, by the pier	128
	Armadale	At the ferry terminal	137
Arisaig	Arisaig	Outside the Land, Sea and Island Visitor Centre	210
Mull	Tobermory	Outside the Tourist Information Centre	198
		TOTAL	**673**

The tourist questionnaires were designed to be completed by an interviewer on a face-to-face basis. Respondents were selected on a 'next person to pass the interviewer after completion of the previous interview' basis. This method aimed to create an unbiased sample of visitors.

Data was collected between 1st –31st July, 2000 and interviews were undertaken every day of the week between 10am and 5pm (**Table 8**).

Table 8. Interview distribution for the tourist and local resident surveys (%)

	Tourists	Local residents
Day of week:	Interviews undertaken (%)	Interviews undertaken (%)
Monday	15	20
Tuesday	17	22
Wednesday	14	16
Thursday	14	14
Friday	14	11
Saturday	13	10
Sunday	13	7
TOTAL	100	100
	N = 673	N = 189

Local resident survey

Local Resident information was collected at the same sites as the tourist survey. Residents were approached in the street and taken through the questionnaires by the interviewer (**Table 9**). Data was collected between 1st –31st July, 2000, every day of the week, between 10am and 5pm (**Table 8**).

Table 9. Interview points and sample distribution.

Region	Survey site	Interview point	Interviews undertaken
Skye	Kyleakin	On the main street	48
	Armadale	On the main street	52
Arisaig	Arisaig	On the main street	60
Mull	Tobermory	On the main street	29
		TOTAL	**189**

Survey of tourism/development professionals

Researchers met with a range of professionals working in the field of rural development, marine conservation and tourism in order to gauge the level of support for whale-watching from statutory bodies. Respondents were also asked about current marine wildlife tourism projects, future developments and the level of funding that might be available for these.

A total of eleven face-to-face or telephone interviews were conducted. The following statutory bodies and groups were questioned:

- The Highlands of Scotland Tourist Board (regional representatives)
- Scottish Tourist Board (tourism futures)
- The Highland Council (tourism and leisure services)
- Scottish Natural Heritage (area officers and tourism/marine policy advisors)
- Local Enterprise Companies
- Tourism and The Environment Initiative
- Rural and tourism development academics and consultants

RESULTS

I. Who goes on whale-watching tours and why?

A profile of West Scotland whale-watchers

In order to determine the type of person who goes whale-watching in the region, it was important to be able to compare whale-watcher data with information about the type of tourist visiting the region. Although a number of visitor surveys had been conducted previously on a regional basis (e.g. HIE and EKOS, 1999; HIE & Macpherson Research, 2000; Highlands and Islands Enterprise, 2000a), visitor surveys at a local level were rarely available. It was deemed, therefore, that previous studies was too generalised for direct comparisons to be made with the specific whale watching data, therefore data from general visitors to the study site were also collected. Data collected at a local level could also be compared to general visitor data at a regional and national level.

This section presents the results of the whale-watcher survey in comparison to the results of the general tourist questionnaire collected during this survey. Results were compared with other reports on whale-watching profiles in other destinations in the world and with tourism studies undertaken in Scotland. These will be discussed later.

i. Age and gender

Demographic information on whale-watchers provides a context from which the attitudes, opinions and spending potential of the whale-watchers can be derived.

Across both sample groups there was an even gender split between males and females, although a slightly higher proportion of females went whale-watching than the profile of the general tourist would suggest (**Table 10**).

Table 10. A comparison of gender distribution between whale-watchers and general tourists.

	Whale-watchers (%)	General Tourists (%)
Male	48.6	57.3
Female	51.4	42.8
	N = 361	N = 669

The ages of respondents on whale-watch trips varied from the general sample, with a slightly higher proportion of younger people taking whale-watching trips (**Table 11**). This could be due to boat trips having less appeal for older, less active people. However, it should be noted that 30% of the whale-watchers sampled were over 50, and the profile generally suggests a more mature tourist.

Table 11. A comparison of age distribution between whale-watchers and general tourists.

Age Category	Whale-watchers (%)	General Tourists (%)
<20	3.9	1.5
20-29	16.9	13.3
30-39	21.1	17.4
40-49	27.4	25.8
50-59	20.2	26.8
Over 60	10.5	15.1
	N = 361	N = 667

ii. Group size and composition

The group compositions of whale-watchers and general tourists are summarised in **Table 12**. Fewer than 8% of general tourists were visiting alone and the majority were travelling without children (73%). Slightly less than one in five respondents were travelling with children.

Of those visitors who took whale-watching trips, one in three (29.4%) were with children (10% more than general tourists). This suggests that boat trips appeal to family groups, a fact that is also reflected in the age distribution of respondents (**Table 11**).

Table 12. A comparison of group composition between whale-watchers and general tourists.

	Whale-watchers (%)	General Tourists (%)
Alone, no children	5.3	7.5
Two adults, no children	43.3	53.3
More than 2 adults, no children	21.9	19.7
Adults & children	29.4	19.4
	N = 360	N = 664

iii. Socio-economic groupings

Previous studies have shown that, in general, visitors to Scotland and the Highlands (**Table 13**) tend to have an upmarket profile, with the majority of visitors being in A, B and C1 social classes (social class definitions are summarised in **Table 14**).

The three areas surveyed as part of this study showed an even higher proportion (83.3%) of visitors falling in the ABC1 category. This proportion is much higher than would be expected, as only 48% of the total UK population belongs to socio-economic groups A, B, or C1 (with only 21% of the population in the AB category). This suggests that visitors to the survey areas are more likely to have higher incomes than the average visitor.

This pattern was exaggerated further in the whale-watcher profile; almost nine out of ten people were upper or middle class (89.4%) and almost half (42.8%) were social class category AB.

Whale-watching as an activity may appeal to those of a higher social class or perhaps the relatively high price of whale-watching trips in comparison to other excursions means that visitors with less disposable income are less able to afford the trips.

Table 13. A comparison of socio-economic status between whale-watchers and general tourists surveyed in this study and tourist profiles recorded by previous studies.

Socio-economic Category	Whale-watchers (%)	General Tourists (%)	Highlands [1] (%)	Scotland [2] (%)
AB	42.8	47.8	35	39
C1	46.6	35.5	35	36
C2	9.9	9.2	19	15
DE	0.8	7.6	11	9
	N = 264	N = 544	N = 3,301	N = 1,833

NB: The responses of ‘housewife’ and ‘retired’ are not included as insufficient information was given in order to accurately place these respondents in social class categories.

[1] Source: System Three (1999)
[2] Source: System Three (2000)

Table 14. Definitions of socio-economic categories.

Socio-economic Category	Social status	Examples of professions
A	Upper Middle Class	Accountant, lawyer, editor, doctor, professor, senior civil servant, bank manager, board director, pilot, farmer with 10+ employees.
B	Middle Class	Teacher, civil servant, journalist, pharmacist, area sales manager, newly qualified professional, self-employed with 5-24 employees.
C1	Lower Middle Class	Nurse, bank clerk, secretary, receptionist, salesman, foreman, police sergeant, self-employed with small business.
C2	Skilled Working Class	Farm worker, bricklayer, plumber, painter, bus driver, shop assistant, police constable.
D	Semi-/un-skilled working class	Gardner, fisherman, milkman, miner, cleaner, traffic warden, taxi driver.
E	Subsistence level	Part-time clerical workers, casual labourers, unemployed, pensioner.

iv. Level of education

The age at which people leave school provides an indication of their future earning capacity and can also be used as an index of the level of knowledge possessed. The majority of whale watchers (62.9%) left formal education after the age of 21 (**Table 15**) suggesting that they received qualification to a university degree level and, therefore their earning potential and level of general knowledge should be high. The whale-watcher's profile did not vary significantly from the general tourist profile.

Table 15. A comparison of education level between whale-watchers and general tourists.

Left formal education at:	Whale-watchers (%)	General Tourists (%)
16 years old	20.8	22.0
18 years old	16.3	17.0
21+ years old	62.9	60.9
	N = 313	N = 663

v. Nationality

The majority of visitors to the three survey sites were British (**Table 16**): the British market accounted for 69.8% of respondents to the tourist questionnaire. This supported previous visitor surveys in the Highlands region and official visitor information for Scotland (**Table 16**).

Table 16. The nationality of whale-watchers and general tourists surveyed in this and previous studies.

Nationality	Whale-watchers (%)	General Tourists (%)	Highlands[1] (%)	Scotland[2] (%)
Scottish	*24.9*	*29.9*	*26*	*36*
Rest of UK	*58.0*	*39.9*	*44*	*46*
Overseas	*17.1*	*30.2*	*40*	*18*
North America	3.4	8.1	8	5
Germany	2.5	5.7	6	2
Australasia	1.5	3.4	3	1
Scandinavia	0.8	2.8	N/A	N/A
Other European	6.4	9.0	N/A	N/A
Other	2.5	1.2	N/A	N/A
	N = 357	N = 669	N = 3,301	N = 11.9million

[1] Source: System Three (1999)
[2] Source: Tourism Facts and Figures (2000)

Overseas visitors make up 18% of the overall Scottish visitor numbers (**Column 5, Table 16**). However, a comparatively high proportion of these visitors visit the Highland region (**Column 4, Table 16**). Germans and Americans represent the largest proportion of overseas visitors to Scotland (Scottish Tourist Board, 2000). The general tourist survey reflected this – one in three respondents were from overseas. Also the proportion of respondents to the tourist survey from the USA, Germany and Australasia were similar to the Highlands survey, indicating that the sampling method generated an accurate representation of the market.

The nationality of whale-watchers was significantly different from that of the general tourist population. Over eighty percent (83.8%) of whale-watchers came from the UK. Only 24.9% of whale-watchers were from Scotland, whereas 58% came from the rest of the UK. The percentage of overseas visitors going whale-watching (17%) was almost half the proportion of overseas visitors recorded in the general tourist survey. This suggests that overseas visitors are not inclined to take whale-watching trips during their stay.

Foreign visitors are sometimes under-represented in tourism surveys due to linguistic difficulties: they do not understand the questions being asked of them or decline to be surveyed. However, as no one approached during the whale-watching survey declined to answer due to language difficulties, this lack of overseas respondents reflects a real deficiency in this sector of the tourism market.

There may be several reasons why fewer overseas visitors go whale-watching:

- The cost of the trip (especially as the strength of the pound increases the relative cost of whale-watching trips for overseas visitors).
- A lack of foreign language marketing material/advertisements.
- Overseas visitors may be running on a tight schedule, or may be visiting as part of a package, which would not allow the flexibility of going on whale-watching trips.
- Overseas visitors are not interested in going whale-watching in Scotland and would choose a country with a higher international profile for whale-watching trips (such as New Zealand).

vi. Length of stay

Those respondents staying away from home were asked to indicate how many nights they would be staying in the area. The results are shown in Figure 2.

The average length of stay for the whale-watchers (6.4 nights) was higher than that of the mean length of stay for the general tourists (4.8 nights). This is reflected in the significant difference between the modal averages for each group (2 nights for tourists and 7 nights for whale watchers) and suggests that on average people visit the area for relatively short breaks.

Those people who are staying for longer are more likely to take a whale-watching trip, or have come to the area especially for whale-watching.

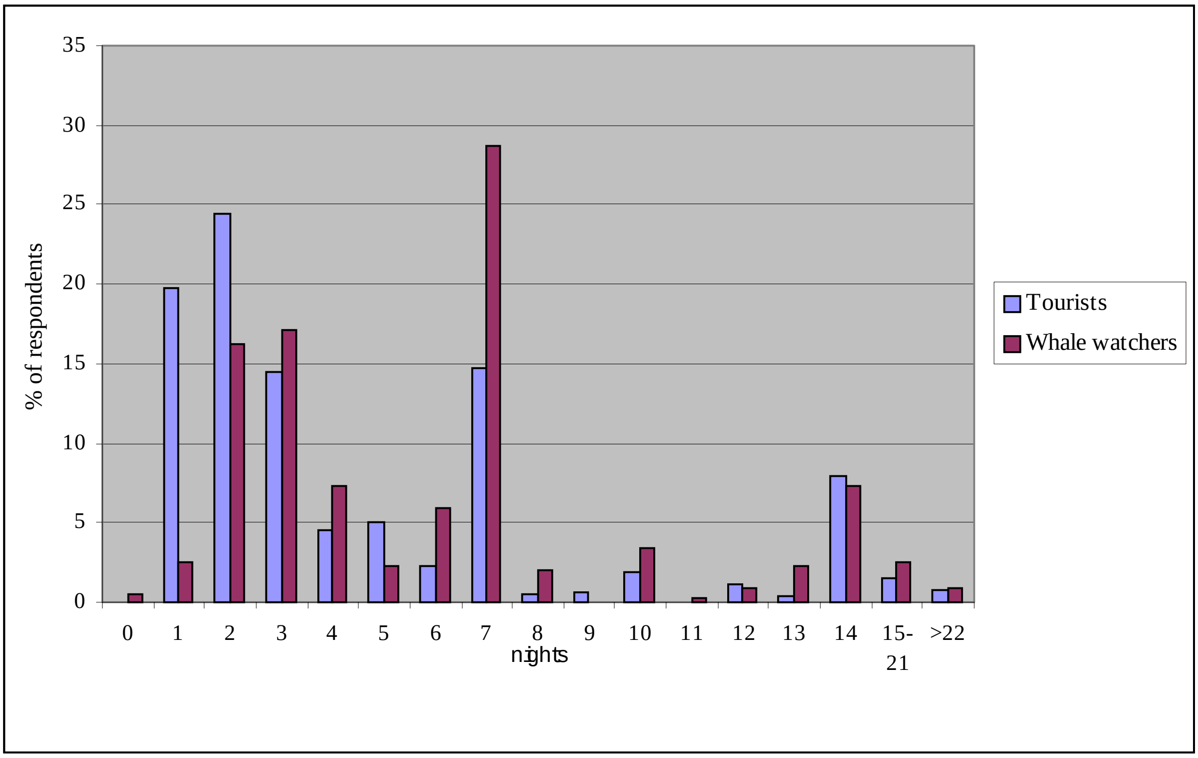

Figure 2. A comparison of the length of stay of general tourists and whale-watchers.

Thirty-three per cent of respondents were staying for 2 or 3 nights and still had time to go whale watching. A whale-watching trip would, therefore, have been the focus of the visit for these individuals, suggesting that they may have made a special effort to come to the area to go whale-watching.

Table 17. A comparison of the types of accommodation used by general tourists and whale-watchers.

Accommodation Type	Whale-watchers (%)	General Tourists (%)
B&B	27.8	31.9
Tent/caravan	17.8	21.3
Hotel	14.0	15.5
Self Catering	25.4	13.5
Hostel	2.9	6.1
Friends & relatives	6.7	4.6
Onboard Own Boat	0.6	4.1
Holiday home	4.7	3.0
	N = 342	N = 658

The types of accommodation used by tourists and whale-watchers give an indication of the amount of money accruing to the local economy. The results showed that whale-watchers favoured B&Bs and self-catering accommodation over campsites or hostels (**Table 17**). The indirect spend from whale-watchers would therefore be relatively high.

vii. Type of holiday

Survey respondents were asked to specify the type of holiday they were taking. The majority of respondents to both questionnaires were on an independent touring holiday, i.e. staying in more than 2 destinations during their trip (**Table 18**). The percentage of whale-watchers who were based in one location was slightly higher than in the tourist group. This corresponds with the higher length of stay and higher proportion of self-catering accommodation chosen by whale-watchers.

Table 18. A comparison of the types of holiday taken by general tourists and whale-watchers.

	Whale-watchers (%)	General Tourists (%)
Independent touring holiday	54.8	67.6
Based in one location	38.4	28.2
Organised package tour	6.8	4.2
	N = 354	N = 673

Twenty whale-watchers were on previously arranged package tours (higher than the proportion of package tourists from the tourist sample). Nine of these were on week-long whale-watch itineraries with one boat operator, and four respondents were on a wildlife package of which whale-watching was a component.

Respondents were asked if they had visited the region previously and if so how many times before. Over two-thirds of respondents to both questionnaires had visited the area before (**Table 19**). This corresponds with the findings of previous studies. There were no significant differences between the figures.

Table 19. A comparison of the number of whale-watchers and general tourists visiting West Scotland for the first time.

	Whale-watchers (%)	General Tourists (%)	Highlands Tourists [1] (%)
First visit to area	30.0	35.7	30.0
Not first visit to area	70.0	64.3	70.0
	N = 370	N = 673	N = 1833

[1] Source: System Three (1999)

The proportion of overseas visitors on their first visit to Western Scotland was almost double that of the general distribution (49% from the tourist group and 35% from the whale-watcher group) as shown in **Figure 3** below. Conversely the percentage of visitors on their first visit to Western Scotland, who live in another region of Scotland, was considerably lower than the average for all respondents. This demonstrates that overseas visitors are less likely to return to Scotland but are more likely to go whale-watching on a first visit. Tourists from the UK, and in particular Scotland, are less likely to go whale-watching on their first visit to West Scotland.

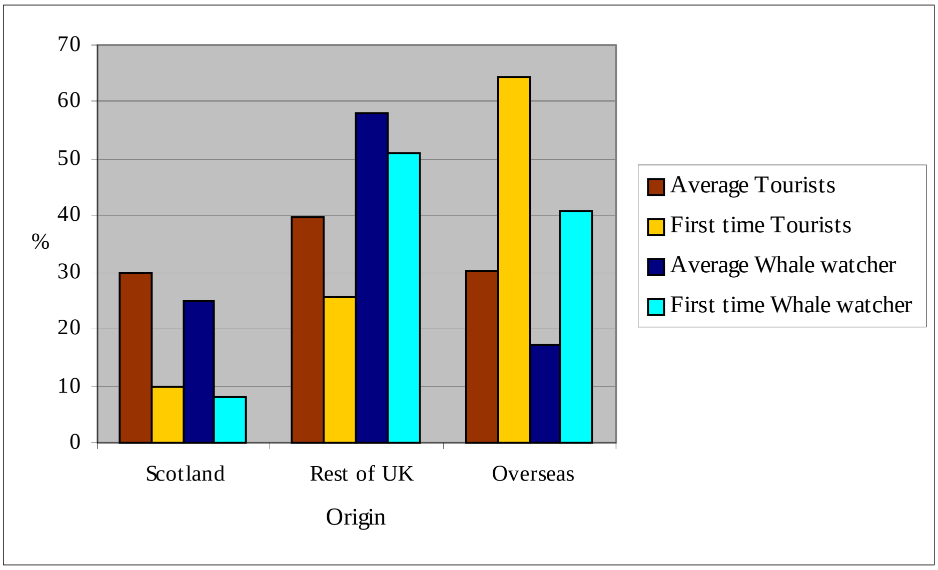

Figure 3. Origin of respondents who are visiting Western Scotland for the first time (compared to the average for both sample groups (whale-watchers & general tourists)).

Table 20. The number of previous visits to western Scotland, by respondent group.

	Whale-watchers (%)	General Tourists (%)	Highlands Tourists[1] (%)
<6 visits	36.8	31.6	55
6-10 visits	14.7	14.4	18
11+ visits	34.9	49.4	26
No response	13.2	4.9	-
	N = 257	N = 433	N = 1283

[1] Source: System Three (1999)

Of those visitors who had visited the region before, over one third of both survey groups had visited fewer than six times (32% for tourists, 37% for whale-watchers; **Table 20**). Almost half of the general tourist group (49%) had visited more than 10 times. This figure was slightly less for whale-watchers (35%). It appears that whale-watching appeals not only to those visitors who are discovering the region for the first time but also to regular visitors. Repeat visitors would undoubtedly have had access to more information on the range of activities available in the region from previous visits and may have been influenced by local advertisements for whale-watching trips.

viii. Other holidays taken

Over two-thirds of both general tourists and whale-watchers were taking more than one holiday during the year (**Table 21**). This suggests two things: that respondents choose to spend their disposable income on travel (which may be relatively high) and also that the current trip may not be the main holiday of the year (which is also indicated by an average length of stay of 2 days for general tourists). Over half the total respondents who were taking other holidays were taking holidays abroad, although only one in five respondents were venturing outside Europe (**Table 22**). This situation has an implication for the marketing of whale-watching tours: that whale-watching should not try and compete with the overseas resorts as main holiday destinations but should emphasise whale-watching as an activity for a second holiday or long-weekend break.

Table 21. Number of general tourists and whale-watchers taking second holidays.

	Whale-watchers (%)	General Tourists (%)
Taking other holidays	64.3	65.4
Not taking other holidays	30.8	34.6
	N =352	N = 671

Table 22. Location of whale-watchers' and general tourists' second holidays.

Holiday Location	Whale-watchers (%)	General Tourists (%)
UK	27.7%	26.8%
Europe	32.3%	31.3%
Outside Europe	23.2%	20.1%
Don't know/Abroad	16.8%	21.8%
	N = 220	N = 418

xi. Had whale-watchers been whale-watching before?

Of 324 whale-watchers surveyed, 62% were on their first whale watching trip (**Table 23** and **Figure 4**). Therefore, two-thirds of people were seeing whales for the first time.

Of the 201 first-time whale-watchers, 83% were from the UK (including Scotland). This corresponds with the overall proportion of whale-watchers from the UK (83% from **Table 16** earlier), therefore UK visitors are no more likely to take whale-watching trips in Scotland for the first time than overseas visitors.

Table 23. Summary of the number of whale-watchers on their first whale-watching trip.

	Frequency (%)
First time whale-watching	62.0%
Had been whale-watching before	36.4%
No Response	1.5%
	N=324

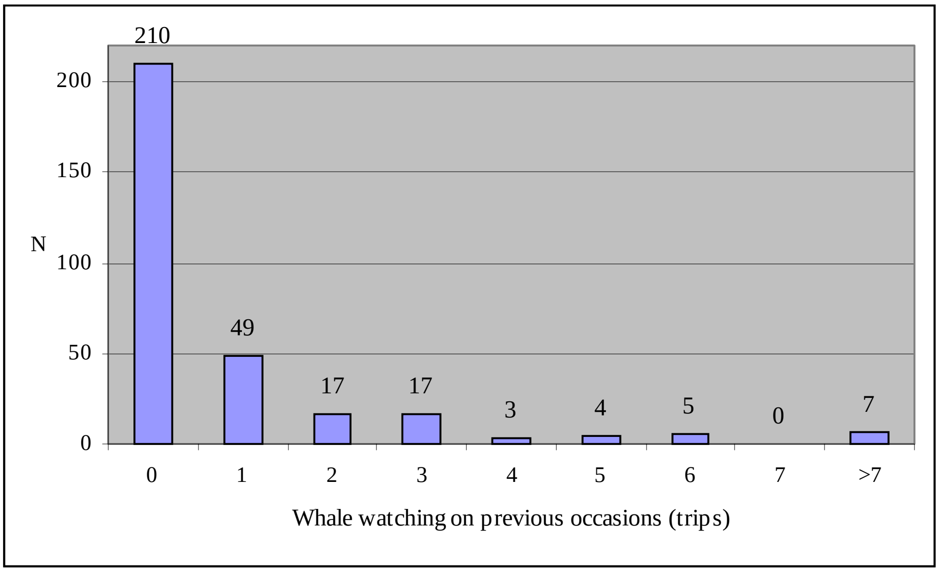

Figure 4. Distribution of number of times respondents had been whale-watching.

Of the 118 respondents who had been whale-watching before, 46% had only been whale-watching once (**Figure 4**), although the average number of whale-watching trips taken previously was 2.7 trips.

Table 24. The location of previous whale-watching trips taken by whale-watchers.

Location of previous whale-watching trips taken	%
United Kingdom	43.3
North America	19.2
Europe	15.8
Australia/New Zealand	10.0
Africa	5.8
Asia	4.2
South America	1.7
	N = 120

Seven respondents had been whale-watching more than 8 times previously. One respondent had been whale-watching 15 times prior to the survey. Those who were frequent whale watchers (i.e. more than 5) tended to use Scottish whale-watching operations (in the Moray

Firth, Mull, Durness and Arisaig). The UK was the location that had been previously visited most often, in terms of whale-watching destinations (**Table 24**).

Of the 52 respondents who had been whale-watching in the UK, only 5 had been whale-watching outside of Scotland: Norfolk and Wales (Cardigan Bay).

Whale-watcher motivation: why do tourists go whale-watching?

Whale-watchers and general tourists were both asked to rate the importance of a number of features as factors in choosing West Scotland as their holiday destination. The importance was rated on a scale of 1 to 5 where a score of 1 indicated that the factor was not at all important in their decision, and a score of 5 was very important in the decision.

The results (**Table 25**) demonstrate that all of the factors, except outdoor pursuits, were considered to be important motivators for people to visit Western Scotland. Both the cultural and natural components of Scotland's heritage appear to be influential to both groups. As perhaps expected Scotland's wildlife played a greater part in attracting whale-watchers to West Scotland than general tourists (**Table 25**). Neither group considered outdoor pursuits to be important motivational factors (**Table 25**).

Table 25. Importance of various factors in the motivation of tourists and whale-watchers for visiting West Scotland (1 = not at all important; 5 = very important).

Motivational Factor	Whale-watchers (Mean ranking value)	General Tourists (Mean ranking value)	Significant difference? (n = 674, p<0.05)
Landscape	4.52	4.75	Yes
Seascape	4.38	4.47	Yes
Wildlife	4.33	3.69	Yes
Culture	3.29	3.66	Yes
Visiting Friends & Relatives	3.59	3.41	Yes
Outdoor Pursuits	1.91	1.67	Yes
	N = 324	N = 674	

Table 26. Other motivational factors for whale-watchers and general tourists in their decision to visit West Scotland.

Motivational factor	Whale-watchers (%)	General Tourists (%)
Remoteness	10.2	0.3
Peace/Quiet	1.9	1
Business	0.3	0
Golfing	0	0.3
Other	4.3	1.3
No Response	82.3	97.1
	N = 324	N = 674

Respondents were also asked to state any other factors that were important in their decision to visit the area. Fifty-four whale-watchers and twenty general tourists stated other factors and these are summarised in **Table 26**.

It was interesting to note that a relatively large proportion of whale-watchers stated that the remoteness of the region was a key factor in their motivation to visit West Scotland. Strangely, this was not reflected in the general tourist survey. This suggests that the type of person who goes whale-watching may also appreciate the "wilderness" atmosphere which West Scotland presents. Infrastructural improvements to bring more whale-watchers into the region may actually deter some elements of the current whale-watching market by making the region more accessible to mainstream visitors.

Whale-watchers were asked to choose two reasons why they went on a whale-watching trip. Passengers were also given an open-ended section to express any other reasons that were not listed. The results are summarised in **Table 27**.

Table 27. A summary of why whale-watching trips were taken.

Motivational Factor	%
Had always wanted to see whales and dolphins	33.3
Enjoyed wildlife watching trips	23.3
Enjoyed boat trips when on holiday	11.4
Wanted to see the scenery	9.8
An opportunity to take photographs	5.2
The children wanted to do it	5.0
Trip was recommended to me	4.6
Looking for an excursion	4.2
Other reason (asked to specify)	1.8
Wanted to learn more about marine conservation	1.4

One third of responses were that they specifically wanted to see whales and dolphins. In that way, whale-watch operators have a marketing advantage. Over fifty percent of respondents appear to have an interest in wildlife. Just over one in ten respondents simply enjoyed a day out on a boat as part of their holiday or used the boat trip as an opportunity to see the area. Although almost 30% of respondents were travelling with children only 5% considered the children's desire to take the trip as the main reason to take the trip.

II. The level of local and tourism awareness of cetaceans in West Scotland

The majority of respondents in all three sample groups were aware of the occurrence of cetaceans in West Scottish waters (**Table 28**). As expected, local awareness was particularly high. Only 9 residents did not know about cetaceans in the area, indicating that cetaceans are acknowledged locally as part of the wildlife of the area. A high proportion of whale-watchers also knew about cetaceans in West Scotland before coming to the area.

Table 28. Awareness of the occurrence of cetaceans in West Scottish waters by sample groups.

	Whale-watchers (%)	General Tourists (%)	Local Inhabitants (%)
Aware of cetaceans in the area	81.4	70.7	95.2
Unaware of cetaceans in the area	18.6	29.3	5.8
	N = 323	N = 673	N = 189

Knowledge of local cetaceans

The three surveyed groups were asked to name three locally occurring cetacean species to measure their knowledge of cetaceans in the area. Whale-watchers understandably had the highest accuracy when naming locally occurring cetacean species (**Table 29**). Seventy-five percent of whale-watchers could name at least one species, 33% could accurately name three (**Table 29**).

Table 29. A summary of the accuracy demonstrated by the respondent groups in naming locally occurring cetacean species.

	Whale-watchers (%)	General Tourists (%)	Locals Inhabitants (%)
No correct answers	*24.9*	*54.1*	*40.2*
1-3 Correct answers	*75.2*	*45.9*	*59.8*
1 Correct	20.3	22.6	23.9
2 Correct	22.2	15.3	15.3
3 Correct	32.7	8.0	20.6
	N = 370	N = 673	N = 189

The whale-watchers' knowledge was significantly higher than that of the general tourist group. Only 46% of general respondents could name one or more species of cetaceans. However, the data does not indicate whether this knowledge was acquired prior or during their trip.

Of the cetacean species named, the minke whale, bottlenose dolphin and harbour porpoise were the three most commonly cited species (**Table 30**) and indeed they are the most commonly observed species in the coastal waters of the three survey sites. Thirty-two percent of whale-watchers named minke whales, a species which is the focus of most of the whale-watching trips in the survey areas.

Local inhabitants were slightly more likely to name porpoises than the other two respondent groups (**Table 30**). Porpoises are the most commonly sighted coastal cetacean at the three survey sites and are regularly seen from land.

Table 30. Locally occurring cetacean species named by respondent groups.

Species	Whale-watchers (%)	General Tourists (%)	Local Inhabitants (%)
Minke whale	31.7	21.6	23.3
Bottlenose dolphin	11.8	12.7	9.2
Harbour porpoise	10.4	9.8	14.5
Killer whale	8.6	9.5	8.6
Common dolphin	7.3	0.9	3.8
Northern bottlenosed whale	0.2	0.7	3.0
Risso's dolphin	2.4	0.2	1.5
Other locally occurring cetacean species	2.8	5.5	2.1
Incorrect species	3.0	3.2	1.2
No response	22.1	35.8	33.0

Bottlenose dolphins, although commonly sighted around Mull, are infrequent visitors to Arisaig and are not frequently seen in the Sound of Sleat. This was reflected in the data: of those local inhabitants able to identify any local cetacean species, 44% identified bottlenose dolphins on Mull, but only 22% and 28% identified bottlenose dolphins in Arisaig and Sleat, respectively. The highly publicised visit of two Northern bottlenose whales to Broadford Bay, the Isle of Skye, in September 1999 (Simmonds, 1999) brought this species to public attention and may be why 3% of locals (in comparison to 0.2% of whale watchers and 0.7% of general tourists) named this species. This highlights the impact that the press can have on raising the profile of cetaceans.

The level of local knowledge of cetaceans varied between the three survey sites. Fifty-nine percent of local Skye respondents were unable to identify any local cetacean species, whereas only 21% and 23% of Mull and Arisaig locals were unable to name a local cetacean species. This result was also echoed in the general tourist survey: 70% of Skye tourists were unable to name a single local cetacean species, 46% were unable to name a single species in Arisaig, but only 32% of Mull tourists could not name a single local cetacean species. This clearly demonstrates that there is a greater awareness of local cetaceans in Arisaig and Mull compared to the Isle of Skye.

Visitors' awareness of whale-watching opportunities

Respondents were asked whether they were aware of whale-watching opportunities before they arrived in Western Scotland and, if so, where had they heard about whale-watching in the area.

Even though 71% of visitors were aware of cetaceans in the area, approximately half (44%) of general tourists knew about the opportunities for whale-watching trips before their arrival in the region (**Table 31**). This would suggest that although visitors knew that cetaceans were in the region, their expectations of seeing them were relatively low, i.e. that cetaceans were relatively rare or elusive. Whale-watching, it seems, is not directly associated with a trip to Scotland.

Table 31. A summary of the number of whale-watchers and general tourists who were aware of whale-watching opportunities before they visited West Scotland.

	Whale-watchers (%)	General Tourists (%)
Aware of whale-watching trips before arriving in the area	64.7%	43.9%
Unaware of whale-watching trips before arriving in the area	35.3%	56.1%
	N = 320	N = 672

In comparison to general tourists, a higher percentage of passengers (65%) on the whale-watching trips were aware of whale-watching opportunities in West Scotland before they arrived in the region (**Table 31**). Although 81% of whale-watchers were aware that cetaceans occurred in the region, only 65% knew about the possibility of whale-watching trips. This has two implications:

- Although the general awareness of whales and dolphins is quite high in both groups, it appears that the link between cetaceans and opportunities to see them in the wild in West Scotland is not considered an option by many visitors. Therefore, whale-watching as a potential draw to the region does not appear to be being used effectively at the moment.
- The fact that almost 40% of whale-watchers only found out about whale-watching opportunities when they arrived in the area suggests that local marketing is a key factor in attracting customers. General awareness-raising of whale-watching opportunities on a

wider scale may encourage more people to visit the region in order to view marine wildlife.

The respondents who knew of whale-watching opportunities in Western Scotland before they arrived were asked where they had first heard about whale-watching opportunities in the region. The results are summarised in **Table 32**.

Table 32. Where visitors first heard about whale-watching trips in West Scotland.

	Whale-watchers (%)	General Tourists (%)
Previous visit	5	20.2
Word of mouth	21.5	18.4
Local poster/flyer	15.5	17.6
Tourist information Centre	19.0	16.2
Press/Advert	13.5	10.3
Guide book	3.5	8.1
Internet	12.5	2.6
Other	9.5	6.6
	N = 200	N = 272

Recommendations, previous visits and local posters/flyers were the main ways in which people found out about the trips. Tourist Board information also contributed significantly to raising people's awareness of the facilities on offer in particular areas. This suggests that local marketing is still the most effective method of advertising.

For those who actually took whale-watching trips, word of mouth was again an important factor in raising awareness of these trips, although discovering whale-watching opportunities through previous visits was less significant. Interestingly, the internet and articles and advertisements in the national press were stated by 26% of whale-watchers as the medium through which they first heard about such trips. This suggests that these methods of advertising are particularly useful for specialist trips such as whale-watching.

Local sources of information were the most effective form of marketing for individual boat operators. However, advertising at a national level did appear to be effective in raising overall awareness of whale-watching trips. The figures would suggest that although people are aware of boat trips in the general region, they decide on which boat operator to go with on arrival in a specific locality. It appears that comparatively few people come to the region specifically to take a boat trip (this applies to day trips only).

Marketing of whale-watching trips

Thirty-five tour operators and visitor centre managers were asked about the way in which they market and advertise their operations (**Figure 5**). Almost all the respondents used Tourist Information Centres as distribution points for their advertising and 29 of the respondents had websites, most of which were linked to other sites, such as local tourism associations, the Hebridean Whale and Dolphin Trust website and other special interest sites.

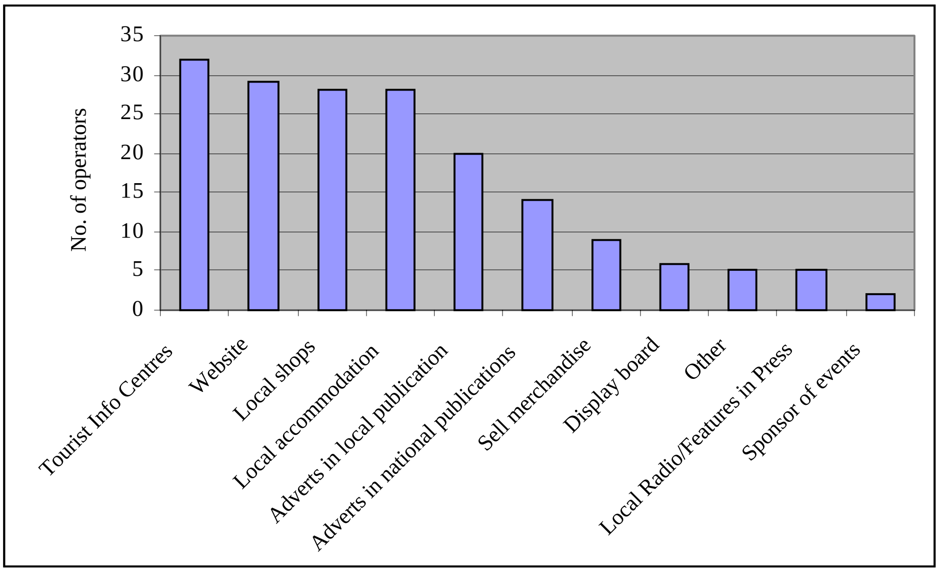

Figure 5. Marketing and advertising methods used by whale-watching operators.

Local advertising through shops, accommodation providers and tourist information centres were the most common methods of advertising and the results from the passengers above seems to reflect that this is the most effective way of 'hooking' passengers on to the whale-watching trips. However, these methods do not encourage whale-watchers to come to the region in the first place. General opinion seemed to be that attracting tourists to the region was the job of the Scottish and Area Tourist Boards.

Thirty of the thirty-four operators said that they used the local area tourist board to advertise their business, and 25 were members of the Scottish Tourist Board. Nineteen operators were also members of local marketing associations, 14 were members of the Scottish Marine Wildlife Tour Operators Association, while 8 operators stated that they belonged to other marketing groups or organisations in addition to the above.

Nine operators provided information about their advertising budget. Responses ranged from 'minimal' (less than £150) to £3000 per annum. The average amount spent on advertising and marketing was £1,433 per annum. Advertising budgets of this size do not allow individual operators to advertise nationally or internationally. Costs can be cut through distributing literature by hand locally. This means that opportunities for bringing additional tourists (both from the UK and overseas) into the region, drawn by the possibilities for going on whale-watching trips, are not being realised.

The use of cetaceans in advertising and marketing

All the operators involved in this survey used whales, dolphins or porpoises in their advertising. The use of cetaceans ranged from a brief mention of the possibility of sighting a porpoise during the trip to a series of full-colour pictures of cetaceans. Surprisingly of the thirty-five operators involved in the study, only 25 acknowledged that they used cetaceans in their advertising. The 9 operators who claimed not to use cetaceans in their advertising clearly did not consider the reference made to cetaceans in their advertising to be an important or significant part of the advert.

III. What is the importance of whale-watching to the rural West Scotland economy?

Local opinion

Local residents were asked for their views on the local tourism industry. Of the local residents who were interviewed, 47% were involved in the tourism industry to some extent (accommodation, shop assistant, restaurant/bar work etc) (**Table 32**) which indicates the importance of tourism to the local economy. **Table 32** also shows the distribution of employment across the sectors of the remaining local respondents who did not work in tourism. It should be noted that as the surveys were conducted during the day, they cannot be said to be wholly representative of the local workforce as only those in the villages during the day were interviewed. Thus, the views of local residents should be interpreted with this in mind. It can be said, however, that the sample reflects local opinion, especially those involved in the tourism industry at all levels.

Table 32. Areas of employment for local respondents (N=194).

Area of employment	%
Tourism	47
Retired	12.5
Not earning	11.5
Service sector	11
Manual sector	9
Professional sector	5
Fishing & fish-farming	3.5
Agriculture	0.5

Eighty-two percent of local residents wanted to see more visitors in the area. As this proportion is higher than the 47% of local people interviewed were involved in some capacity in the tourism industry (and therefore had a vested interest in encouraging tourism in the region), this suggests a recognition across the community (including those not working in tourism) that tourism is important to the sustainability of the local economy.

Local residents were asked why they thought tourists came to the area (**Table 33**). Eighty-five percent of respondents thought that visitors came for the scenery. Despite many visitors rating wildlife as a motivational factor (**Table 25**), only one in five of local respondents thought that wildlife was a major tourist draw. "Other" opinions on why tourists came to the area included visiting the area for peace and quiet and 'to get away from it all' (11.6%), the general character of the area (2%), nice beaches (1.5%) a lack of pollution (1.5%), safety and a lack of crime (1%), camping facilities (1%) and history/culture (1%). Less than 1% of local respondents mentioned outdoor activities such as hill-walking or climbing and less than 0.5% mentioned that visitors may come to the area to trace their roots (genealogy). A number of local respondents from Arisaig and Skye considered that visitors only 'passed through the area' on the way to other areas (3.7%). One in ten local respondents identified marine facilities (primarily boat trips) as a reason why visitors came to the area. It is important to note that the question asked why visitors come to that particular area, not to Scotland or the region in general. It was clear from this survey that local residents underestimate the importance of wildlife in attracting visitors to their locality.

Table 33. Local opinion on why tourists come to the area.

Reason for visiting area	%
Scenery	85.3
Wildlife	21.2
To see friends/relatives	13.2
Coast and facilities (e.g. boat trips)	10.1
Good accommodation	3.7
Nearby attractions	1.1
Accessible/convenient	1.1
Other reason	28.6
	N = 189

The importance of tourism in relation to other industries

It was interesting to note the differences between the perceived opinion of the tourists and the more realistic view of the local residents (**Table 34**). Whereas both visitors and local residents recognised the importance of tourism to the local economy, visitors to the region tended to consider the primary industries of fishing and agriculture to be more important to the local economy than the local residents did. Obviously visitors to the region cannot be expected to know the intricacies of the local economy, but it does suggest that the image of the area may be distorted slightly in the eyes of the tourists. A greater proportion of local residents (14%) considered accommodation provision (also part of the tourism industry) to be an important part of the local economy compared to 5% of tourists.

Table 34. A comparison of the perceived importance of various industries to the local economy.

	General Tourists (%)	Local Inhabitants (%)
Tourism	75.9	73.5
Fisheries	39.7	30.2
Agriculture	9.9	6.9
Accommodation Provision	5.1	13.2
Retail	0.8	1.6
Other	6.6	13.8
	N = 664	N = 189

Respondents were asked to tick yes or no to each category. The table shows the percentage of respondents who ticked 'yes'. The percentage value relates to the percentage of respondents who considered the category to be important to the economy (respondents could give more than one response).

Opinion of the whale-watching industry

From their position as whale-watching providers, tour operators were asked whether they thought that whale-watching was important to the local economy (**Table 35**) and whether seal-watching (an important component of the marine wildlife tourism industry) was important as well. More operators considered seal-watching to be a more important economic activity than whale-watching (**Table 35**), but it should be emphasised that almost half the operators did consider whale-watching to be important to the local economy (**Table 35**); these responses were not just from those operators who offered exclusively or predominantly whale-watching trips (**Table 36**).

Table 35. Tour operators' opinions on whether whale-watching and seal-watching are important to the local economy.

	Whale-watching (%)	Seal-watching (%)
Important	47.1	74.3
Not important	52.9	25.7
	N = 34	N = 35

Table 36. Tour operators' opinions on whether whale-watching and seal-watching are important to the local economy by whale-watching category. (N)

Category of operator	Whale-watching is important	Seal-watching is important
Cat 1	N = 6	N = 6
Cat 2a	N = 3	N = 6
Cat 2b	N = 3	N = 6
Cat 3	N = 3	N = 6
Base (no. of respondents)	15	24

The extent to which tourism expenditure is dependent on whale-watching

Of the 295 visitors who were aware of whale-watching trips in West Scotland, 13.1% said that the presence of such trips influenced their decision to visit the region.

Estimating the proportion of people who chose to take whale-watching trips during their stay indicates the demand for this type of excursion during a holiday trip. Tourists were asked whether they had been on a whale-watching trip during their stay. Nineteen percent of respondents had been on a boat trip of some kind during their stay; 6.5% had been whale-watching and 12.1% had been on other non-whale-watching trips (**Table 37**). Twenty-three percent of respondents commented that although they had not been on a trip yet, they might or were intending to go on a whale-watching trip during their time in the area.

Thus, the percentage of visitors who will go whale-watching is 17.3% (sum of percentage of people who had been whale-watching and the percentage of those intending to go) but could be as high as 29.3%, since 12% of responding tourists said that they might be interested in going whale-watching during their stay.

Table 37. Proportion of visitors who take boat trips during their holiday.

Proportion of visitors taking boat trips			
Have been on boat trip during stay	18.6%	*Went whale-watching*	*6.5%*
		Went on other boat trips	*12.1%*
Have not been on boat trip during stay	81.3%	*Intending to go whale-watching*	*10.8%*
		Might go whale-watching	*12.0%*
		Not intending to go whale-watching	*53.9%*
		No response	*4.6%*
	N = 668		

i. Proportion of visitors who came to the area to go whale-watching

Whale-watchers were asked whether they had come to the area specifically to go whale-watching; 22.5% said that they had (**Table 38**). This tallies with **Table 39**, which indicates that 22% of respondents had booked places on whale-watching trips prior to their arrival in the region. In this situation, respondents were obviously including whale-watching as a key element of their holiday.

Out of the 22.5% of respondents who chose the area because of whale-watching, 3.5% of the total had stayed an extra night in the area in order to go on a whale-watching trip (**Table 38**).

Of the remaining seventy-seven percent of whale-watchers who had not come to the area specifically to go whale-watching, a further 44 individuals (12.7%) stated that they had stayed an extra night in order to take a whale-watching boat trip (**Table 38**). Therefore, in total 16.1% of whale-watchers had stayed an extra night as a *direct* result of whale-watching

Table 38. The proportion of whale-watchers coming to the area specifically to whale-watch, and the proportion of whale-watchers staying extra days due to their trip.

	%	Stayed extra night as a result of whale-watching trip	Did not stay an extra night as a result of whale-watching trip	No response
Came to the area especially to go whale-watching	22.5%	3.5%	18.4%	0.6%
Did not come specially to go whale-watching	77.5%	12.7%	63.6%	1.3%
	N=324	16.1%	82.0%	1.9%

Table 39. Summary of when whale-watchers booked their trips.

Before holiday	22.1%
During holiday	48.5%
Decided on day	29.4%
	N = 303

ii. An estimation of the total number of extra nights spent in the region as the result of going on a whale-watching trip

Of those who stayed extra nights as a result of going on a whale-watching trip, the average number of nights was 1.6 (**Table 40**). Ninety-one percent of the respondents who had stayed an extra night only stayed one or two additional nights. Only one person stayed over 4 additional nights as a result of whale-watching opportunities in the region.

It was calculated, therefore, that at the three study sites, an additional 81.6 nights were spent by tourists in the area as a result of the presence of whale-watching trips.

Table 40. The number of extra nights spent in the region as the result of a whale-watching trip.

No. of extra nights	Frequency
1	24
2	16
3	3
4	0
5	1
N	44
Average	1.59
Mode	1

iii. The daily spend of whale-watchers

Whale-watchers were asked to provide details of their daily holiday expenditure. In order to gather comparable data, respondents were asked to state the amount of money that they personally spent on the day that the questionnaire was completed. Despite implicit instructions, it was common for respondents to provide information for their party as a whole or their overall budgets for the week. These incorrect responses were discarded.

On average, the daily spend by passengers taking whale-watching trips was £85.25. (Table 41), of which the cost of the excursion was the main expense of the day. Accommodation accounted for almost one quarter of the daily spend, and one fifth of the day's expenditure was on food and drink. Without the cost of the excursion, the average expenditure per day was £59.25.

Table 42 summarises the daily expenditure of whale-watchers according to the type of accommodation they were staying in. The cost of accommodation varied considerably depending on the type used by the whale-watchers and, therefore, had a significant impact on the overall budget of the whale-watchers' holiday.

Table 41. The average daily expenditure for passengers on whale-watching trips.

	Excursions	Food/drink	Accommodation	Travel	Souvenirs	Other	Total spend / day (£)
Mean	26.00	17.53	20.48	9.12	8.32	3.80	£59.25*
Std.Dev.	14.29	18.84	23.98	17.09	21.15	15.91	
N	212	227	181	177	178	156	

*NB: this figure does not include expenditure on excursions/trips.

Table 42. A summary of the daily expenditure of whale-watchers according to the type of accommodation they used.

	DAILY EXPENDITURE			
Type of accommodation	Food/drink	Accommodation	Total	N
Hotel	22.40	38.25	107.18	24
B&B	19.69	27.37	109.98	51
Self-catering	16.23	28.97	86.10	57
Hostel	11.90	18.55	55.16	10
Holiday home	21.50	13.00	59.00	11
Tent/caravan	10.96	6.27	63.16	38
Visiting friends/relatives	20.67	1.76	76.61	15
Mean Value	17.53	20.48	85.25	

The difference in overall spend between the whale-watchers using different types of accommodation was considerable. People staying in hostel-type accommodation spent, on average, half the amount that visitors staying in hotels and B&Bs spent. Although the cost of accommodation appears to be the main indicator of the overall spend, visitors staying in holiday homes and with friends and relatives appear to spend more on food and drink, perhaps compensating for the savings on the cost of accommodation.

The value of whale-watching in West Scotland

In order to determine the value of whale-watching to the local economy, a series of estimates were calculated. The first was to estimate the direct annual expenditure by visitors on whale-watching to the survey regions.

i. The value of whale-watching to the local economy

1. Direct annual expenditure in the survey regions

Each tour operator was asked for their annual passenger numbers. Where information was not available the number was estimated. The direct annual expenditure was calculated from this data. Unless told otherwise by the operator the following assumptions (based on information provided by tour operators) were made when calculating this figure:

- Owing to the nature of the climate in the region, boat trips were unable to sail on 20% of planned trips in the tourist season. The weather and sea conditions in the summer of 2000 were particularly good, resulting in fewer cancelled trips than in other years. Fluctuations such as these influence both the prosperity of the boat operators over the season, and also the contribution that whale-watching provides to the local economy.
- On average, boats operated at two-thirds capacity.

- Only one boat operator continued running all year; however it was considered that the proportion of visitors on winter trips was negligible and, therefore, boats were considered to operate only during the main tourism season (April – October).
- For those operators offering child and adult prices, 80% of passengers were taken to be adult passengers and the remaining 20% were assumed to be children.

The estimated total number of passengers taken on whale-watching trips by the five whale-watching tour operators in the three survey sites was 15,650 per year. The direct expenditure of these tourists on whale-watching tours was calculated to be £230,080 per annum. The whale-watching operators were asked to indicate how much of their gross income went to finance the running costs of their whale-watching vessels. When these running costs were subtracted the total net income from whale-watching was estimated at ***£109,548 per annum***.

The total annual tourist expenditure in the three survey sites is an estimated £1,869,079 (Argyll and Islands Enterprise, Lochaber Limited and Skye and Lochalsh Enterprise, pers. comm.). Whale-watching, therefore, accounts for at least 12.3% of the tourist expenditure in the three survey areas. A significant part of the economy in these rural areas.

2. Economic value of whale-watching as a unique draw to the survey sites.

It was exceptionally difficult to gauge the volume of tourists for each survey site, owing to a lack of available data. Estimates were available for the number of people visiting in general through the local enterprise companies (LECs) but there was no indication of the proportion of these visitors who visited the villages specifically used in the current study.

Table 43. A summary of estimated tourist numbers at each of the three survey sites.

Region	Nearest Tourist Information Centre	Visitor Numbers (1999)
Skye (Kyleakin)	Kyle of Lochalsh (via Skye bridge) / Broadford (Skye)	(46,145 + 35,144) mean = 40,645
Skye (Armadale)	Mallaig (by ferry) / Broadford (Skye)	(62,414 + 35,144) mean = 48, 779
Arisaig	Mallaig	62,414
Mull (Tobermory)	Tobermory	153, 339
	Total	305,177

A conservative estimate for the number of visiting tourists was obtained by looking at the number of visitors going into the nearest Tourist Information Centre to the surveys site (**Table 43**). The only survey site with its own tourist information centre was Tobermory (Mull); for the other sites the Tourist Information Centre (TIC) nearest the site was used or where there were two TICs equidistant from the town, an average was used. It should be noted that these figures are *conservative* estimates as a large number of visitors to the region do not visit the Tourist Information Centre during their stay.

The estimate produced above for the number of tourists going whale-watching at the three study sites (15,650) represents 5.1% of the 305,000 visitors to the three survey regions each year. This could be increased considering that:

- tour operators participating in the current study were not the only tour operators involved in whale-watching in the region,
- the areas are not currently marketed as whale-watching destination.

Data described previously (**Table 37)** demonstrated that 6.5% of visitors to the survey sites stated that they had been on a whale-watching trip. These two proportions are comparable. Using the data presented in **Table 37** and **Table 43**, of the 305,000 visitors to the three survey regions each year, a minimum of 19,825 (6.5%) will go whale-watching during their stay.

Of these 19,825 whale-watchers, 22.5% (4,460 people) came to the area specifically to go whale-watching and 16% (3,172) tourists stayed at least one extra night as a result of going on a whale-watching trip (**Table 38**). If each person stayed an average of 1.6 extra nights in the area (**Table 40**), this gives a total of 5,075 extra nights spent in the area by tourists as the result of going on whale-watching trips.

The average daily expenditure of whale-watchers was calculated to be £59.25 per day (not including the cost of the whale-watching trip). Therefore, the amount of additional income that whale-watching contributed indirectly to the local tourism industry totalled ***£300,694*** for the three survey areas.

ii. The value of whale-watching to the economy of West Scotland

1. The direct annual expenditure on whale-watching for West Scotland

A number of cruise and day-trip operators offered different itineraries during the season. Only those advertised specifically as whale-watching trips or including whale-watching as a component of the trips, were included in the estimates.

Along the length of Western Scotland, over thirty operators were identified as being involved in whale-watching to some extent. From information given by the operators and their marketing materials, an estimate of the number of whale-watchers in Western Scotland could be calculated. The number of passengers on whale-watching trips and visitors to centres featuring cetaceans are summarised in **Table 44**.

Table 44. A summary of the number of visitors to centres featuring cetaceans and passengers on whale-watching trips in Western Scotland, with an estimate of the resulting direct expenditure.

	Visitor Centres Featuring Cetaceans	Whale-watching Cruises	Whale-watching Day trips
No. of customers	179,500	522	61,930
No. of businesses	7	6	26
Direct expenditure	£235,510	£730,500	£801,961

The passenger total was multiplied by the cost of the trips (assuming that 80% of passengers were adults and 20% were children). The cost for a whale-watching day trip ranged from £5.50 for an hour cruise to just under £60 for an all-day whale watch, with the average hourly fare for a whale-watching trip being £6.10. Most whale-watching trips cost between £10-£25. The category of whale-watching operation was used to calculate how much of this income was directly attributable to cetaceans (i.e. 100% of Category 1 income could be attributable to cetaceans, but only 10% of the income of Category 3 operations; **Table 3 & 4, p. 10 & 11**). The resulting estimate for the direct expenditure on whale-related tourism is shown in **Table 44**.

It was calculated that whale-related tourism directly contributes ***£1,767,971*** to the economy of rural West Scotland.

2. Employment provided by whale-watching in West Scotland

A total of 115 jobs were involved in whale-related tourism (**Table 45**). Seventy-six jobs were involved with work on the tour boats as skipper, crew or booking staff. Forty-six percent of these jobs were seasonal. The number of employees according to the category of whale-watching tour provided is summarised in **Table 46**.

Previous studies (e.g. Masters *et al*., 1998) have calculated the number of jobs created by wildlife tourism by examining the amount of direct revenue the operations generate and using the assumption that for every £40,000 of income one full-time job equivalent (FTE) is created. If the direct revenue value in this current study were to be examined by this method, to calculate the number of jobs created by whale-watching, the value would come to only 44 jobs created, rather than the 115 jobs stated above. This demonstrates that whale-watching provides a relatively high rate of local employment in relation to the revenue the industry generates.

Table 45. Employment provided by whale-watching operations in West Scotland.

Region	No. of Operators Involved in Study	Whale-watching Trip Employees			Visitor Centres
		All year	Seasonal	Total	Total
Argyll and Islands	8	18	11	29	18
Lochaber	5	6	7	13	19
Skye and Lochalsh	5	5	10	15	2
Ross and Cromarty	3	4	3	7	-
Western Isles	6	8	4	12	-
Total	27	41	35	76	39

Table 46. The number of people employed by whale-watching companies according to whale-watching category.

Whale-watching Category	No. of Operators Involved in Study	Whale-watching Trip Employees			Visitor Centres
		All year	Seasonal	Total	Total
1	9	13	10	23	6
2a	5	14	17	31	-
2b	5	8	3	11	7
3	3	6	5	11	26
Total	27	41	35	76	39

3. The associated expenditure as the result of whale-watching in West Scotland

Visitors who take whale-watching day trips spend over £23.5 million in total, over the course of their holiday (assuming an average length of stay of 6.4 nights and average spend of £59.25 per day). This estimate does not include the cost of their initial transportation to the region nor other tourism operations visited on their stay and is, therefore, a conservative figure.

The associated spend of passengers on-board, multi-day, wildlife-watching cruise trips is negligible as most of the trips are all-inclusive (full board).

Attributing £23.5 million to whale-watching is, however, grossly overestimating its value within tourism as a whole. Whale-watching alone is not responsible for this amount of expenditure. As previously discussed, for the majority of whale-watchers a trip brings additional value to a holiday and is not the main reason for coming to the area.

However, 16% of whale-watchers stay an average of 1.6 extra nights as a result of going on whale-watching trips. The West Scotland whale-watching industry would, therefore, result in tourists staying a total 15,856 extra nights in the region, with a resulting £0.9 million of extra expenditure coming into the economy of the area.

Also, 22.5% of whale-watchers came to West Scotland specifically to go whale-watching. As these tourists are being brought into the region as the direct result of the presence of whales, the money these tourists spent whilst on holiday can be classed as additional income to the economy of the region which is the result of whale-related tourism. This equated to an additional £5.08 million of tourist expenditure[1].

Table 47 summarises the total economic impact of whale-watching in rural West Scotland, which comes to a total of £7.8 million. If this figure were to be used to calculate an estimate of the number of jobs created as a result of this revenue (assuming £40,000 = 1 full-time job equivalent) the total would come to 195 jobs created.

The total expenditure by tourists in rural West Scotland is estimated at £426 million (Argyll and Islands Enterprise, Lochaber Limited, Ross and Cromarty Enterprise, Skye and Lochalsh Enterprise and Western Isles Enterprise, pers. comm.). Therefore, at present, visitors who choose whale-watching as part of their holiday contribute 1.8% of the tourism income of the region.

Table 47. A summary of the economic impact of whale-watching on the economy of rural West Scotland.

Economic activity	Revenue generated (£)
Whale-watching day trips	801,961
Whale-watching cruises	730,500
Visitor centres featuring cetaceans	235,510
Additional (indirect) income resulting from extra nights stayed as the result of whale-watching trips	939,468
Additional (indirect) income from cetaceans drawing tourists to the region	5,085,723
Total economic impact of whale-related tourism in West Scotland	7,793,162

The economic impact of whale-related merchandise in rural West Scotland

One economic impact of cetaceans which is rarely considered is the income derived from the sale of cetacean-related merchandise. The sale of cetacean-themed products is a major

[1] This was calculated from the proportion of whale-watching tourists visiting the area specifically because of the presence of whales, multiplied by the average daily expenditure, multiplied by the average visit length. It should be noted that this figure does not include tourist expenditure trips or visits to non whale-related tourism operations. Moreover, the proportion of tourists (who were drawn to the area due to the presence of whales) spending extra nights as the result of their trip, and their daily expenditure during these extra nights, was excluded from this total as this expenditure has already been calculated above.

industry, and the sale of whale and dolphin (and other wildlife) souvenirs is an important source of income for many coastal villages and should not be underestimated.

The range of whale and dolphin merchandise sold at the three study sites is discussed below. Estimates of the amount of revenue produced by the sale of whale and dolphin merchandise was calculated by analysing the value of stock for sale in the various shops surveyed, from interviews with the owners/managers of the various shops, the turnover of this stock. This financial data was collected in confidence and, therefore, to respect this confidentiality, detailed breakdowns of revenue are not presented in this study.

i. The economic impact of whale merchandise on the Sleat Peninsula

In the villages of Armadale and Ardvasar there are only 10 shops, of which five sold cetacean-related merchandise (50%). Of these shops, cetacean merchandise comprised 5% - 100% of the stock on display. The shop which was entirely devoted to cetacean-related merchandise was a souvenir shop associated with one of the whale-watching tour operators. The merchandise ranged in price from 20p to £10 and items for sale were predominantly postcards, cuddly toys, fridge magnets and baseball caps. The total estimate for the amount of income generated by these sales was £1,620 per annum. Three of the five shops selling whale merchandise stated that they were considering increasing the range and amount of whale-stock sold.

Of the five shops in Kyleakin, only one sold whale-related merchandise. Whale and dolphin postcards, each being sold at 20p, comprised 1% of shop’s total stock. This produced an estimated annual income of £26 per annum and the shop owner was not considering increasing the range of products on offer.

ii. The economic impact of whale merchandise in Arisaig

There were only 4 shops in the village of Arisaig. However, of these four shops three sold whale and dolphin merchandise. The amount of whale-related merchandise for sale ranged from 0.1% to 10% of the visible stock. Prices of merchandise ranged from 35p to £48. The majority of items being sold were postcards, books or cuddly toys. The estimated revenue generated by these sales was £940 per annum.

The shop with the greatest amount of whale-merchandise stated that it was planning to increase the number and range of its whale products further.

iii. The economic impact of whale merchandise in Tobermory, Mull

Of the three study sites, whale-related tourism is more developed on the Isle of Mull. This was reflected not only in the number of boats offering whale-watching tours but also in the number of shops selling cetacean merchandise.

Of the 21 shops in Tobermory, 13 sold whale-merchandise, including shops that would not normally be expected to sell products of this kind, such as the pharmacy and the post office. The amount of stock dedicated to cetacean merchandise ranged from 0.2% to 70% of the shops' total stock, with prices for products ranging from 20p to £100. The items sold included postcards, statuettes and ornaments, toys, books, T-shirts, themed stationery, jewellery and paintings. The estimated revenue generated by the sale of these items came to a total of £15,327 per annum. Thirty-eight percent of the respondents said that they were considering expanding the range and amount of their whale and dolphin merchandise.

Warburton (1999) stated that 24% of general tourists to the Isle of Mull bought wildlife souvenirs and 5% bought whale and dolphin souvenirs with an average total value of £16.67. As Mull receives 250,000 visitors a year (Touchstone, 1999), approximately 12,500 tourists would be expected to buy whale and dolphin souvenirs while visiting the island, which could generate revenue in excess of £200,000 per annum. The sale of whale and dolphin merchandise, therefore, has a substantial impact on the economy of the Isle of Mull.

iv. The economic impact of whale merchandise for whale-tourism operations

Of the whale-watching tour operators questioned, only three actually sold whale-related merchandise to supplement their income. Two of the operators sold logoed baseball caps and the third operator had a small shop as part of the booking office. Investing in merchandise may be an area where tour operators could increase their income with relatively little initial outlay.

IV. The potential for growth of whale-related tourism in West Scotland

Interviews with tour-operators

In order to gauge the potential for growth of whale-related tourism in West Scotland, tour operators were asked which sectors of Scottish tourism they saw as having the greatest potential for growth (**Table 48**). The majority of operators saw whale-watching as one area for potential growth. Almost all of the interviewed operators considered that ecotourism was a growth sector. However, the majority of operators did not consider that tourism based on "Traditional Scottish Fayre" (e.g. whisky, tartan and haggis) could withstand any further growth (**Table 48**).

Table 48. Tour operators' opinions on whether there is room for growth in the various sectors of rural tourism (N = 36).

	Whale-watching	Seal-watching	Cultural tourism	Heritage tourism	Ecotourism	Tourism in general	Traditional Scottish Fayre
Room for growth (%)	74.1	69.2	79.2	79.2	92.3	88.0	23.1

These tour operators were also asked to provide comments on the current state of tourism and whale-watching in the West of Scotland, as well as areas in which they could see the potential for growth. From the interviews with the operators involved with whale-watching tours, several themes recurred. These include:

- It was widely believed that, at present, few visitors came to the area specifically for whale- and dolphin-watching. Most visitors discovered whale-watching trips when they arrived in the area.
- There was general agreement that the presence of whales and dolphins in Scottish waters could be used as a marketing tool to bring tourists to Scotland. However, it was stressed that any developments of this nature should be conducted with sustainability in mind, within the current tourism framework at a local level and ensuring minimum impact on the cetaceans.
- Many operators agreed that, whereas whale and dolphin sightings added tremendous value to their passengers' enjoyment, the unpredictability of their distribution and the local weather conditions led to a reluctance to promote cetacean watching too heavily. Their primary concern was raising expectations which may lead to visitor dissatisfaction. Advertising a more general wildlife trip with the possibility of seeing cetaceans was generally agreed to be a better and less risky approach.
- There is great variation in whale-watching boat trips on the West Coast of Scotland in terms of the type of trips and also the demand. Some operators are currently working to capacity and would not want to encourage additional passengers. Others would welcome a new angle on their existing operation to encourage more people to take trips. The pattern is not the same throughout the region.

- There is significant variation in the cetacean species sighted along the West Coast. Minke whales, for example, are regularly seen by operators around Mull and Ardnamurchan but are rarely seen by operators north of Skye where harbour porpoises, Risso's and white-beaked dolphins are commonly seen. Whale-watching operations in these different areas offered a different product – in terms of cetaceans sighted – and were not deemed to be in direct competition with each other.
- All those interviewed agreed that there is considerable potential for land-based cetacean watching in western Scotland.

There is clearly a potential for growth in marine wildlife tourism and, moreover, this aspect of tourism can also raise an awareness of marine species, and that the existence of cetaceans in Scottish waters is the sign of a healthy marine environment. Although whale and dolphin-watching itself is a niche market, it is a high value one, and whales and dolphins provide a very strong draw for tourists (e.g. 1995-96 73% of tourists visiting the Moray Firth had come to the area to see the resident bottlenose dolphin population).

However, concerns were raised about the short season during which whale-watching can be conducted and the effects that adverse weather may have on developing this facet of wildlife tourism. Also, the set-up costs are high for whale-watching boats (e.g. high insurance, running costs, expensive health and safety equipment etc).

Interviews with Enterprise Companies

Representatives from Argyll and the Islands Enterprise (AIE), Ross and Cromarty Enterprise (RACE) and Western Isles Enterprise (WIE) were interviewed in this study.

Enterprise companies in Scotland provide funding for the development of businesses and local enterprise projects. This funding is typically matching funding (e.g. 25% of total costs) and typical grants are for leaflet production, business start-up costs, training courses and upgrading interpretative centres.

In terms of funding whale-related projects, RACE had allocated some funding in the form of start-up grants for dolphin-watching businesses in the Moray Firth and WIE had provided substantial funding for the start-up costs of two marine wildlife tour operators on the Isle of Lewis. AIE had part-funded the production of two cetacean-related projects by the Hebridean Whale and Dolphin Trust: an interpretative poster on whales and dolphins in the Hebrides that was widely distributed to visitor and tourist information centres on the west coast, and the production of a whale- and seal -watching code of conduct leaflet.

AIE considered that whale-watching had the potential for growth in western Scotland, assuming that sufficient tourists came to the region. RACE also stated that there was potential for growth in tourism in general and, in particular, wildlife tourism. However, it was considered that whale- and dolphin-watching was at capacity both on the East and West Coasts of Scotland. The organisation stated that it would, however, encourage the development of marine tourism businesses as long as the new businesses were not in competition with existing businesses. Moreover, RACE considered that the current level of tourism was not considered to be a threat to the region's natural heritage and that marine wildlife tourism was considered to be a sustainable use of the marine environment.

The Western Isles' economy is particularly fragile at the moment owing to a reliance on a few key industries (Harris tweed, fishing and crofting). External influences such as monetary, political or environmental (e.g. shellfish bans) changes have a big impact on the local economy. The tourist season on the Western Isles is too short to allow tourism to be an essential industry in the Western Isles as in the other parts of west Scotland, although it is, nonetheless, an important part of the local economy.

WIE considered that whale- and dolphin-watching could work on the Western Isles but it was thought that it should be marketed subtly and carefully so as to not raise the expectations of visitors. At present visitors to the Western Isles are older and, therefore, the enterprise company anticipates a decline in tourist numbers over the next few years. It is, thus, important to attract younger tourists, and cetacean-watching could do this.

Finally, there is currently no maritime/marine heritage centre on the Western Isles despite the area having a strong link to the sea (through fishing, whaling and naval activities) and there is a potential for development in this area.

Interviews with Scottish Natural Heritage

Scottish Natural Heritage (SNH) is the statutory body responsible for nature conservation and management in Scotland, including the interpretation of Scotland's natural heritage and the promotion of sustainable development. Representatives from the SNH West Highland and Argyll regional offices were interviewed as well as a representative from SNH's marine group and a representative from the Tourism and Recreation group within SNH's Advisory Department.

Although SNH is not directly involved with tourism, it is involved with use of the natural heritage. It has tourism management policies for SNH owned sites (e.g. Rum) and has had involvement with marine tour operators in the Firth of Lorn candidate marine Special Area for Conservation (SAC) and the Moray Firth SAC. Other candidate SACs, such as the proposed Treshnish Isles marine SAC, may also need investigation with respect to the impacts of wildlife tourism and consultation with marine tour operators.

At present, the government is under pressure to designate more marine SACs. SNH's policy is that local communities should gain benefits from SACs. Marine SACs designated for cetaceans (bottlenose dolphin and harbour porpoise are species that require SAC designation) could have financial benefits for local communities through wildlife tourism.
In addition, SNH's policy is to maximise public awareness of natural heritage and to allow the public to gain experience of Scotland's natural heritage, and it supports the promotion of marine wildlife tourism as long as its sustainable.

SNH grants funds to projects involved with the conservation and interpretation of Scotland's natural heritage, including cetaceans (up to 50% of the project costs). In 1999, £1.3million was allocated to promoting the sustainable use of the marine environment (the proportion of this directly allocated for cetaceans was not available).

In the West Highland region grant aid was provided for the Land, Sea and Islands Centre in Arisaig (a category 2b Visitor Centre), and for a conference on Skye which included one day of lectures on sustainable tourism, including marine wildlife tourism. In addition, SNH funds a coastal ranger in Arisaig and the Sound of Arisaig SAC officer, both of whom are involved with interpreting the marine environment. Finally, SNH in the West Highland region has liased with local boat operators to ensure that they follow a marine wildlife code of conduct and arranged a marine mammal awareness course for one tour operator.

SNH in Argyll part-funds the Hebridean Whale and Dolphin Trust's marine education programme which has involved a number of marine ecotourism projects including: a whale- and seal -watching code of conduct leaflet, an interpretative poster on whales and dolphins in West Scotland, a marine wildlife factsheet pack for B&B owners and a website featuring pages on marine ecotourism research and a links page for marine wildlife tour operators. Moreover the regional office funded a consultancy project to review the Isle of Mull's tourism and interpretation strategy, with respect to the natural environment (Touchstone *et al.*, 1999).

At present, marine wildlife tourism on the West Coast of Scotland is not considered to be a threat to the natural environment. If wildlife tourism increases in this area, however, SNH may get involved in management. At present, SNH is looking into research on regulation of marine wildlife tourism (e.g. frameworks to protect bottlenose dolphins from high levels of marine boat traffic in the Moray Firth). However, SNH does not want to be seen as a "regulating ogre" and would prefer to work with tour operators to manage any problems that may arise.

Several practical ideas were also provided by SNH for ways in which whale-watching and marine wildlife tourism could be promoted and could grow:

- Training could be provided for people working in the tourism industry to educate them about local wildlife and heritage (including whales and dolphins), the benefits that this wildlife can provide and how to market this.
- A wildlife pack could be produced for B&B owners (such as the one produced for the Isle of Mull) to encourage people to be more aware of the natural environment and wildlife-watching opportunities.
- Local Enterprise Companies and the Scottish Tourist Board should be pushed to provide information about wildlife such as whales and dolphins.
- Hydrophones could be put on whale-watching boats, and glass bottoms fitted to enhance the experience had by whale-watchers.
- Caledonian MacBrayne (the ferry company servicing the islands of West Scotland) vessels could have posters, talks and presentations on the marine environment (including whales) as entertainment for their passengers, particularly on their longer trips.
- Sea-angling and creeling boats could switch to whale- and dolphin-watching as a way of increasing and diversifying their incomes.
- Opportunities for land-based whale and dolphin-watching should be fully explored.

One important comment given during the interviews was that wildlife tourism could play an important role in reversing the depopulation trend of rural Scotland. Well-educated young people are leaving rural Scotland in great numbers due to the lack of employment in anything other than traditional manual industries and fish-farming. Through diversifying the employment opportunities available, the potential for employment in wildlife tourism businesses could be a major draw to bring educated young people back to depopulated rural areas.

Interviews with the Scottish Tourist Board

Two representatives from the Scottish Tourist Board (STB), the organisation responsible for promoting tourism in Scotland, were interviewed. One representative stated that, in the past, the STB had received considerable criticism for not promoting Scotland's wildlife as a resource. However, the STB has recently produced papers on 15 niche tourism markets which it wishes to develop further, one of which is wildlife tourism. As of 2001, the STB overseas guide book will feature a section on nature in Scotland. It was stated that the STB has started to recognise the importance of wildlife for Scottish tourism, although the interviewee admitted that progress in marketing this niche market is slow.

The general opinion held was that wildlife tourism appeals more to the UK market, with the traditional marketing strategy (focussing on whisky and tartan) appealing to overseas tourists. However, it was recognised that some overseas tourists, in particular German and Dutch tourists, come to Scotland for its environment.

The STB recognised that one of the benefits that whale-watching can provide is that it can draw tourists to an area. However, there is a wariness of over marketing whale-watching: too many tourists will be detrimental both to the animals and also the experience of the tourists themselves.

The STB representatives considered that whale-watching could be promoted as a holistic natural heritage package which incorporates not just whales and dolphins but also other wildlife, local archaeology, culture, scenery and the unique character of an area.

The interviewees were asked for ways in which whale- and dolphin-watching could be promoted and the following ways were suggested:

Area Tourist Boards (ATBs) should be approached to market the cetacean species occurring in their area.

- Links to whale-watching operations could be placed on main tourism websites.
- Information on where tourists can go whale-watching should be more widely available.
- The possibilities for land-based whale-watching should be promoted.

Interviews with the Highland Council

Two representatives from the Highland Council were interviewed. The Highland Council can provide business start-up funding and also support local tourism initiatives. Such grants are typically for up to £2000, and a substantial grant is given to the Scottish Tourist board by the Highland Council for tourism development (c. £500,000 per annum). Funding was given to a dolphin-themed visitor centre in North Kessock (£20,000). One representative stated that the amount of funding given to tourism development is woefully inadequate considering how important tourism is to the Scottish, and especially the Highland economy. European countries such as Spain, Ireland and Belgium invest far more in tourism development than Scotland.

It was agreed that there is an interest in specialised, niche market tourism in Scotland, although how to market niche tourism effectively was unknown. It was believed that in Scotland very little is currently being made of marine wildlife tourism, and the marketing of it tends to be disjointed and uncoordinated. However, there is room for growth in this area and it could be good way of drawing new and more tourists to Scotland. Raising the profile of cetaceans in West Scotland will help bring tourists into the area; few people realise that there are substantial whale populations in Scotland.

It was considered by the interviewees that marine tour operators should be encouraged to diversify their products to appeal to as wide a market as possible (not just whale- or bird-watching). Also, operators should be wary of raising visitors' expectations too high: cetacean sightings cannot always be guaranteed. Boat trips could advertise the possibilities of seeing cetaceans and provide interpretative materials on cetaceans to attract tourists. In addition, there are several visitor centres on the West Coast of Scotland that could emphasise cetaceans more, as a way of raising awareness of the marine environment among tourists.

The possibility of fishermen diversifying into providing whale- and marine wildlife-watching trips was not deemed to be feasible due to the high boat conversion costs that would be involved and the fact that fishermen are often not the best people to act as guides for tourists (training is required).

Finally, at present, the number of whale-watching operations on the West Coast of Scotland was not considered to be a problem, in terms of adversely effecting cetaceans.

Interview with the Tourism and the Environment Initiative

The Tourism and the Environment Initiative (TEI) is an organisation funded by Highlands and the Islands Enterprise, Scottish Natural Heritage, the Scottish Executive and the Scottish Tourist Board. The TEI's objective is "to bring long-term business and environmental benefits to the Scottish tourism industry through encouraging sustainable use of our world-class natural and built heritage”.

In addition it aims to:

- deliver market research and environment capacity information to the tourism industry;
- ensure that the tourism industry adopts good environmental practices and capitalises on the advantages that they bring;
- promote the sustainable use of key natural assets;
- ensure a national and local integrated approach to tourism and environment opportunities.

The main activities delivered by the Tourism and the Environment Initiative are through a forum consisting of 16 Scottish Tourism and Conservation organisations, but its resources are limited.

The Tourism and the Environment Initiative representative stated that there is considerable potential for developing whale-related tourism, both in terms of whale-watching trips and visitor centres, especially on the West Coast of Scotland. Several suggestions were given for ways in which the whale-watching industry could be developed, including:

- Wildlife training courses could be given to Tourist Information Centre staff in areas specialising in marine wildlife tourism.
- Tourists to Scotland frequently visit whisky distillery after whisky distillery on “whisky trail” packages: a “whale trail” package could be developed and promoted.
- On Skye, a group of boat operators organises a trips-package, with each operator offering a different kind of trip/experience. This group also organises joint marketing and ticketing. Such a coalition could be organised for marine wildlife trips, with several operators co-operating to provide a package which encourages tourists to go on more than one boat trip (the Scottish Marine Wildlife Tour Operators Association (SMWTOA) goes some way to encouraging this at the moment).
- The main Scottish Tourism Website (OSSIAN) could advertise areas where whales (and other wildlife/environmental interests) could be seen and this information could be linked to local accommodation and tour providers.
- Environmental holiday packages could be developed, of which whale-watching could be a component.

Interviews with other tourism development professionals

In addition to the above interviews, a lecturer in rural development, a marine wildlife tourism researcher and two representatives of marine wildlife marketing groups were interviewed. The comments given by these interviewees are summarised below:

- The West Coast of Scotland has a very limited infrastructure, so it is difficult to get tourists to the region. Wester Ross and the Isle of Skye have a population of approximately 15,000 living in an area the size of Belgium. However, the East Coast of Scotland receives the majority of public funding, due to its greater population size: as the West Coast has only 2% of the population it only receives 2% of government funding. Yet the West Coast needs more resources because of its rural, isolated, nature and its lack of facilities and infrastructure. This poses a great difficulty for the development of any tourism on the West Coast. At present, cetaceans do, however, serve as a notable draw for encouraging tourists to visit these isolated, rural areas.
- The West Coast of Scotland is suffering from the out-migration of young people from the region. Whale and marine wildlife tourism could provide employment and encourage young people to stay in the region.
- The potential for land-based whale-watching is high. There are many areas where sightings of cetaceans from land are as easy as those made from a boat. Land-based whale-watching operations have considerably lower start-up costs in comparison to boat-based operations.
- The creation of regional package holidays incorporating whale-watching and a variety of other components (archaeological, wildlife, cultural) would be a good way of attracting additional tourists as well as providing additional trade for rural accommodation providers and associated businesses.
- The development of a publicised whale and dolphin trail, with a tour route featuring several whale or marine wildlife-watching operations, would be a good way of increasing the number of whale-watchers coming to Scotland as well as maximising the spend and number of trips taken by these tourists.
- Festivals can be an important means of bringing people to a region. A festival focussing on the sea, environment or wildlife could bring visitors to an area, and raise the profile of marine wildlife tourism in the region.
- Competition between whale/marine wildlife-watching boats does not need to be an issue as there are plenty of opportunities to tailor trips to provide different experiences and sighting opportunities for tourists.

DISCUSSION

I. Scotland and tourism

Tourism is a key part of Scotland's economy, as over 12 million visitors come to the area every year. In 1999, tourism expenditure injected £2.47b annually (5%) into the Scottish economy (Scottish Executive, 2000).

The boom in the tourism sector has been a relatively recent development. The number of people employed in tourism-related industries has increased from 112,000 in 1970 to 177,000 in 1999 (including some 17,000 self-employed). This represents an increase of 58%, with tourism now employing 8% of the Scottish workforce (Scottish Executive, 2000).

An even more recent development is the recognition by the Government and statutory bodies that tourism, as an industry, is important to the economic wealth of Scotland. In an attempt to tackle tourism, the Scottish Executive published its *New Strategy for Scottish Tourism* (Scottish Executive, 2000). This Strategy laid out a five-year plan which focussed on improving competitiveness through marketing Scotland on the internet, quality and training enabling tourism in Scotland to "take its rightful place at the heart of Scotland's economy" (Scottish Executive, 2000).

Tourism has the potential to stimulate local economic activity, particularly in rural areas where primary industries, such as fishing and agriculture are in decline. However, although tourism appears to be booming, the picture is not all rosy. Despite the fact that the overall number of people coming to Scotland in 1999 rose by 3.7 per cent, tourism turnover was down 1.2 per cent from the previous year, generating a total of £30 million in revenue (Scottish Tourist Board, 2000).

In a recent newspaper article, Ivan Broussine (ex-Chief Executive of the Scottish Tourist Board) commented that provisional figures for 2000 indicate that there has been a further reduction in tourism in the year 2000, which is the third year in a row to see a fall in tourist figures. In some remote areas, tourism revenue appears to be down by as much as 30% on last year's figures (Press and Journal, 2000).

Closer analysis of these figures indicates a shift in the market. In 1999, both the number of trips and the expenditure of UK visitors increased. Domestic visitors appear to be staying fewer nights in Scotland but spending more while they are there - the rise of the 'short break' holiday. Overseas visitors account for only a small part of the market (18% of trips) but they are the highest spenders, accounting for 38% of all tourist expenditure. In 1999, the number of overseas visitors dropped by 11% resulting in a 12.7% drop in expenditure. This higher-spending section of the market appears to be dwindling.

The reasons given for this decline have included, primarily, the strength of the pound in relation to foreign currency and the high cost of petrol, making the UK an expensive destination for overseas visitors and making overseas holidays a relatively cheap destination for UK residents.

Table 46. A summary of the population, area and main industries in various regions of Western Scotland (Highland and Island Enterprise, 2000b).

Region	Population	Area (ha)	Main Industries in order of importance
Argyll and the Islands	69,015	693,720	Tourism Agriculture Aquaculture
Lochaber	19,620	450,738	Tourism Aquaculture Fish Processing Paper Manufacture Aluminium
Ross and Cromarty	50,640	499,970	Oil-Related Industry Manufacturing Tourism Food/Drink Fisheries Telecommunications
Skye and Lochalsh	11,980	270,148	Tourism Agriculture Fisheries Aquaculture Crafts Education
Western Isles	27,940	289,789	Textiles (Harris Tweed) Fisheries Agriculture Fish Processing Construction Oil-Related Fabrication Tourism

II. The Highlands & Islands and tourism

A key area for visitors to Scotland is the Highlands and Islands region. Covering almost one-third of Scotland, the Highlands and Islands (HI) area is one of the most sparsely populated parts of the European Union and contains the majority of the West Coast of Scotland and the areas of interest in this study. Almost all of the HI area is classed by the EU as a Less-Favoured Area for agriculture with remote rural areas, and islands in particular, being highly dependent on agriculture and fisheries (Highlands and Islands Enterprise, 2000b; **Table 46**). The main administrative centre for the Highland region is Inverness on the East Coast.

Owing to the outstanding natural beauty of the region and its extensive cultural heritage, tourism is an important industry in the region. **Table 46** summarises the West Scotland economic administrative regions, and the importance of tourism as an industry in these areas. In 1995, 42% of jobs in the Highlands and Islands region were tourism related (Independent Northern Consultants, 1995). The Highlands and Islands region alone received over 2.8 million tourist visits in 1998 with an expenditure of £517 million (Highlands and Islands Enterprise, 2000). This represents 24% of all visits to Scotland and 20% of the overall tourist expenditure for Scotland as a whole.

III. Tourism and the Scottish environment

In such a sparsely populated area, the natural environment plays a key role in the experience of visitors to the area, in terms of the scenery and the wildlife. Research, both independent and officially commissioned, repeatedly points towards the importance of Scotland’s natural heritage as a key motivating factor for visitors (**Table 47**).

Table 47. A summary of studies investigating the role Scotland’s natural heritage plays in the tourism industry.

Results of previous studies relating to Tourism and the Environment in Scotland	Reference
The main attraction of Scotland, for holiday visitors irrespective of origin or age, was the landscape, countryside and scenery: 30% of visitors mentioned this as the main attraction which influenced their decision to holiday in Scotland during 1999.	System Three, 2000
39% of visitors spent time during their stay watching wildlife (birds, otters, dolphins, flowers). Only 22% were involved in some cultural event (ceilidh, theatre, cinema or traditional music event) and only 4% played golf or were involved in genealogy.	System Three, 2000
72% of visitors to Mull stated wildlife or scenery-associated experiences were the most enjoyable aspect of their visit.	Warburton, 1999
80% of visitors stated that one of the main reasons for visiting Scotland was to enjoy the scenery.	Scottish Tourist Board, 1999
86% of visitors to Tiree went to the beaches, 57% spent time watching wildlife.	Cobham Resource Consultants, 1996
68% of visitors to Skye thought that the area’s scenery was its most attractive feature	System Three, 1991

Tourism exploits the environment in many different ways, using the resource directly (watersports, cycling, mountain climbing etc); taking an interest in its processes (wildlife-watching, bird-watching etc); or more passive pursuits, such as simply enjoying the views. The "New Strategy for Scottish Tourism" identified fifteen "niche" markets (special interest groups), eight of which are dependent on the natural environment, three involving marine tourism and at least four of the markets involving outdoor activities (Scottish Executive, 2000).

With the natural heritage being such an important element of a visit to the Highlands and Islands the emphasis has turned towards issues of sustainability. The maintenance of Scotland's natural heritage is critical to maintaining the resource on which the highly competitive tourism sector relies while ensuring livelihoods are supported and visitor satisfaction remains high.

Table 48. Examples of increased tourism-related income as the result of key wildlife species acting as a draw to tourists.

Species/Location	Economic Impact	Reference
Red Kites/mid Wales	Attract annual expenditure of £2.9 million to the economy of rural mid-Wales.	RSPB, unpublished in Rayment, 1995
Ospreys/Scotland	Attract 50,000 people who spend £1.7 million, creating 69 jobs.	RSPB, unpublished in Rayment, 1995
Birds / Shetland Islands	Birdlife is a main attraction in Shetland generating £1m to economy and creating 40 jobs.	RSPB, unpublished in Rayment, 1995
Wildlife /Orkney	Wildlife-watching visitors spend £1.7 million.	Hooper, 1991 cited in Rayment, 199
Bottlenose Dolphins/ Moray Firth	28 % of visitors stated that the presence of dolphins had been sole reason for visit. Generated £720,000 for the local economy.	Arnold, 1997
Birds / Islay & Jura	Estimated expenditure £3.1 million, of which £342,000 (11%) was by wildlife enthusiasts, £986,000 (32%) by visitors with active wildlife interest. 124 FTE jobs relating to expenditure by holidaymakers.	Mackay Consultants, 1989
Marine wildlife / Mull	Marine wildlife tourism alone generates £650,000 direct spend and 22 jobs.	Warburton, 1999
Cetaceans/West Scotland	Whale-watching and visitor centres featuring cetaceans generated £1.8 million; whale-watching generated £0.9 million as the result of extra nights spent in the region; and cetaceans brought £5.1 million as the result of tourists attracted to the region.	This study

The importance of Scotland's wildlife to the rural tourism industry should not be underestimated. In 1997, there were over 1900 full-time and 600 part-time jobs involved with wildlife tourism in Scotland, either directly or in businesses that offered wildlife viewing as part of their activities. Of those directly involved in wildlife tourism (600), 420 jobs were located in the Highlands and Islands region, 111 in Argyll alone (Masters *et al*., 1998).

Particular species, through appropriate management and marketing, can actually attract visitors to an area, thereby increasing local tourist expenditure and raising the overall awareness of the species (**Table 48**). This can result in species becoming valued beyond their intrinsic value. On the Island of Mull, for example, the re-introduction of the sea eagle (*Haliaeetus albicilla*) caused concern from local islanders worried about the possibility of these birds taking sheep (Laird, 1999). However, as visitor interest in the birds has risen, the sea eagles are beginning to be seen as a resource rather than a nuisance.

The part that Scotland's marine wildlife plays in the country's tourism industry has also been acknowledged in recent years. Marine wildlife tourism is defined as "any tourist activity with the primary purpose of watching, studying or enjoying marine wildlife" (Masters *et al*., 1998). This sector of the market is estimated to be worth over £9.3 million to the Highlands and Islands Region, and in 1996 supported over 400 jobs (Masters *et al*., 1998). In 1998, indirect revenue resulting from marine wildlife tourism was estimated in 1998 to be £57 million and to provide employment for as many as 2,670 people (Masters *et al*., 1998). Four of the top six species/species groups being promoted by those involved in wildlife tourism are marine species (cetaceans, seals, seabirds and otters). Of these species, cetaceans were ranked as the most influential draw for tourists (McCarthy, 1998).

IV. Whale-watchers in West Scotland

Tourists choosing whale-watching trips have been studied previously in a number of locations. In general, whale-watchers are well educated, affluent and middle-aged; the results of this current study match this general profile (**Table 49**).

The affluent background of whale-watchers means that these tourists have greater disposable income than so-called 'mass tourists' who come in greater numbers and spend proportionally less in their holiday destinations. Whale-watchers tend to be more environmentally aware than the general tourists, with a greater knowledge of environmental issues and the occurrence of local species (75% of whale-watchers could identify a local cetacean species compared to only 46% of general tourists). The data collected by Warburton *et al.* (2000) reinforces the opinion that Scottish whale-watchers and marine wildlife tourists are environmentally aware: 58% were members of environmental organisations, 91% were regularly involved with one or more wildlife-related activity and 18% were involved in voluntary work for environmental organisations. These tourists also possessed more up-to-date information on threats faced by cetacean populations (Warburton *et al.*, 2000).

Table 49. A profile of whale-watchers in West Scotland compared with profiles obtained in previous studies.

Characteristic	Current Findings	Previous Research
Affluent	89% of whale-watchers middle-class (ABC1) 63% of whale-watchers take more than one holiday during the year	• Whale-watchers in Hawaii were affluent (Forestell and Kaufman, 1990) • In California, income of whale-watchers is directly proportional to age (Tilt, 1987) • 68% of Canadian whale-watchers earned more than CAN$40,000 per year (Duffus, 1988)
Well-educated	63% of whale-watchers finished their education after the age of 21	• Whale-watchers in Hawaii were well-educated (Forestell and Kaufman, 1990) • 79% of whale-watchers in California had 4 years of college education (Tilt, 1987) • 51% of whale-watchers in Canada had university degrees (Duffus 1988) • 65% of marine wildlife tourists and whale-watchers on Mull finished education after 21 (Warburton *et al*., 2000)
Middle-aged	58% of whale-watchers were over 40 years of age	• The majority of whale-watchers in New Zealand were 20-34 years old (Pearce and Wilson, 1995) • The average age of Canadian whale-watchers was 41(Duffus, 1998) • 71% of marine wildlife tourists and whale-watchers on Mull were aged from 30-60 (Warburton *et al*., 2000)
Attractive to a female market	51% of whale-watchers were female	• 63% of Californian whale-watchers were female (Tilt, 1987); • 55% of Canadian whale-watchers were female (Duffus, 1998) • 61% of whale-watchers and marine wildlife tourists on Mull were female (Warburton *et al*., 2000)

This level of environmental awareness has two main implications for the Scottish whale-watching industry:

Firstly, that whale-watching tour operators could prioritise their marketing effort by advertising in specialist wildlife magazines or through targeted mailshots to members of environmental organisations.

Secondly, with whale-watching being more sensitive to environmental impacts it would be expected that they are more responsible in their actions as well as being discerning in terms of using operators with good practice. Tour operators would need to ensure that they are as knowledgeable as possible about the behaviour and biology of the species being watched and that they abide by a whale or marine wildlife-watching code of conduct at all times.

V. A comparison of the economic value of whale-watching in West Scotland to whale-watching in other Scottish regions

As mentioned previously, Hoyt (2000) estimated that in 1998 land- and boat-based whale- and dolphin-watching in the Moray Firth generated £477,000 in direct expenditure and £2.34 million in total expenditure in 1998. Hoyt (2000) also estimated that on the northern islands of Shetland, land-based whale-watching generated £109,000 as indirect spend. As this study has demonstrated, whale-watching in West Scotland generated £1,767,971 as direct expenditure. When combined with the direct revenue generated by the above-mentioned Moray Firth dolphin-watching operations, a conservative estimate of how much money cetaceans bring directly into the Scottish economy can be generated: a total of £2.24 million per annum.

The estimate of indirect expenditure generated by West Scotland whale-watching operations in this current study amounted to £6.02 million per annum (associated spend from tourists coming to Scotland specifically to go whale-watching plus the associated spend from extra nights spent as the result of whale-watching trips). When the West Scotland figures are added to the indirect expenditure generated by cetacean-watching in the Moray Firth and Shetland (£2.34 million and £109,000, respectively), the total amount of indirect income from whale-watching in Scotland could be as high as £8.47 million per annum.

It is interesting to note, that the economic impact of whale-watching in West Scotland is almost five times greater than the economic impact in the East Scotland (i.e. the Moray Firth) despite the fact that the Moray Firth dolphin-watching industry has received more public attention and, as mentioned previously, grant aid from statutory bodies.

A conservative estimate of the total income from Scottish whale-watching (direct plus indirect expenditure) would be a total of £10.7 million. To put this amount into context, commercial hunting of whales in Japan (when one excludes the £6.3 million subsidising grant) generates a total income of £21.7 million per annum (Economist, 2000). The income generated annually by whale-tourism alone in Scotland brings in 50% of the Japanese commercial whaling revenue. This figure does not, however, encompass income from the sale of whale-related merchanise in Scotland, whereas the Japanese figure includes income from the sale of whale-related products, and is therefore quite conservative.

As mentioned previously, there is a considerable potential for growth in the whale-watching industry in Scotland, particularly on the West Coast. If this potential is realised, the economic contribution of whale-tourism to the Scottish economy could increase substantially.

VI. The potential for the growth of whale-watching in West Scotland

Several areas of potential growth have been identified during the process of this study, both by tour operators and other professionals interviewed, and by the researchers involved.

Interpretation and education

One of the key problems with marine wildlife tourism, particularly whale-watching, is the dependence on key species (termed "charismatic megafauna"). Flagship species, such as cetaceans, are a huge draw to a region and people are prepared to pay considerable sums of money for the chance to see these species in the wild. With this investment comes an expectation. By paying money for a tour there is an assumption that the species will be seen and this in turn puts added pressure on the tour operator to find the species and get good views of them.

In other locations around the world, as whale-watching has increased in popularity this has led to disputes between conservationists and tour operators. Operators vie for better and better whale sightings in order to give their passengers a better experience. This is not always to the benefit of the cetaceans themselves.

On the West Coast of Scotland, the level of whale-watching has not reached, and with careful management will not reach, this stage. The uncertainty of cetacean sightings in the region does seem to be controlling the number of operators prepared to market their business as "whale-watching". However, although the number of boats sighted around certain cetaceans is not currently a threat to cetaceans, and in general boat operators' behaviour is responsible, if the 'industry' is to remain healthy it is important that level of expectation of passengers is met and not raised beyond realistic levels. It is therefore necessary for tour operators to develop the skill of ensuring that passengers are not disappointed on not finding a particular species of cetacean, perhaps by including other species on their "agenda", such as seals and bird species, which are easier to locate.

Knowledge of the market can help marine wildlife operators in designing interpretative material, ensuring that the correct level of information is available for visitors to enjoy. Of the 38% of passengers who did not see dolphins on Moray Firth boat trips, 89% said that it did not spoil the enjoyment of the trip (Arnold, 1997). Duffus (1988) noted that while most whale-watchers, at a site in Canada, were satisfied with their experience, environmental degradation, other traffic, trip problems, whale harassment and restrictions detracted from the experience. Factors such as trip comfort, learning opportunities, environment and scenery added value.

This current study showed that the majority of people taking whale-watching trips were first time whale-watchers (62%) and, therefore, were especially hopeful of getting their first sight of cetaceans in the wild. When passengers were asked why they had taken the trip, 33% of respondents said that it was because they had always wanted to see whales and dolphins. Although the expectations of whale-watching tourists were high, by and large these expectations were met and the customers were satisfied.

Whale-watching trips are excellent platforms for education. These cruises provide opportunities for all ages and backgrounds to learn more about particular species (not just cetaceans) and the marine environment, and also raise a variety of environmental issues (local, regional, national and international). Local history and culture can also be tied in to the experience as well as encouragement for responsible tourism. In this way, tour operators can provide a well-rounded and enjoyable experience for tourists whose success does not hinge on cetaceans sightings alone, and would ultimately provide a more sustainable tourism product.

A whale and dolphin-watching trail

As mentioned previously, West Scotland has a wide diversity of cetacean species, with different varieties of species observed in north-west Scotland (Risso's dolphins and white-beaked dolphins) compared to south-west Scotland (bottlenose dolphins, minke whales and common dolphins). In addition, each Scottish island and rural area has its own unique character, attractions and traditions. Tourists could be encouraged, therefore, to visit several locales, using whale-watching as the common link. This would not only maximise the chances of tourists seeing different cetacean species but would also spread the tourist spend across the region.

The development of a whale and dolphin trail has already been suggested by the SMWTOA (Scottish Marine Wildlife Tour Operators Association) but this concept could be further developed and encouraged. A whale and dolphin trail should focus not only on boat-based whale-watching operations but also indicate cliff-top and seashore viewing sites, land-based wildlife safaris and visitor centres. These facilities which are less reliant upon the unpredictable Scottish weather and provide other opportunities for people to see, or find out more about cetaceans, especially visitors who may not enjoy boat-trips.

Natural heritage tourism packages

From this current study and previous studies (e.g. Warburton *et al*., 2000) it is apparent that tourists visiting West Scotland have a great interest in the natural environment and heritage of the area. The current study demonstrates that most whale-watchers learn about the availability of whale-watching trips upon their arrival in the region, and it does not seem to be a primary reason for people to holiday in the area.

Currently there are a couple of operators offering wildlife packages in the region. This year, one UK-based, nature tour package company offered whale-watching holidays in Scotland which were a great success. Such nature-based itineraries advertised in specialist magazines or offered by nature tour operators would help to draw tourists into visiting West Scotland, raise the profile of wildlife (and the threats to its wellbeing) among the tourist population. Cetaceans, as flagship species, can be used as part of the marketing image of such a trip.

However, as discussed previously, the expectations of clients should be taken into consideration at all times, and as weather and other factors can hinder sightings, the packages should offer a variety of other natural history/heritage-based activities. Activities could include land-based wildlife trips, trips to bird hides, nature walks, visits to natural history/heritage visitor centres or sites of historical/cultural interest. Such packages would have a wide market appeal: they would not only be attractive to potential whale-enthusiasts, but also to bird enthusiasts and those with an interest in nature and outdoor activities. Such Packages of this kind could also benefit local accommodation providers, local attractions and tour operators by guaranteeing revenue for some weeks of the year.

Co-ordinated whale-watching marketing initiatives

As shown in this study, most visitors do not know about whale-watching opportunities in the area before their visit and, as whale-watching increases globally in popularity, the evidence suggests that people may be encouraged to visit the region because of the opportunities to see marine wildlife.

At present, neither the Area Tourist Boards nor the Scottish Tourist Board market whale- (or marine wildlife) watching in its national or international publications. The Tourist Board tends to concentrate more on general tourists and less on the wildlife enthusiasts. The recognition of niche markets, such as wildlife-watching, in the "The New Strategy for Scottish Tourism" (Scottish Executive, 2000) does suggest that more may be made of these specialist areas in the near future. However, in general, the image of Scotland transmitted nationally and internationally is a Scotland of "castles, moors, tartan and bagpipes".

Realistically, Scotland could not compete internationally as a whale-watching destination in comparison to high profile destinations such as Australia and Canada. Also, the Scottish Tourist Board would be reluctant to run such a promotion at this time. However, the UK market (which accounts for 85% of trips to Scotland each year) provides a very real pool of potential whale-watchers.

Advertising on a national or international level, particularly through commercial radio and television, is expensive for individual tour operators. However, the formation of marketing groups could be one way in which the wildlife watching opportunities in the region could be marketed on a larger scale. Such initiatives could draw from combined marketing budgets to produce good quality, comprehensive information on the tours available and the wildlife that can be seen at various times of the year. Marketing could be targeted at particular groups, i.e. via specialist wildlife/nature/countryside magazines or radio/television advertisements broadcast adjacent to a wildlife or nature programme.

Initiatives such as these have been started by the Scottish Marine Wildlife Tour Operators Association (SMWTOA) and also the recently formed Skye and Lochalsh Marine Tour Operators Association (SLMTOA) have primarily been involved in the establishment of joint websites.

Development of whale-tourism in new areas

During the current study, several areas were identified where whale-watching could be developed or promoted. Two locations that were identified as being particularly suitable for the development of whale-watching were the Isles of Lewis and Islay.

i. Isle of Lewis

The Isle of Lewis is the largest of Outer Hebrides island chain and has a population of over 22,000, the majority of whom are located in the town of Stornoway. The island's industrial activities revolve around weaving, crofting, fisheries, construction and oil. Tourism is an important but not vital part of the economy of the island, mainly due to its isolated location and inclement weather, giving the area a shorter tourist season.

Whales have played an important role in the island's heritage for as long as man has inhabited these remote parts. Whale-bone arches are found across the island (e.g. a 6m arch at Bragar) and, in the days of the whaling industry, a whale processing station (which operated until the 1950s) was located at Bunahaven, near Tarbert. The remains of the station, and an assortment of whale bones, are still there.

The coastal waters around the Isle of Lewis are home to wide variety of cetacean species including harbour porpoises, minke whales, Risso's dolphins, and white-beaked dolphins. Opportunities for sighting the two latter species are particularly good, especially from land. The Eye Peninsula, for example, is an excellent site. From here, cetaceans can be seen year-round.

There are currently five category 2a/2b and one category 1 whale-watching businesses operating from the Isle of Lewis. One company offers kayaking tours that have a significant marine wildlife-watching component. There is considerable potential for increasing the number of passengers on these operations as all the operators questioned mentioned that they were not working to capacity and that tourist numbers were declining across the island.

The limiting factor is, at present, the short tourist season and a relatively low number of independent tourists coming to the region rather than a lack of cetaceans. Increased marketing of cetaceans in the area and the development of flexible (to account for inclement weather) whale-watching packages could increase the number of tourists visiting the region specifically to view cetaceans.

There have been a number of tourism developments across the Western Isles in recent years as funding has become available from the EU. Although a number of visitor centres have been built, there is no single location where visitors can learn about the marine and maritime heritage that has been central to the region. This is, therefore, a potential gap in this market.

The development of such a centre would provide not only a way of educating visitors about the marine environment but also a venue through which boat-based or land-based marine wildlife tour operators could market and advertise their trips. The centre could act as a booking office to promote these local businesses, as well as an additional wet-weather attraction.

Renovation of the ruined whaling station at Bunahaven could provide such a facility, highlighting how cetaceans' role in the economy of the islands has changed over time. In addition, the whaling centre is located near the Tarbert ferry terminal, which receives tourists from the Isle of Skye and the Southern Western Isles. It is also very close to the island of Taransay, made famous by the *Castaway 2000* television programme, which in itself is a draw for tourists to the region.

ii. Isle of Islay

The island of Islay is located in the south of the survey sites. It is due west of Glasgow and has a population of approximately 4000 inhabitants. The island has a more agricultural background than some other Hebridean islands, yet tourism is one of the main industries on the island.

Tourists are drawn to the island primarily by the presence of several fine quality whisky distilleries and the abundance of birdlife on the island. Islay possesses an important wildlife reserve managed by the Royal Society for the Protection of Birds (RSPB) which attracts a large number of bird-watching enthusiasts. Because of this, tourists to the island would probably be receptive to opportunities for going on other wildlife trips, such as boat-based trips to view marine wildlife.

The island is easily accessible from the mainland. It has ferry links to the Kintyre Peninsula and is within three hours travel from the major city of Glasgow. In addition, the island possesses an airfield that receives small aircraft from Glasgow.

The island of Islay is almost bisected by Loch Indaal, which is inhabited by a group of approximately a dozen bottlenose dolphins. These dolphins are present in the area year-round and are often observed very close to shore. The sheltered nature of Loch Indaal and the close proximity of the animals to the coast make sighting these animals with only small boats relatively easy, and also make observations from land-based platforms possible too. The ease with which these animals can be seen would, however, make the dolphins more susceptible to disturbance from boat traffic and therefore any decisions to develop boat-based dolphin-watching in this area should be carefully managed and monitored.

The Islay Natural History Trust owns an education centre which overlooks Loch Indaal. This centre already acts as an information point for reputable marine wildlife tour operators, as well as providing interpretative materials about the area. With more research on the individual population itself, either through the Natural History Trust or independently, these cetaceans could add to the already diverse terrestrial wildlife which attract visitors to the island.

Arguments against the development of whale-watching in West Scotland

1) **Due to the unpredictability of cetacean distribution, basing a business on sighting cetaceans alone is risky.** Seasonal and temporal changes in cetacean distribution could mean that for periods of time operators may not sight any cetaceans. This report acknowledges that the issue of guaranteeing sightings is a risky strategy for tour operators to adopt and it is vital that visitors are not disappointed. However, cetaceans are just one aspect of the marine environment and the probability of seeing cetaceans on any one trip should be clearly explained to the passengers. Other species can be interpreted in an equally exciting way to ensure that passengers are not disappointed if cetaceans are not in the area. Seals, seabirds, fish and even jellyfish and plankton can all be identified as part of the marine ecosystems and passengers may realise that not seeing cetaceans does not mean an unsuccessful trip.

   Any monoculture is risky (tourism, agricultural or industrial) as it is subject to economic fluctuations in the international and domestic markets. Wildlife tour operators dependent on one single species therefore rely on both the tourist demand and the species abundance. Changes in the distribution of food supplies, for example, caused by unusual weather patterns, or unnatural events such as military activity, may change the distribution of the viewed species. A better strategy would be to diversify the product in order to increase its resiliency.

2) **There is a danger of competition between tour operators.** This could be especially problematic when several operators are conducting trips to one particular cetacean habitat (such as the Small Isles). However, operators leaving from different locations (e.g. trips to the Small Isles population of minke whales could leave from Ardnamurchan, Mull, Coll, Arisaig and Skye) would each be taking customers from different pools of tourists and not compete directly for custom. In addition, if tour-operators use smaller boats (10-15 passengers) they not only keep their running costs - and therefore financial risks - down, but also the supply of spaces on boats would not

outstrip customer demand. Finally, operators can draw from different niches of customer. Examples of different whale-watcher niches include: package trips, backpackers, university field course classes, wildlife photography groups in addition to passing trade.

3) **At present the percentage of tourists coming to western Scotland specifically for whale-watching is low.** The report is not suggesting the Scotland become a key whale-watch destination, but there is substantial scope for the growth of whale-watching as ***part*** of the Scottish tourism product. The marketing of whale-watching on the West Coast of Scotland is, at present, very low key. By increasing public awareness of cetaceans in the region, and by using cetaceans in tourism marketing campaigns the proportion of tourists coming to the region specifically for whale-watching can be increased.

Uncontrolled whale-watching can be detrimental to cetaceans and other marine wildlife. The key is sustainable and sensitive development; whale-watching should develop as part of the diversification of the tourist experience, with the clear knowledge that cetaceans are the resource upon which the industry relies and, therefore, need to be respected.

4) **An increase in whale-watching may be detrimental to the cetaceans being watched.** There are concerns that whale-watching may be detrimental to cetacean populations (e.g. IFAW *et al.*, 1995). However, whale-watching is only just starting to develop on the west coast of Scotland and management strategies can easily be put in place now to pre-empt and control this growth in the whale-watching industry.

5) **Investing in the setting up a whale-watching business is a large investment for a niche tourism market.** Purchasing a boat for whale-watching ventures is expensive and there are many additional financial costs besides the purchase of an appropriate vessel (safety and navigational equipment, training costs, advertising, the expense of a booking service etc.). One way of ensuring a return on the operators' investment is to ensure that the operator offers a diverse selection of tours (e.g. whale-watching, general marine wildlife watching, scenic tours, heritage tours, sports fishing trips etc.). The operator would be less dependent on fluctuations in any one particular niche market and could quickly take advantage of growth markets. A cheaper alternative to boat-based whale-watching trips would be land-based trips, or whale-related visitor centres. These could capitalise on a growing whale-watching industry but would involve less financial risk than a boat-based operation.

VII. Summary

The results of this report show that whale-watchers in West Scotland are well-educated, middle-classed and mature. Their visit to Scotland is not their primary holiday, and they return to Scotland frequently. Although 22.5% of whale-watching tourists come to the region specifically to go whale-watching, most whale-watching tourists become aware of cetacean-watching trips when they arrive in the region. A larger proportion of whale-watching tourists are from the UK rather than from overseas and for many, the main reason for going whale-watching was to fulfil a desire to "see whales and dolphins in the wild".

It was estimated that a total of 241,952 tourists were involved with whale-tourism activities, each year. This may be by going to visitor centres featuring cetaceans by taking whale-watching boat trips.

The direct economic income from whale-watching activities was estimated to be £1,767,971.

Sixteen percent of whale-watching tourists spent extra nights in the region as a result of whale-watching. These extra nights represent a further £0.9 million in additional income to tourism industries in West Scotland.

In addition, approximately one-fifth of tourists going whale-watching (22.5%) came to rural West Scotland specifically to go whale-watching. The economy of the region would not, therefore, benefit from their visitor spend if cetaceans were not present in the area. It was estimated that the expenditure of these tourists on accommodation, travel, food etc could be as much as £5.1 million in West Scotland: this is directly attributable the presence of cetaceans in the area.

The total income generated by whale-watching alone in rural West Scotland was estimated to be £7.8 million.

At present, 115 jobs are provided by whale-watching tourism in West Scotland.

General opinion suggests that there is room for further growth in the whale-watching industry, although there are concerns that this growth needs to be monitored and managed. Ways in which growth of the whale-watching industry could be promoted include: increased interpretation on tours, the production of natural history holiday packages, the promotion of whale-watching marketing initiatives and the development of a whale- and dolphin-watching trail. The Isles of Lewis and Islay were identified as being possible areas where whale-watching could be developed, in particular through the development of land-based watching sites and a marine heritage visitor centre.

In comparison to the overall tourist revenue of Scotland of £2,510 million (STB, 2000), whale-watching plays a relatively tiny role (0.3%) in the tourism economy, but as mass tourism dwindles in Scotland and attention is being focused on specialist areas, this is one market which offers considerable potential.

Although on a national scale whale-watching appears to make only a small contribution, in the peripheral coastal areas where these businesses are located, the impact is much more significant. In Scotland, tourism is typically the major source of employment and income in these areas and this study has estimated that up to 12% of the local tourism revenue in such areas could be attributed to whale-related tourism. The success of one or two small businesses can significantly lift a rural coastal economy and can help to diversify the economy away from reliance on single or declining industries (such as agriculture, forestry and fishing).

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