Bournemouth University

Visitors: their choice of activities and the importance of on-site interpretation in enhancing their overall experience at a World Heritage Site, The Jurassic Coast, UK

PHILIP RYLAND

A thesis submitted in partial fulfilment of

Bournemouth University for the award of the Degree

of Doctor of Philosophy

School of Tourism,

Bournemouth University

August 2012

Title: Visitors: their choice of activities and the importance of on-site interpretation in enhancing their overall experience at a World Heritage Site, The Jurassic Coast, UK.

Author: Philip Ryland

Abstract

Interpretation has been adopted at both natural and cultural sites as a soft visitor management tool where typically it might aim to develop an understanding and appreciation of the site as well as encouraging the appropriate on-site behaviour from the visitors. This study is primarily concerned with the on-site experience of the visitor through which interpretation in its many forms can play such a critical component. The study has explored the visitors' choice of on-site activities as well as the overall range of on-site interpretive experiences available at two locations on the Jurassic Coast World Heritage site in Dorset and in so doing, has specifically explored the visitors' interest in and attitude towards guided walks. A principle outcome of this study therefore has been the development of a framework for the potential design of guided walks which could be used to support the successful enhancement of the visitor experience on any natural site.

The primary research undertaken in this study included a visitor survey which was conducted during 2007 and yielded a total of 600 groups of respondents. In undertaking the analysis of the data, three variables were identified as being worthy of greater exploration. Two of these 'outcome' variables had two states namely for; 'residency' (local resident or tourist) and 'visitation' (first or repeat visitor) whilst the third 'outcome' variable which was 'social grouping' had three potential states namely 'alone', 'with partner' and 'with family / friends'. The analysis which

included logistic regression modelling was applied to the data in order to explore the principle differences in the way in which the visitors within each of these three grouping variables responded to the questionnaire. Factor analysis techniques were also applied to identify whether any other associations existed within the overall data set. As a result of the analysis, the broad characteristics of the visitor population within each of the three grouping variables was revealed including their choice of on-site activities as well as their interest in on-site interpretive media and their attitudes towards guided walks.

List of contents

List of contents

List of contents

List of contents

List of figures and tables

List of figures and tables

List of figures and tables

List of figures and tables

Abbreviations

In the List of Figures and Tables, logistic regression modelling has been abbreviated to 'BLR' for binary modelling and 'MLR' for multinomial modelling.

In Chapter Three, the abbreviation 'NAI' is used which stands for the 'National Association for Interpretation', an internationally recognised association based in Fort Collins, Colorado. Its mission statement states: '*inspiring leadership and excellence to advance natural and cultural interpretation as a profession*' (Brochu and Merriman, 2002: ii)

In Chapters Six, Seven and Eight where the comments of respondents are reported, the location visited is referenced as follows; (Respondent 365D, 2007) refers to Respondent 365 who visited Durlston, whilst Respondent 106L would refers to Lulworth.

A point of English clarification and spelling

A point of clarification is needed in terms of the language used throughout this thesis. The word interpretation as an adjective is expressed in English as 'interpretative' and in the United States and Australia as 'interpretive'. Given that most of the literature referred to within this thesis emanates from the United States or Australia, it is proposed that the US term 'interpretive' will be adopted within the thesis except where a specific English author is being quoted.

Conversely, throughout this thesis, the English spelling of the term 'programme' is used to refer to interpretive programmes rather than the American spelling of

‘program’, again except where the author is quoting directly from an American source.

Declaration

'I hereby declare that the thesis submitted is wholly the work of *Philip Ryland* any other contributors or sources have either been referenced in the prescribed manner or are listed in the acknowledgements together with the nature and scope of their contribution.'

Chapter One

Introduction

1.1 Introduction

Day visits and tourism have enjoyed a sustained period of growth through the latter half of the twentieth century and it has become clear that whilst tourists are travelling further a field for ever more unique and unusual experiences, it is natural areas and cultural sites that have in recent years become of particular interest to both day visitors and tourists (Boyd and Timothy, 2006; Buckley, 2009; Leask and Fyall, 2006). In consequence, the demand for cultural and wildlife-based leisure experiences has grown at a significant rate during this period and is currently expected to continue to grow at a similar rate during the first two decades of the twenty-first century (Fennell and Smale, 2002; Page and Dowling, 2002; Perkins and Grace, 2009). Whilst the motives for travel and the experience itself vary greatly between visitor groups, the demands for and interest in on-site interpretation still embraces that continuum which reflects the broad visitor experience offering both educational and recreational dimensions (Ham and Weiler, 2007; Weaver, 2007). For many visitors their on-site experience as Gunter (1987) identified involves pleasure and enjoyment, choice and spontaneity, relaxation, adventure and exploration as well as a range of educational activities associated with the site, its features and interpretive offerings.

Interpretation is a widely used management tool across many visitor attractions, Benton (2009:10) in reflecting on the work of Tilden (1977) suggests that interpretation should aim to '*develop understanding, reveal meanings and establish relationships*'. Interpretation can communicate powerful messages about a site, its

value, conservation and preservation (Benton, 2009). Interpretation can also offer very successful on-site marketing and promotional benefits through the enhancement of the visitor's on-site experience (Boyd and Timothy, 2006; Ham and Weiler, 2007). Good interpretation has the power to empathise with a visitor and to create a connection which may last temporarily or, for many years (Benton, 2009; Weaver, 2007).

1.2 Rationale for this thesis

Researchers can unquestionably argue that interpretation as a visitor management tool is now well-established within the tourism industry such that much of the current research now focuses specifically upon the evaluation of the various interpretive media adopted (Benton, 2009; Munro *et al*., 2008). Indeed, this current focus and concentration on the evaluation of interpretation as a management tool often places specific emphasis upon a behavioural modification as well as potentially the development of a 'lifelong' engagement with the site (Kuo, 2002; Novey, 2008). A whole range of studies have explored this question of evaluation (Benton, 2009; Ham and Weiler, 2007; Howard, 2003; Munro *et al*., 2008) and they all agree that typically the time span associated with an on-site interpretive experience is often not sufficiently intense to fully inspire real long-lasting attitudinal changes in the visitors.

Equally, there is no doubt that these behavioural and attitudinal changes are only one component within the objectives of most on-site interpretative programmes and experiences. For many sites, other educational and management objectives as well as the sheer enjoyment and enhancement of the visitors' experience are also important.

This thesis is primarily concerned with the on-site experience of the visitor of which interpretation can play such a key component as demonstrated by Ballantyne *et al*. (1998) and Hughes and Morrison-Saunders (2005) who through their work have provided the basis in this study for an exploration of the choice of on-site activities as well as the use of, and demand for interpretive media by visitors to the coast. This thesis will therefore explore whether the overall range of on-site interpretive experiences and specifically guided walks meets the needs and interests of the visitors at two locations on the Jurassic Coast World Heritage site, in Dorset, in the UK.

In considering the literature on guided walks, the quality of the experience is inevitably a central theme with the role of the guide under particular scrutiny. Ham and Weiler (2002b) interestingly have explored the relationship between quality and the guide and have identified a range of 'quality indicators' which they argue are in need of further study across a broader range of guided experiences. Thus, in exploring the guided walks offered on the Jurassic Coast World Heritage site, UK and in subsequently developing a clear framework for future guided walks this study intends to explore the following six 'guide' qualities, namely; Enjoyment, Relevance, Organised, Themes, Two-way Communication and Emotion.

Finally and from the point of view of the Jurassic Coast site manager, it is hoped that the results of this thesis will help to inform their successful planning of future interpretive experiences, specifically guided walks which both site managers wish to develop and enhance further.

1.3 Aim and objectives for this thesis

The aim of this study is to analyse the choice of activities made by visitors on the Jurassic Coast World Heritage site and to explore the importance of, and the visitors response to on-site interpretation, notably guided walks and therefore to assess their potential role in enhancing the on-site experience of the visitors.

The reaction of visitors and their attitude towards guided walks will be used to inform the development of a framework for the design of future walks. A characterisation and understanding of the visitor will provide a valuable contribution to the further development and enhancement of interpretive opportunities along the Jurassic Coast World Heritage site and will also provide useful background data for other natural locations where interpretive facilities exist or are being proposed.

The objectives of this thesis are to:

- review the variety of hard and soft approaches recommended for the management of visitors at designated natural areas and notably natural World Heritage sites;
- review the theoretical basis which underpins the provision of the visitor interpretive experience as it relates to site management objectives;
- analyse the choices of on-site activity made by visitors at the Jurassic Coast World Heritage site;
- explore the importance of, and the visitors response to, on-site interpretation, notably guided walks, at the Jurassic Coast World Heritage site;
- develop a framework for the potential design of guided walks which could support the successful enhancement of the visitor experience.

The locations under investigation within the Jurassic Coast World Heritage site are Lulworth Cove Heritage Centre, West Lulworth and Durlston Country Park, Swanage.

1.4 Research methods for this thesis

The research objectives for this thesis were explored using the following research methods. The primary research consisted of a detailed visitor survey, conducted over a seven-month period (1st April – 31st October 2007) which determined the demographic data of the visitors as well as their choice of on-site activities and demand for, and interest in on-site interpretive experiences (notably guided walks) at each of the two study locations.

The survey consisted of a series of open, structured as well as closed questions. The survey was administered on a face to face basis to encourage the visitors to take time over their responses in order to ensure that the survey would be completed more fully and with more care than may have been the case if a less personalised approach had been adopted. Where it was possible, the responses to the questions were discussed with the visitors in order to provide additional qualitative richness and depth to the data obtained.

This data was then analysed to determine the variation in the choice of on-site activity made by the visitors. The results of the survey together with the qualitative comments obtained were also used to inform the development of a framework which could advise on the potential design of guided walks to support the enhancement of the visitor experience, at designated natural areas.

1.5 Structure of this thesis

This thesis consists of nine main chapters, the contents of which are outlined below.

Chapters Two: Visitor management in natural areas

Chapter Two opens by introducing the environmental movement and the impacts it has had upon the tourism industry over the last forty years and then examines the importance of visitor management at designated and sensitive natural areas and notably World Heritage sites where visitor numbers are increasing. The variety of hard and soft visitor management techniques available to on-site managers is then critically explored. The chapter closes by discussing in detail the value of on-site interpretation.

Chapters Three: Interpretation and the visitor experience

Chapter Three examines the evolution and subsequent development of the interpretive movement, before the role of interpretation in enhancing the visitor experience is investigated in detail including what constitutes effective interpretation and the variety of interpretive media available to on-site managers. The concept of guided walks is introduced and the chapter concludes with an examination of the current research into the evaluation of on-site interpretive programmes and notably guided walks, in particular.

Chapter Four: The Jurassic Coast World Heritage Site

Chapter Four describes the Jurassic Coast World Heritage site and provides a justification for its choice as the study site for this thesis. A brief background to each of the two study locations is also offered which introduces each location; their on-site

facilities, current visitor numbers and the range of interpretive media currently available.

Chapter Five: Research methodology

Chapter Five provides a critical explanation of the research methodology adopted within this thesis and indicates why other possible approaches were rejected. Having explored the research design, the process of development of the research questionnaire is discussed, including the types of survey method adopted, the population and sample size as well as the question format and content. The process of managing the pilot study, the data collection techniques and response rates will all be thoroughly explained as will the statistical approaches used to analyse the data obtained through the primary research. The chapter will conclude with a critical exploration of the limitations encountered with specific reference to the reliability and validity of the overall research method.

Chapter Six: Visitor profile and their Jurassic Coast experience

Chapter Six presents a discussion of the demographic profile as well as the characteristics of those 600 groups of respondents who completed the questionnaire between 1st April and 31st October 2007 and in so doing makes reference to other similar research studies. The chapter then presents an overview of their Jurassic Coast experience before concluding with a brief discussion of those who declined to participate (n=90) in the study.

Chapter Seven: An analysis of the visitor experience

Chapter Seven discusses the data arising from the 600 groups of respondents who completed the questionnaire between 1st April and 31st October 2007. The results are discussed with reference to other studies focusing upon the Jurassic Coast World Heritage site and more generally on the recreational and interpretive experience of visitors in protected natural areas. Logistic regression modelling is applied to the data in order to explore the principle differences in the way in which the respondents within each of three grouping variables have responded to the questionnaire. The chapter concludes with an investigation of the data using factor analysis techniques to identify whether any other associations exist within the overall data set.

Chapter Eight: The guided walk experience

Chapter Eight presents a discussion of the respondents' specific interest in and attitude towards guided walks on the Jurassic Coast. The results are used to develop a framework for the potential design of guided walks, in the future.

Chapter Nine: Conclusion

The final chapter presents a conclusion to the research undertaken including a summary of the main research findings and a commentary on the research methodology. It also makes recommendations based upon the research which can inform the interpretive strategies currently available on the Jurassic Coast World Heritage site as well as identifying the research findings applicable potentially to other natural and possibly cultural sites. The chapter concludes with suggestions for future research.

Chapter Two

Visitor management in natural areas

2.1 Introduction

An interesting feature of the tourism industry is its simultaneous need to both develop and consume resources at a destination and despite the increasing development of simulated, interactive and even virtual and augmented reality, three-dimensional and hologram-based tourism experiences (Beck and Cable, 1998; Buhalis *et al*., 2006; Forrester and Singh, 2005), this level of demand on resources is likely to remain a core challenge for the industry (Cooper *et al.*, 2008; Page, 2011). In consequence, the management strategies developed at a destination need to be well-planned and carefully monitored, because many of these destinations, not least World Heritage sites may be extremely sensitive to inappropriate and/or high levels of visitor usage. Indeed, as well as World Heritage sites many natural locations such as national parks, game reserves and mountain, forest and coastal landscapes find that large numbers of visitors can have a significant effect upon the landscape in general, and on those natural features in particular, which have in turn attracted the interest of the visitors (Buckley, 2009; Goudie, 2006) leading Von Droste *et al*. (1992:7) to suggest that tourists are now literally '*loving nature to death*'. It has been suggested therefore by many researchers that the visitors and the destination have what can be regarded as a 'causal relationship' where the numbers of visitors coming to a destination could initiate a whole range of negative impacts, which might in turn detract from its quality for future visitors (Cooper *et al.*, 2008; Fennell, 2008; Huang *et al*., 2008; Weaver and Lawton, 2006).

This range of factors which result in these negative impacts at a destination are often associated with the inappropriate behaviour of the visitors usually resulting from their lack of awareness of the sensitivity and fragility of the site. Hence, it has been suggested that if visitors were made more aware, notably through interpretation, of the importance of the resource which they enjoy, they may be more likely to appreciate and even value it (Fennell, 2008; Ham, 2009). Making visitors more aware of the impact of their activities and the intrinsic value of the resource itself requires the effective delivery of information to them and this in turn relies on a clear communication channel between the visitor and the on-site managing authority. Managing visitors implies not only controlling their activities to some extent, but also informing and educating them about the site (Ham, 2009; Ward and Wilkinson, 2006). The challenge of visitor management is therefore to ensure that the visitors receive a high quality on-site experience whilst also supporting the maintenance and management of the site and its resources (Goudie, 2006; Page, 2011).

There are a variety of techniques which can be established on-site in terms of visitor management, these include; the physical control of visitor movement, the control or manipulation of their on-site activities, the hardening of the on-site resource as well as the use of information and its successful communication which can be achieved in part using a range of interpretive techniques and media. In this chapter, the management of visitors at environmentally sensitive sites is introduced, whilst in the subsequent chapter, the use of environmental interpretation on such sites; its potential, application and evaluation is explored in detail.

2.2 The environmental movement and the tourism industry

Traditionally, the tourism industry has remained largely excluded from environmental criticism because of the prevailing image that it was an 'environmentally friendly' activity in a 'smokeless industry', a perception which was successfully enhanced through a carefully crafted range of promotional images which associated the industry with beautiful landscapes such as mountain passes, rolling lowlands and exotic palm-fringed islands with beaches, sunshine and white sand (Douglas *et al.*, 2001; Page, 2011; van der Duim and Caalders, 2002). However, an interest in the environmental credibility of the tourism industry has emerged in recent years as a theme across governments, non-governmental organisations (NGOs), the private sector, academics and the general public (Cooper *et al.*, 2009; Holden, 2008). This interest reflects a noticeable change in attitude towards the general public's interaction with the natural environment (Jeffries, 1998). Such that as the destructive effects of the pursuit of economic growth on the environment have become more obvious, environmental issues generally have become an increasingly important global 'agenda' (Goudie, 2006). A number of the pertinent environmental themes which have emerged over the last forty years are discussed below.

In 1972 the United Nations (UN) held the 'Growth without Eco-Disasters' Conference in Stockholm and this was the first major international conference to specifically consider global environmental problems (Douglas *et al.*, 2001; Holden, 2008). In direct consequence, questions about the environmental impact of the tourism industry began to emerge predominantly associated with the negative effects of tourism infrastructure development (Buckley, 2000; Holden, 2008; Von Droste *et al.*, 1992).

At the same time UNESCO established the World Heritage Convention which was designed to protect and conserve natural and cultural sites of 'outstanding universal value' (Von Droste *et al.*, 1992). Towards the end of the 1970s, the Organisation of Economic Cooperation and Development (OECD) established a working party in order to examine the interaction between tourism and the natural environment and this in turn developed a framework for the study of environmental stresses associated with tourism activities (Bramwell *et al.*, 1996; Cooper *et al.*, 2008). The negative effects of tourism activities on the natural environment were recorded at the time as including; the loss of natural landscape, pollution and the damage to flora and fauna (Cooper *et al.*, 2008). In 1978, World Heritage status meant that the authorities on the Galapagos Islands with financial support from the World Heritage Fund were able to undertake a detailed inventory of the flora and fauna on each island together with associated soil and climatic data and this formed the basis for future management plans to protect the rare endemic wildlife (Von Droste *et al*., 1992). Von Droste *et al*. (1992) also reports on a similar inventory and management approach which was taken at a mixed natural and cultural World Heritage site, Mount Huangshan in China.

Throughout the 1980s, an awareness of global environmental problems such as deforestation, global warming and the associated release of carbon dioxide and the depletion of the ozone layer emerged as popular media themes (Holden, 2008; Jeffries, 1998). The 1980s also saw the spread of the 'mass tourism' product across the planet, including the Mediterranean basin, south-east Asia, sub-Saharan Africa, North America and in particular, the Caribbean (Holden, 2008; Weaver, 2003).

However, some tourists began to express their dissatisfaction with their overall holiday experience in some natural areas which they considered as being 'overdeveloped' or having lost their original 'attractiveness' (Douglas *et al.*, 2001; Holden, 2008). In consequence, Mathieson and Wall (1982) were amongst the first researchers to advocate a sustainable approach to the 'tourism product' and this view was based upon their seminal work on the economic, social and physical impacts of tourism (Page and Dowling, 2002).

Throughout the 1990s, environmental concerns reflected both local and global agendas. Both Goudie (2006) and Holden (2008) report on the protests against road building which became a focus for environmental campaigners especially in European countries as the concerns over the loss of the countryside and its associated wildlife grew. They also note attacks made directly on tourism developments by eco-warrior groups, such as the ski facilities in Vail, Colorado which were burnt down because of their perceived potential impact upon the local wildlife.

It was during this decade that the tourism industry itself began to take direct action over the environment; tour operators, hoteliers and airlines all attempted to improve their environmental credibility through the development of a range of environmentally-friendly activities, certification schemes and marketing and promotional campaigns (Jeffries, 1998). For instance, Moscardo (1998) introduces Alaska's 'Dollars-a-Day for Conservation' programme where a 'dollar a day' was added to the cost of some tour guide experiences by the relevant tour company, the resulting funds were pooled and subsequently used to support Alaskan conservation and community projects.

In 1991 The English Tourist Board published a report entitled '*Maintaining the Balance*' which explored the relationship between the visitor and the natural environment (Mason, 2005). Visitor impact research studies also began to appear, typically attempting to measure the causal relationship between particular recreational activities and a range of ecological parameters; hiking, trampling and soil-vegetation relationships being one of the first (Fennell, 2008; Hadwen *et al*., 2008). NGOs not directly associated with tourism such as the World Wide Fund for Nature (WWF) also became increasingly interested in the tourism industry and the need for a more sustainable approach to its development. In 1996 for example, the International Union for the Conservation of Nature (IUCN) and the WWF organised a workshop to establish economically and socially sound incentive measures for the conservation and sustainable use of biodiversity (Holden, 2000). In this decade, a growing number of tourists also became more interested in a variety of environmental packages, which would later be developed and marketed by the industry as; 'nature', 'wildlife' and 'ecotourism' holiday experiences (Buckley, 2009; Weaver, 2003).

'Sustainable development' as a concept became more prominent in the media with the increasing environmental awareness and public conscience associated with the early 1990s, despite the fact that the concept itself had first appeared in the World Conservation Strategy published by the IUCN in 1980, the term however did not become 'popularised' until its use in the Report of the Brundtland Commission. This Report considered sustainable development to be:

> '*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*' (World Commission on Environment and Development, 1987:5).

It thus represented the act of balancing between present and future needs. Butler (1999:35) describes tourism in a sustainable development context as:

> '*tourism which is developed and maintained in an area in such a manner and at such a scale that it remains viable over an indefinite period and does not degrade or alter the environment (human or physical) in which it exists to such a degree that it prohibits the successful development and well-being of other activities and processes*'.

Whilst Hunter (1995:155) suggested that:

> '*short and long-term sustainable tourism development should be concerned with improving the quality of life issues for host communities, meeting the demands of the visitor and the tourism industry, while correspondingly safeguarding human and natural resources in order to achieve both of the proceeding aims*'.

In 1992 UNESCO launched an international campaign to conserve the World Heritage site of Angkor Wat (Cambodia) where tourist numbers were already posing a real threat to the monuments of this ancient Khmer capital (Von Droste *et al*., 1992). The pressure from governments, the public and in particular NGOs to encourage the tourism industry to be more sustainable in outlook increased steadily during the 1990s and especially following the 1992, United Nations Conference on Environment and Development (UNCED), popularly referred to as the 'Earth Summit', which was held in Rio de Janeiro and attended by delegates from 178 countries (Page and Dowling, 2002). The Summit covered three fundamental areas; the Declaration itself (on implementing sustainable development) and two framework conventions (biological diversity and climate change). At that conference, *'Agenda 21'* was also adopted which was an action plan setting out the basic principles for promoting sustainable development throughout the world, where local communities were involved in a 'bottom-up' approach to this development (Holden, 2008; van der Duim and Caalders, 2002).

Following the 1992 Earth Summit, a number of countries adopted international declarations on a wide range of related themes including both tourism and sustainable development (Fennell, 2008; Holden, 2008). However, perhaps most importantly, the World Tourism Organisation (WTO), the World Travel and Tourist Council (WTTC) and the Earth Council drafted their own '*Agenda 21 for the Travel and Tourism Industry'* in 1995 which outlined key strategies for the industry. Furthermore, tourism was recognised as an economic sector which needed to progress towards sustainability at another 'Earth Summit' held in New York, in 1997. In the report arising from this meeting, the need for special attention to the relationship between environmental conservation, protection and sustainable tourism was stated (Holden, 2008). The United Nations Environment Programme (UNEP) estimates that there are now over 500 international treaties and other agreements relating to the environment, more than 300 of which have been agreed since the first UN conference on the environment back in 1972, and 41 of which, UNEP considers '*core environmental conventions*' (Holden, 2000:68).

The attitude of society towards the impact of the tourism industry on the natural environment has hardened in recent years. For instance, at the World Summit in Johannesburg in 2002 known as 'Rio+10', the term 'sustainable development' remained a key concern for delegates in relation to all aspects of the tourism industry (Holden, 2008). More recently, carbon dioxide emissions have been investigated, with the 2003 *Djerba Declaration* acknowledging the '*specific relationship between tourism and climate change*' (Becken and Patterson, 2006:323), with tourism being identified as a major contributor due to its demand for fossil fuels and significant emission of greenhouse gases. Carbon taxation has been promoted by a number of

countries as well as through the *Kyoto Agreement* which came into partial force in 2005. Becken and Patterson (2006) in studies in New Zealand and Gossling *et al*. (2002) in the Seychelles have both explored carbon dioxide emissions and in so doing have recognised the need to differentiate between direct and indirect emissions. The models they both adopted could be equally applied to water consumption, waste production and even land use.

Subsequent developments in terms of environmental indicators and sustainable tourism practice have led to the establishment of 'the ecological footprint' model which focuses (in simple terms) upon both resource consumption and waste product production. Hunter and Shaw (2007:47) argue that its key attribute is:

> '*its expression of demands on natural resources ……. thereby facilitating comprehension of environmental impact and providing a powerful education tool*'.

Calculations are based upon a 'top down' or 'bottom up' approach with the latter being of most value to tourist modelling, where life-cycle data can be used to assess and calculate:

> '*the use of energy, foodstuffs, raw materials and water as well as capturing transport related impacts, the production of wastes and the loss of productive land associated with buildings, roads and other aspects of the built environment*' (Hunter and Shaw, 2007:47).

Hunter and Shaw (2007) suggest that the use of the 'ecological footprint' model to calculate the impact of 'holiday packages' is likely to become widely adopted within the next five – ten years. A number of applications have already taken place including Gossling *et al*. (2002) who studied the leisure footprint of tourists in the Seychelles, Sonak (2004) who measured the production footprint of tourism at a local level in India

and the measurement of carbon dioxide emissions associated with tourists in New Zealand (Becken and Patterson, 2006).

In conclusion, it is useful to consider Moscardo (1999:7) who in reviewing the work of Bramwell and Evans (1993a), Hunter (1995) and Inskeep (1991) amongst other researchers suggested that the key components of 'sustainable tourism' were 'quality', 'continuity' and 'balance', such that:

- a quality experience was provided for the visitors, which was associated with an improvement in the quality of life for the host community and protection of the associated surrounding environment;
- the continuity of the natural resources upon which the activities were based was also recognised, as well as the continuity of the culture, traditions and way of life of the host community, together with the associated level of demand and interest from tourists;
- the importance of their being a balance between the needs of the host community, the tourists and the local environment.

Buckley (2009) and Ham (2009) suggest that high quality interpretation could contribute in a significant way to achieving these three core priorities. Environmental interpretation is a principle focus for this study and will be explored in detail in Chapter Three. This chapter will now consider strategies for the management of visitors in natural areas and in so doing will briefly explore both hard and soft approaches of which interpretation is such a significant part of the latter.

2.3 An introduction to visitor management

Fennell (2008), Holden (2008), Huang *et al.* (2008) and Hunter (2000) have all suggested that managing the visitor usage of a natural area has perhaps only emerged in the academic literature from the 1980s onwards in response to the significant increase in the use of such areas by visitors. It is now however well-documented that visitor usage of natural resources whether it is a pristine wilderness or semi-natural landscape can potentially threaten the quality of the resource itself, which in turn could lead to a reduction in the overall quality of the visitor experience (Buckley, 2009; Hall and McArthur, 1996a; Woodley, 1999).

In recent years, conflicts between different visitor user groups have also emerged as a theme within the academic literature largely due to the level of competition for particular resources within a given area (Goudie, 2006). Natural areas can also suffer more directly from inappropriate visitor use such as when soil surface layers on pathways become compacted because of over-use leading potentially to erosion, drainage difficulties and undesirable vegetation composition (Goudie, 2006). The feeding habits of wildlife may also gradually change such that there is an increase in the incidents of animals raiding rubbish bins and even campsite tents in search of food (Shackley, 1996). Cases of wildlife disturbance have also been well documented, as have cases of damage through the picking of wild flowers, uprooting of bulbs, collecting of feathers, birds' eggs, rock and other objects (Buckley, 2009; Goudie, 2006; Lindberg *et al.*, 1998).

Recent studies have also gone beyond this 'component' or 'biotic view' of on-site degradation to consider the impact of tourism and leisure activities on ecosystem processes more generally, this so-called 'ecological integrity' model has currently perhaps been most widely adopted by

the Parks Canada Federal Agency (Shultis and Way, 2006). The Canadian National Parks Act states that the:

> '*maintenance or restoration of ecological integrity, through the protection of natural resources and natural processes, shall be the first priority ……. when considering all aspects of the management of parks'* (Shultis and Way, 2006:226).

The pressure and impact upon the resource resulting from inappropriate visitor usage can be limited by applying carefully planned and implemented visitor management techniques which should recognise that the plans for resource and visitor management should not be designed and implemented separately but instead should form part of an overall management strategy for the site (Cooper *et al*., 2008; Woodley, 1999). Rollins and Robinson (2002:117-8) argue that if this is to be effective then on-site managers must be '*challenged to articulate to visitors the purpose or role of the park'* and in so doing, '*recognise that it is simply not possible to provide all types of visitor activities, services and facilities*'.

Effective visitor management should therefore be seen as an integral component of on-site management and should be regarded as being heavily reliant on communicating such approaches and strategies to the visitors (Ceballos-Lascurain, 1996; Ham, 2009). Ward and Wilkinson (2006) suggest that if visitors receive enjoyable and enriched experiences, they might appreciate the natural resource more and furthermore, they may voluntarily choose to support the site management schemes and therefore the easier it should be for on-site staff to manage and protect the resource (Bramwell, 1991; Fennell, 2008; Hall and McArthur, 1996a; Ward and Wilkinson, 2006). Well-managed facilities and resources are one of the key features required to ensure enhanced visitor enjoyment and satisfaction with their overall on-site experience.

Conversely, research carried out by Ward (1973) and van der Stoep and Gramann (1987) have highlighted that on sites where a lack of maintenance is evident such as a littered camp ground or vandalised visitor facilities, they are more likely to "invite" depreciative behaviour, since visitors may consider that on such sites, violations are the norm. However, much debate in relation to fragile and World Heritage sites questions whether visitors should be allowed to directly experience such resources at all (Buckley, 2004; Lindberg *et al.*, 1998; Shackley, 2006). Although, providing visitors with access, albeit limited and controlled is still more likely to protect the resource in the longer term (Buckley, 2004; Ceballos-Lascurain, 1996; Hall and McArthur, 1996a; Shackley, 2006).

Whilst the interaction between the visitor and the resource may not be observed directly by on-site staff through the careful monitoring and evaluation of visitor activities, site managers can discover how visitors perceive and interact with the site (Huang *et al.*, 2008; McArthur, 1994b). For example, studies into visitor perceptions of the site which have included the quality of facilities, their level of enjoyment and the activities they participate in and more importantly what they consider needs improving can be critical in helping on-site managers to identify, develop and update their management facilities and techniques (Huang *et al.*, 2008).

Effective visitor management (see objectives in Table 2.1) should aim to enhance the visitors' on-site experience and their appreciation of the site while maintaining the quality of its resources. The educational aspects of visitor management can also be considered as a further 'tool' in supporting sustainable tourism management and it is now regarded as essential to integrate visitor management and visitor education into an overall tourism

development plan for the site (Bestard and Nadal, 2007; Cole, 2006; Fennell, 2008; Grant, 1994).

The objectives could include:
1. Enhancing the visitor experience;
2. Increasing the visitor awareness of the site (both conservation and environmental issues);
3. Encouraging the visitor to adopt more responsible behaviour whilst on-site;
4. Increasing the potential opportunity of repeat visitations;
5. Enabling the visitor flow to spread over a wider geographical area, directing the visitor away from and/or reducing the length of stay in sensitive areas;
6. Promoting and encouraging the visitor to view less visited areas;
7. Encouraging off season visits to minimise the impacts of seasonality;
8. Encouraging a potentially higher level of visitor expenditure;
9. Encouraging civic responsibility and pride at a local or regional level.

(Based on Buckley, 2009; Cole, 2006; Cooper *et al.*, 2008; Grant, 1994; Ham, 2009; McArthur and Hall, 1996a: 1996b; Page, 2011).

Table 2.1: The objectives of visitor management

Visitor management has traditionally focused upon the management of the 'resource' and thus controlling visitor access to it. An English Tourist Board report from 1991 identified three ways of managing visitors, including; controlling their numbers, adapting the resource and modifying their behaviour (Mason, 2005). Orams (1999:77) describes physical or 'hard' techniques as '*those human-made structures that control human activity by restricting the movement or type of activity which can be undertaken*'. This approach involves the use of a series of site-based practices including the use of on-site rules and regulations to control visitor activities, their movement and their exclusion from sensitive areas as well as the hardening of the site itself, all to reduce or limit the negative impacts resulting from the visitor use of the site (Bramwell and Lane, 1993a; Buckley, 2009; Ceballos-Lascurain, 1996; Hendee *et al.*, 1990).

As an alternative to this 'hard approach', researchers have also discussed the use of marketing and promotional campaigns, information provisioning and on-site interpretation which can often be more effective than the traditional hard visitor management approaches in sustaining resources for long term use as well as enhancing the visitor experience (Bramwell *et al.*, 1996; Ham, 2009; McArthur and Hall, 1996a: 1996c; Orams, 1996a). These methods are termed 'soft visitor management'.

2.4 Approaches to visitor management: hard techniques

2.4.1 Regulatory methods

Rules and regulations are usually applied to limit visitor access and/or entry times to the site, the activities undertaken once on-site, as well as the size of visitor groups and the overall number of visitors on site within any given period of time (Table 2.6). As well as limiting the over-use or inappropriate use of resources, other benefits associated with the use of rules and regulations include ensuring visitor comfort and safety, the effective management and the potential reduction in over-crowding on the site. However from a visitor's viewpoint, these restrictions may be seen as 'controlling' which could potentially result in a sense of dissatisfaction with their on-site experience (Buckley, 2009; Jones, 1993; van der Borg *et al.*, 1996; Yale, 1991).

These techniques include:
1. Restrictions on access to all or part of the site through zoning etc;
2. Restrictions on the range of activities which may be undertaken on the site;
3. Physical modification ('hardening') of parts or, all of the site;
4. The use of security site personnel and/or rangers to patrol the site;
5. Clear intent to implement and police on-site rules and regulations.

(Based on Bramwell *et al.*, 1996; Buckley, 2009; Fennell, 2008; Graefe *et al.*, 1990; Hammitt and Cole, 1987; Orams, 1996a; Timothy and Boyd, 2003).

Table 2.2: Hard visitor management techniques

Complete restrictions on access are normally inappropriate and probably only really necessary for specific areas of a site where the features are of international importance or extreme fragility and thus where only very minimal tolerance to visitor impacts can be acceptable. For example, the World Heritage site of Uluru (Australia) where closure in part (due to local conditions) determines whether visitors are able to climb onto the great monolith rock itself (Shackley, 2006). Restrictions on access also play a key part in the zoning management approach taken by the Great Barrier Reef Marine Park Authority (Australia) to conserve and protect their World Heritage site (Page, 2011; Von Droste *et al*., 1992). More typically however, temporary restrictions are applied which still allow visitors to be able to explore and experience the site. The seasonal closure of campsites for example which might be strictly controlled within designated, environmentally sensitive areas but might be more loosely policed in areas of lower sensitivity (Goudie, 2006; Hammitt and Cole, 1987; Page, 2011).

Regulations are also used to control undesirable visitor activities such as preventing souvenir hunting, for instance the removal of rock or other material from Uluru (Australia) or the volcanic slopes of Hawaii (Shackley 2006). Other activities controlled include rock climbing which is often only allowed in many natural areas subject to restrictions on the season, the size of group involved, the type of climb and sometimes the need for special licences or training to be acquired in advance (Shackley, 1996).

Many of the rules and regulations imposed on visitors will be enforced by legislation established at a local, regional or even national level with such enforcement usually being undertaken by park rangers or security personnel (Terborgh *et al.*, 2002). The disadvantage of uniformed security personnel enforcing site regulations in a natural area

is that they may make the visitor feel uncomfortable and therefore detract from their on-site experience. Terborgh *et al*. (2002:267) suggest that:

> '*a socially sensitive approach to enforcement needs to be taken, so that it becomes more efficient and generates less antagonism*'.

Natural areas with high visitor seasonality may often only employ enforcement staff during the peak season to counter the increased visitor demand on the site (Terborgh *et al.*, 2002). In consequence, on many natural sites, part-time staff may well find themselves required to undertake enforcement roles within their normal duties as reported by Shackley (1998a) in relation to the management of Easter Island (South-East Pacific). However, this can also be problematic, in that some staff will not necessarily have the relevant skills to handle both visitor needs and enquires as well advising them, sometimes forcibly, on the appropriate recreational activities allowed on the site. It is also well documented that some visitors feel uncomfortable that site managers choose to establish patrols to enforce regulations (Terborgh *et al.*, 2002).

In order to overcome the problem of visitor dissatisfaction resulting from the application and enforcement of restrictions, Mason and Kuo (2006) in commenting on the restrictions in relation to the World Heritage site of Stonehenge (UK) suggest that it is critical where possible to ensure that information about restrictions and regulations are delivered to the visitors both prior to, and during their visit to the site. For instance, where there is a specific restriction on access, facilities and/or routes around the site, a site plan (both in a leaflet and ideally on a web-site) should be available in order to indicate to the visitor suitable entry and exit points as well as perhaps marking the features which are 'open' and the routes they make take around the site.

Broadhurst (2001) and Hammitt and Cole (1987) report on an interesting response resulting from the use of restrictions which is the need to manage the increased numbers of visitors associated with such days / weeks in the year when the restrictions are eased or lifted. Bramwell *et al.* (1996) suggest that the use of web-based advance booking systems and the establishment of a 'maximum number of visitors' to a particular area are both effective ways of managing this pent-up demand. This 'duty of care' in terms of informing the public and supporting their need to visit the site can be carried out through a variety of media, either personally using on-site interpreters, guides and rangers or via publications, on-site signage, displays and notices at the entrance and of course through the use of the Internet (Broadhurst, 2001; Smith-White, 1976).

Providing information to visitors is regarded as 'soft' visitor management which will be discussed more fully in a later sub-section. Nevertheless, this example helpfully illustrates that such arbitrary divides as those between hard and soft visitor management techniques can only ever be possible in terms of academic theory, the development and introduction of a visitor management strategy on a site is almost always dependent on the adoption of both hard and soft techniques.

2.4.2 Economic incentives and disincentives

Financially-based techniques attempt to use price as an incentive or disincentive to modify visitor interest in the site and/or the activities they wish to undertake on site whilst potentially increasing the financial revenue for the site authority (Broadhurst, 2001; Cochrane and Tapper, 2006; Fennell, 2008; Garrod, 2008; Tribe *et al.*, 2000). For instance, as both Cochrane and Tapper (2006) and Garrod (2008) suggest a common example at World Heritage and other designated sites might be to charge a higher entrance or car

park fee during the peak months of visitation and then lowering the fee charged during the quiet season, a classic example of the 'user-pays' principle which states that:

> '*those responsible for using resources that are vulnerable to damage should be required to pay for the remediation of any user-induced impacts*' (Garrod, 2008:173).

However, many World Heritage sites (for instance the Taj Mahal, India and the Galapagos Islands, Ecuador) have proven to be 'price inelastic' where entry fees are concerned, for as Millar (2006:49) states '*the tourists are the people of the world for whom World Heritage belongs*' and, as the Taj Mahal has shown, some visitors will pay whatever the price of entrance fee is in order to visit the site of their choice. However for most sites, variable pricing systems can not only maximise the income to the site but also help to encourage the spread of visitor numbers more evenly throughout the year (Fennell, 2008; Orams, 1999). These financially-based techniques are usually subdivided into two main types, those which are price incentive approaches and those which encourage disincentive reactions from the visitors (see Table 2.3).

Price incentive approaches include:
1. Reducing fees for entrance, car parks and other facilities to encourage off-peak usage;
2. Offering joint-ticketing arrangements to encourage off-peak usage;
3. Reducing entrance fees for visitors who come to the site using public transport or with designated coach parties;
4. Installing cheaper or free on-site transportation to reduce the problems associated with traffic congestion and/or polluting fumes;
5. Introducing park-and-ride schemes with cheaper or free bus, tram or train tickets between the car park and the site, to encourage visitors to leave their vehicles outside the core area of the site.

Price disincentive approaches include:
6. Charging higher fees for entrance, car parking and other facilities during the peak season of visitor usage;
7. Charging high parking fees for those travelling to the site using their own car;
8. Applying instant fines on-site to those visitors caught littering, lighting fires and/or undertaking other inappropriate behaviours.

(Based on Bramwell *et al.*, 1996; Cooper *et al.*, 2008; Garrod, 2008; Hammitt and Cole, 1987; Keirle, 2002; Kuo, 2002; Orams, 1996a; Page, 2011).

Table 2.3: Price incentive and disincentive approaches

Financial disincentives also include the use of financial penalties for inappropriate behaviour and/or activities such as littering, collection of souvenirs (rocks, plants etc.), speeding, vandalism as well as feeding or disturbing wildlife. Warnings about financial penalties might be typically posted on signs but could also be stated in on-site media and on any of the site's relevant web pages. However rather than fines, Orams (1999) suggests that incentives should be used as a reward scheme for visitors who undertake appropriate behaviours such as reporting signs of damage, acts of vandalism or for undertaking maintenance projects such as 'litter clean-up' activities, conservation working parties and the like.

2.4.3 The management of the resource

Physical management techniques are frequently used in association with rules and regulations to limit the range of on-site visitor activities and/or their freedom of movement by encouraging them to stay in defined areas, this approach however can reduce visitor enjoyment and it will tend to limit opportunities for what is often described as 'self-discovery' experiences (Hammitt and Cole, 1987; Kuo, 2002; Tribe *et al.*, 2000; Ward and Wilkinson, 2006).

A particularly widespread and commonly used resource modification technique is known as the 'alteration of resources' or the 'hardening' of the site. For instance; the construction of tracks or boardwalks for walkers and cyclists, the use of viewing platforms, installation of fences, steps and railings, addition of car parks, toilets and other visitor facilities which all enhance the visitor experience but also divert the pressure of use from more sensitive areas (Buckley, 2009; Garrod, 2008; Hall and McArthur, 1996d; Keirle, 2002; Tribe *et al*., 2000).

The practice of 'site hardening' has been partially criticised by Garrod (2008) who suggests that the use of these techniques may compromise the 'authenticity' of the visitor experience through the way in which the site is displayed to them as well as the way in which they are 'allowed' to explore the site. Shackley (2006) comments on this compromised visitor experience in presenting the case of the grove of Giant Cedar trees (*Cedrus libani*) in the Quadisha Valley (North Lebanon). The Quadisha Valley, a World Heritage site since 1998, attracts 200,000 visitors per year and has been hardened with '*3km of surface paths …. delineated by posts and hemp ropes*' all to help manage the visitor numbers (Shackley, 2006:86).

Mason and Kuo (2006) also comment on the use of access restrictions in relation to the World Heritage site of Stonehenge (UK) arguing that the lack of physical contact with the stones themselves may contribute to a reduced experience. Buhalis *et al*. (2006) argue that this can be mediated through the provision of information communication technology such as Personal Digital Assistants (PDAs) as well as virtual and augmented reality exhibits which can not only manage the flow of visitors around the site but also enhance their on-site experience.

A number of researchers including Hammitt and Cole (1987), Keirle (2002) and Tribe *et al.* (2000) have agreed that on-site alterations and diversions do restrict the visitors' freedom to explore a site but equally they suggest that allowing uncontrolled visitor flow particularly on environmentally sensitive World Heritage sites could lead to an unacceptable level of resource disturbance and/or degradation and ultimately therefore jeopardise the quality of the site for future visitors. Keirle and Stephens (2004) explored the 'right to roam' behaviour of visitors at Cwm Idwal in the Snowdonia National Park. They discovered that roaming activity was strongest amongst those visitors looking to take 'short cuts' or those who were specifically looking for scenic views, but they still only represented 9.5% of the overall visitor numbers. They also found that '*larger groups (of thirteen or more) were more likely to roam through open countryside than other groups*' (Keirle and Stephens, 2004:9), they linked this finding to the extensive use of the area with outdoor pursuit groups and recommended that further research be undertaken to establish whether this finding was replicated in other extensive natural areas.

In many tourism destinations, such as Australia's Great Barrier Reef World Heritage site zoning (either temporal or spatial) is a commonly used management technique which is designed to support any proposal which has been developed to control and/or manage on-site visitor numbers (Broadhurst, 2001; Page, 2011; Shackley, 2006; Terborgh *et al.*, 2002). Eagles and McCool (2004) and Page (2011) suggest that one of the principle advantages of spatial zoning on sites like the Great Barrier Reef is that of promoting the dispersal of visitors, it can also be used to reduce conflict through the separation of incompatible types of visitor activity. The conflict between fishing and speedboat racing in the Lake District National Park (UK) is a well documented example of this (Pigram, 1983 and Kuo, 2002).

Zoning typically involves the clustering of compatible activities in designated and specifically identified areas on the site (Kuo, 2002; Terborgh *et al.*, 2002; WTO: UNEP, 1992). Zones will also identify 'sparse' and 'intensive' areas of visitor activity enabling site infrastructure to be developed accordingly (Ceballos-Lascurain, 1997; Kuo, 2002; WTO: UNEP, 1992). But zoning can also create disadvantages, for on most sites as Eagles and McCool (2004) suggest the different zones of usage will often meet relatively abruptly and this can cause major problems in the immediate areas adjacent to the zone boundaries especially in cases where the boundary is between a sensitive wilderness and an activity-based visitor zone (Broadhurst, 2001; Ceballos-Lascurain, 1997; Cooper *et al*., (2008). Typically, the high demand for visitor-based activities and opportunities can also cause conflict in the area surrounding adjacent zones. Thus, the density, capacity and location of visitor facilities should always be carefully considered prior to the establishment of zones, for as Terborgh *et al*. (2002:291) state '*zoning should be completed early in the establishment of a park's infrastructure*'.

2.4.4 Hard visitor management techniques: a summary

Hard visitor management techniques remain vital; the application of restrictions, rules and regulations does limit the visitor opportunity to explore a site but on the other hand, the introduction of resource hardening and the construction of access techniques, such as the creation of tracks, boardwalks and viewing platforms allows different activities to be undertaken as well as access to areas which otherwise might not be available. Finally, charging entrance fees as well as fees for the use of visitor facilities generates valuable income for the site which can be used to support a wide range of on-site management initiatives.

2.5 Approaches to visitor management: soft techniques

Soft visitor management involves the use of a variety of media to deliver information usually in the form of a series of messages to the visitor. These messages (Table 2.4) can range from on-site directions, information about on-site restrictions and regulations, marketing activities through to messages about the nature, ecology and bio-geography of the site (Keirle, 2002; Kuo, 2002; Moscardo, 1999; Ward and Wilkinson, 2006).

Soft visitor management therefore usually seeks to stimulate and enhance the visitors' on-site experience. It also often provides the opportunity for site staff to study their visitors including their level of usage of different parts of the site, any weekly or seasonal changes in the activities undertaken as well as predicting and monitoring any potential impacts resulting from visitor usage all of which can be used in order to develop and/or review the range of and demand for the on-site activities available (Bauchop and Parkin, 2000; Keirle, 2002).

Soft visitor management techniques aim to provide:
1. Information provision to visitors, including directional, administrative and managerial information, as well as visitor codes of conduct
2. Marketing information which can be targeted at specific visitor groups
3. Interpretive information which is designed to enhance the visitors' on-site experience
4. Visitor research and monitoring information

(Based on Bauchop and Parkin, 2000; Buckley, 2009; Ceballos-Lascurain, 1997; Ham, 2009; Keirle, 2002; Knudson *et al.*, 1995; Moscardo, 1999; Orams, 1994: 1996b; Ward and Wilkinson, 2006).

Table 2.4: Role of soft visitor management techniques

The messages associated with soft visitor management can be used to ensure that the techniques of hard visitor management are more effectively communicated to the visitor, so for instance they can be made aware of the restrictions and regulations in place on the site as well as any relevant zones in place in relation to the activities they might wish to undertake. Bauchop and Parkin (2000), Ceballos-Lascurain (1997) and Ham (2009) suggest that visitors should be informed about their responsibilities whilst on site and thus

information targeted at them should be delivered to them in an appropriate way such that it is simple, concise and easily understandable, interesting and relevant and most importantly presents the on-site resources in a sympathetic way. This careful selection and presentation of information will hopefully enable the visitor to understand the site, appreciate its fragility and the need to conserve it as well as leading to a higher level of visitor enjoyment and satisfaction whilst on the site.

Most site managing authorities would argue that providing basic information to visitors is considered as an essential service and a key element of any site management planning (Buckley, 2009; Keirle, 2002). Basic orientation information can be divided into three groups; pre-visit, on-site and post-visit, where the on-site orientation will typically ensure that visitors are provided with a general outline of the site on which they can plan their exploration (Veverka, 1994). More detailed information, typically regarded as the 'educational content' will tend to interpret the various features of the site in order to enhance the visitors understanding and appreciation of them.

The information provided to visitors performs a wide range of functions and roles including:
~ hospitable and welcoming messages to visitors, for example, sign boards of welcome along the main routes leading to the site
~ providing information on alternative routes and features which might divert the visitor flow away from congested areas, and which could help visitors explore the site as a whole;
~ providing information on areas which are congested, as well as the possible waiting/queuing times, all of which could help visitors to plan their visit more effectively;
~ providing directional information which help the visitor to explore the site safely and quickly;
~ detailing information including regulations, restrictions and any responsibilities which the visitor needs to be aware of;
~ providing interpretive information to enhance the visitor understanding and enjoyment of the natural, ecological and geographical features of the site;
~ presenting promotional images and materials about the site managing authority, together with any funding partners and other organisations involved with the site;
~ enhancing the profile of the site managing authority by publishing the outcomes of their management actions or recent campaigns on the site.

(Based on Grant *et al.*, 1996a; Keirle, 2002; Kuo, 2002; Merriman and Brochu, 2005; Moscardo, 1999; Orams, 1994; Ward and Wilkinson, 2006).

Table 2.5: Information provided to visitors

In summary, Table 2.5 would suggest that there are three principle types of information provided; directional, administrative / management related and interpretive. The directional function provides important information on directions and routes, distances between parts of the site as well as specific travelling times to stated areas of the site. The administrative or management related functions support the resource management of the site by advising visitors on appropriate behaviours and on the range of activities in which they can participate whilst on the site. This information can also act as a warning in relation to the rules and regulations on the site. The interpretive function principally aims to 'reveal' the site to the visitor as well enhancing their on-site experience through a range of interpretive activities in which they might wish to participate (Ham, 2009; Keirle, 2002; Kuo, 2002; Moscardo, 1999). Each of these types of information provisioning is explored in the following sub-sections.

2.5.1 Directional information

Directional information is widely used at natural sites where it has an important role in ensuring that visitors reach the parts of the site they wish to view (Weaver, 2007). It thus also helps to reduce the irritation which can occur when a visitor becomes lost or disorientated in an unfamiliar setting. Most visitors will tend to want to reach the key parts of the site quickly and safely thus clear and effective directional information is vital to maintain and enhance the visitor experience (Kuo, 2002). The types of directional information offered vary widely and can include; simple directions, the condition of road surfaces as well as off-road tracks, the distance and approximate time to different locations, the local weather forecast, the species of wildlife that drivers and/or walkers might encounter and any emergency contact details for the rangers (Kuo, 2002; Sharpe, 1976).

Weaver (2007:81) in discussing directional information suggests that interpreters should ensure that either through maps, leaflets or signage, directional information should identify clearly:

- the site's best features – where they are located and how long it will take for the visitor to get there;
- decision points on the site, where alternative routes might be considered;
- and, sites with one or more locations which visitors might become confused between, either because of the names of each area or, their function and usage.

Accurate and sufficiently detailed information is particularly important in more remote sites where the possibility of getting lost is greater and the chance of meeting other visitors or park rangers is relatively low. In such situations, effective directional information together

with emergency contact details for rangers is essential to ensure the safety of visitors (Keirle, 2002; Kuo, 2002; Weaver, 2007). Beyond this, directional information also has an important function in potentially marketing the lesser known locations within the site.

In reporting on the management of Hadrian's Wall (UK), Turley (1998) suggests that by providing information on these less well-known and visited locations and/or walks, visitors can be encouraged to explore and enjoy the whole site and in so doing, the pressure on some 'honey pot' locations may be reduced. Thus, if a particular area suffers from over-use and needs restricted access to be applied temporarily then providing appropriate directional information is a convenient way of diverting visitors away from one area and guiding them towards a range of alternative locations. However, Buckley (2009), Goudie (2006) and Hammitt and Cole (1987) all question the appropriateness of the direct promotion of less well visited areas in so far as by developing these areas, the site manager is potentially increasing the scale of the negative impacts of visitors not only in existing popular 'honey pot' locations but also to these new areas. Thus, when directing visitors away from 'honey pot' sites, site managers should ensure that the new areas are able to support the demands associated with the increased visitor numbers.

2.5.2 Administrative and management related information

This type of information provisioning includes messages of welcome to the site together with information about the range of activities and events on site as well as the management statements which are intended to encourage specific visitor activities and/or behaviours whilst on site. The use of such statements which offer guidance to visitors on administrative and/or site managerial matters are typically referred to as the visitor 'code of conduct' (Fennell, 2008; Mason, 2005).

Visitor codes of conduct have been extensively used at natural sites as a means of managing and educating visitors for many decades (Fennell, 2008; Holden, 2008; Mason, 2005). One of the most familiar, established some thirty years ago is the Countryside Commission's '*The Country Code*' which is primarily targeted at UK domestic tourists visiting the countryside. This code offers guidance to visitors to amongst other things; take their litter home, shut farm gates and keep water sources clean. Codes have now been extensively developed for visitors at a wide range of locations where the natural resources are sensitive, including; Belize, Canada, Madagascar, Australia, Nepal, Greenland and Venezuela. (Holden, 2008; Mason and Mowforth, 1996; Shackley, 1996).

Visitor codes fall into two main categories according to Fennell (2008) and Holden (2008), those which are 'codes of ethics' and those which are 'codes of practice / conduct'. Most codes however will typically perform both functions, namely; to educate visitors about the site its importance as well as any areas of sensitivity but also to form part of a broader management strategy to ensure the long-term protection of the site and its resources (Bauchop and Parkin, 2000; Cole, 2007; Hall and Page, 1999; Mason, 2005; Splettstoesser and Folks, 1994). There is also some debate in the academic literature on whether visitor codes of conduct should also have value statements attached to them. For example, the code of conduct for Nepal's Himalayas region was developed to form an important part of the conservation and development plan for the Annapurna Conservation Area, Nepal and includes philosophical statements about the value of the area for future generations (Holden, 2008; Kuo, 2002; Mason and Mowforth, 1996). Another example would be at the World Heritage site of Uluru (Australia) where a code of conduct is used to try and limit the number of

visitors who feel the need to climb onto the great monolith rock itself which is '*so sacred to the Anangu aboriginal people who have lived there for nearly 30,000 years*' (Shackley, 2006:91).

Visitor codes are usually written in the form of guidelines offering advice to visitors on the behaviour and range of activities that the managing authority wishes to encourage. Malloy and Fennell (1998) analysed forty codes through a content analysis to assess the mood messages, focus and orientation of the codes as well as their philosophy, they explained that the philosophy which underpins the code can centre on *teleology* ('good behaviour') or *deontology* ('right behaviour') (Fennell, 2008).

In conclusion, whilst most of the visitor codes currently in operation do not include regulations enforceable by law they do offer guidelines which are aimed at the voluntary participation of the visitor (Cole, 2007; Fennell, 2008; Mason and Mowforth, 1996). The messages contained in these codes aim to reduce the impacts resulting from the visitors inappropriate use of a site and/or its resources (WTO: UNEP, 1992). However, critics agree that the effectiveness of these codes is often limited by this lack of authority. Cole (2007:444) in commenting on the work of Honey (1999:49-50) suggests that these codes may sometimes be regarded as '*green tricks*' from an organisation desperate to be able to '*claim sensitivity and responsibility*'. In summary however, it could be suggested that encouraging visitors to understand and appreciate the value of the site is far more important in the long term than the mere identification and prosecution of visitors committing often minor offences on site.

2.5.3 Interpretive information

Researchers such as Armstrong and Weiler (2002), Bauchop and Parkin (2000), Garrod (2008), Ham (2009), Ham and Weiler (2007), Knudson *et al.* (1995), Machlis and Field (1984), Merriman and Brochu (2005), Moscardo (1999), Orams (1997), Pearce and Moscardo (2007), Sharpe (1976) and Weiler and Ham (2001) all argue that increasing the visitors' knowledge of a site can stimulate a more enjoyable and memorable on-site experience particularly if the information delivered is presented to them as both entertaining as well as educational messages. It is reasonable to assume that most visitors are interested in knowing a little more about the site they have come to visit, so for instance, a first time visitor to the 'Jurassic Coast' World Heritage site (UK) might wish to know the length of the coastline, the age of the site, the types of rock and wildlife present, the best locations and features to visit as well as perhaps, some aspects of local folklore and history. Whereas, the repeat visitor already broadly familiar with the site might be more interested in information about a particular geological period or species of wildlife, the results of any recent research projects carried out along the coastline or perhaps, more detailed information about a specific area or location. The providing of this type of information serves the interpretive function within the soft visitor management approach which as Tilden (1977:8) states is the:

> '*revelation of a larger truth that lies behind any statement of fact', and 'interpretation should capitalise on mere curiosity for the enrichment of the human mind and spirit*'.

Within the context of visitor management the term 'environmental interpretation' is widely accepted and is regarded as a process of communication which aims to deliver information from the site-managing authority to its visitors (Benton, 2009; Brochu, 2003). The type of information provided varies considerably but will typically include a range of carefully selected themes and/or messages about the site as well as information which will increase the visitor understanding, experience and appreciation of the site which in turn might

reduce the level of inappropriate behaviour and/or activities (Cooper, 1991). Today, the interpretation of natural sites has rightly become a significant and critical part of the visitors' on-site experience (Benton, 2009; Merriman and Brochu, 2006) thus on many sites interpretation has developed to achieve a combination of objectives, as detailed in Table 2.6.

The potential objectives of on-site interpretation could include:
~ to enrich the visitors overall on-site experience
~ to re-create the past or create the future in visual terms, thereby enhancing the visitor experience, as well, as their understanding of the complexities and evolution of the site
~ to increase the visitor awareness, appreciation and understanding of the site
~ to accomplish site management objectives by encouraging the appropriate use of the site and its resources, in order to minimise negative impacts and thus in turn, reduce the need for on-site regulation and restriction
~ to re-create or substitute experiences which means that visitors do not need to physically visit all parts of the site
~ to promote visitor understanding and support for the site, the managing authority, its financial supporters and any other agencies involved with the site.

(Based on Bauchop and Parkin, 2000; Beck and Cable, 1998; Benton, 2009; Garrod, 2008; Ham, 2009; Ham and Weiler, 2007; Keirle, 2002; Knudson *et al.*, 1995; Kuo, 2002; Merriman and Brochu, 2005; Moscardo, 1999; Novey, 2008; Olson *et al.*, 1984; Orams, 1994: 1996b; Sharpe, 1976; Ward and Wilkinson, 2006).

Table 2.6: Objectives of on-site interpretation

2.5.4 Soft visitor management techniques: a summary

Soft visitor management techniques can be used to provide a wide variety of information to visitors. However, such techniques usually only work well when the site staff are able to communicate easily with their visitors and there are clearly several factors which influence the effectiveness of this communication. A clear understanding of the diversity of visitors is necessary such as the visitor demographics, their length of stay and familiarity with the site and of its features are all critical (Ham and Weiler, 2007; Knudson *et al.*, 1995; Kuo, 2002; Merriman and Brochu, 2005). Additionally, it is essential for site staff to understand the dynamics associated with an effective communication process (Bauchop and Parkin, 2000; Benton, 2009; Ham, 2009; Moscardo,

1996: 1999). Site managers may provide detailed and effective directional, administrative and interpretive information to all of their visitors however they may not all necessarily want or need to receive this information for a whole variety of reasons such as their lack of interest, time constraints, they may already know the site or simply they did not notice the information (Ham, 1992, Kuo, 2002; Merriman and Brochu, 2005; Moscardo, 1999; Ward and Wilkinson, 2006). Ham (1992) suggests that most visitors are willing to learn a little more about a site if they are exposed to appropriately constructed and informative messages. Hence, the content of the information as well as its language and depth should be carefully considered in relation to the profile of the visitors who come to the site (Kuo, 2002).

2.6 Summary

This chapter has attempted to explain the importance of visitor management and in so doing has identified two different approaches, namely hard and soft visitor techniques. Whilst, these two sets of techniques differ significantly in terms of their delivery, they are traditionally always adopted together. It is also clear from the research that focused communication with the visitors is critical if managers wish to raise their understanding of the importance and potential fragility of a site in the hope that they are then less likely to make ill-informed judgements and/or undertake recreational activities which are not permitted. The following chapter will therefore explore the concept of interpretation, the range of interpretive media available, how they are used and evaluated, together with the ways in which effective interpretive communication can influence the visitor and therefore support the underlying messages of soft and hard visitor management, at a natural site.

Chapter Three

Interpretation and the visitor experience

3.1 Interpretation: an introduction

'*Everybody needs beauty as well as bread,*
places to play in as well as pray in,
where nature may heal and cheer and
give strength to beauty and soul alike'
(John Muir in Knudson *et al.*, 1995:57)

Moscardo (1998:11) suggests that interpretation has the potential to '*make a significant and substantial contribution to the development of a more sustainable tourism industry*'. The previous chapter briefly considered the role interpretation can play as a soft visitor management tool as well as supporting a variety of hard visitor management techniques (Buckley, 2009; Eagles *et al.*, 2004; Kuo, 2002; Newsome *et al.*, 2002). Many researchers have argued that interpretation plays a significant part in enhancing the visitor experience as well as their understanding of the site which in turn can help to encourage them to become more environmentally aware (Ballantyne and Packer, 1996; Benton, 2009; Ham, 2009; Moscardo, 1999; Munro *et al.*, 2008). Whilst, Knudson *et al.* (1995) and Ward and Wilkinson (2006) suggest that interpretation may offer broader inspirational benefits to the visitors as loosely illustrated in the opening quotation of this chapter by the late American nature pioneer and artist, John Muir.

The increasing recognition of interpretation as an important visitor management tool has meant that as a practice it is now widespread and is in itself a subject discipline within the broader context of natural and heritage resource management. Currently some of the key authors on the subject include; Beck and Cable (1998), Benton (2009), Brochu and Merriman (2002/2003), Ham (1992: 2009), Ham and Weiler (2002/2007),

Knudson *et al.*, (1995), Merriman and Brochu (2005: 2006), Moscardo (1996: 1998: 1999), Moscardo and Woods (1998), Pearce and Moscardo (2007), Sharpe (1976), Veverka (1994) and Ward and Wilkinson (2006).

This chapter will explore the principles and practices of sound environmental interpretation. It will consider a definition, the historical development and the benefits of modern on-site interpretation as well as exploring the principles underpinning its effectiveness. Current guidelines relating to the general development of guided walks will also be considered. It will conclude by reviewing the ways in which on-site interpretation and guided walks in particular might be evaluated which will inform the primary research focus of this thesis, namely; the choice of on-site activities, demands for interpretive media as well as interest in and demand for guided walks as part of the experience of visitors on the Jurassic Coast World Heritage site.

3.1.1 A brief history of the 'interpretation' movement

John Muir was born in Scotland in 1838 and moved to Wisconsin as a boy. Through his travels across the country and his influential writings he shared his passion for the 'wilderness' and his concern for the protection of beautiful places (Merriman and Brochu, 2006). In later life he became a passionate spokesman for heritage resources and helped establish Yosemite National Park, in 1890.

However, the founder of the interpretation movement is widely regarded as Enos Mills who between 1889 and 1920 was a nature guide in the Rocky Mountains National Park, Colorado (Merriman and Brochu, 2006). He founded a nature guiding school, worked closely with John Muir on a number of articles and in his 1920 book '*Adventures of a Nature Guide*'

described their chief role as '*to arouse a permanent interest in nature's ways, and to achieve this by illuminating big principles*' (1920:15). Indeed, some observers regard him as the most influential developer of interpretation in the United States until the work of Grant Sharpe in the 1970s (Machlis and Field, 1984).

However, the man forever associated with the movement for most people will be Freeman Tilden, the son of a Boston newspaper publisher (Cable and Cadden, 2006; Merriman and Brochu, 2006). Tilden was a skilled writer and playwright who was invited to write about America's National Parks which in 1954 culminated in his celebrated book '*National Parks: what they mean to you and me*', this resulted in a commission to write a book on interpretation for the American National Parks Service. Tilden (1957) attempted to define the profession and develop his own philosophy of interpretation in this pivotal text which was entitled '*Interpreting our Heritage'*. This book inspired the Service to design and implement interpretation within all of the national parks in the United States (Bramwell and Lane, 1993b). In this book, Tilden (1977:8) defines interpretation as;

> *'an educational activity which aims to reveal meanings and relationships through the use of original objects, by first hand experience, and by illustrative media, rather than simply to communicate factual information.'*

In developing his definition and therefore vision of 'interpretation', Tilden (1977:9) devised six principles which underpinned his original philosophical and conceptual framework for the subject (Table 3.1).

Principle	Tilden (1977: 9)
1	Any interpretation that does not somehow relate what is being displayed or described to something within the personality or experience of the visitor will be sterile.
2	Information as such, is not interpretation. Interpretation is revelation based upon information. However, all interpretation includes information.
3	Interpretation is an art which combines many arts, whether the materials presented are scientific, historical or architectural. Any art is in some degree teachable.
4	The chief aim of interpretation is not instruction, but provocation.
5	Interpretation should aim to present a whole rather than a part, and must address itself to the whole man rather than any phase.
6	Interpretation addressed to children should not be a dilution of the presentation to adults, but should follow a fundamentally different programme.

Table 3.1: Tilden's six principles of interpretation

These six principles can be summarised in the form of three key components as suggested by Kuo (2002) which together underpin the current philosophy of interpretation:

- first, that it is an educationally-orientated activity;
- second, that its purpose is to reveal the meanings and relationships between man and the natural environment rather than merely delivering the facts about it, and;
- third, that it needs a medium or range of media to illustrate these meanings and relationships.

Historically, interpretive programmes had always been based around the 'facts and figures' of a site. However, as Tilden (1977:13) suggested:

> '*successful interpretation should focus on the relationship between the visitor and the site, and this should in turn foster within the visitor a sense of responsibility for the protection of the site*'.

Thus, Tilden also recognised that interpretation could operate as a management tool by contributing to the conservation of the natural environment. This objective was originally encapsulated within Tilden's oft-quoted maxim:

> '*through interpretation comes understanding,*
> *through understanding comes appreciation,*
> *through appreciation comes protection*' (Tilden, 1977:38).

However, it is now recognised that the relationship between interpretation, visitor understanding and site management objectives is not a simple and clear linear pathway as Tilden suggested; it is in fact far more complicated with many factors involved (Ham, 1992/2009; Ham and Weiler, 2007). However, the central principle that interpretation should aim to assist resource protection strategies whilst ensuring the visitor experience is enhanced remains a core component of any sustainable tourism management strategy (Benton, 2009; Keirle, 2002).

The concept of environmental interpretation which filtered into the UK following the Second World War was largely centred upon the dissemination of Tilden's ideas by Don Aldridge, who in 1966 was appointed the Peak District National Park's first Information Officer. He was also awarded a Churchill Travelling Scholarship and used this funding to study interpretation in the USA as practiced by the National Parks Service (Pierssene, 1999). He later joined the Countryside Commission for Scotland and through his collaborative work with John Foster on the development of environmental training programmes is today regarded as the pioneer of environmental education in the UK. The environmental interpretation movement in the UK was further stimulated in the early 1970s with the publication of the Sandford Report (1974:21) which in exploring the role of interpretation in the UK's National Parks stated:

> '5.67…….*In our view, the further development of adequate information and interpretive services is of the first importance both for the benefit of the public and for the conservation of the parks*'.

In 1975, Aldridge and Pennyfather with the support of the Countryside Commission produced a guide on environmental interpretation – its philosophy, principles and practice. This two volume set '*Guide to Countryside Interpretation'* is still regarded by many as not only 'good practice' within the field but also the point at which the environmental movement in the UK became more 'formalised' (Goodey, 1979). Interestingly, this guide defined interpretation in the following way:

> '*the art of explaining:*
> *a) the past in relation to social conditions,*
> *b) the character of a natural area through the inter-relationships of rocks, soils, plants and animals, including man, or,*
> c) *man and the environment in more general terms, with in each case, the ultimate aim of pointing towards a conservation message*' (Aldridge, 1975:5).

This definition illustrates the extent to which both the 'explanation' and the communication of a conservation message had overtaken Tilden's notion of education through provocation and revelation. In consequence, Goodey (1979:286) suggested that '*interpretation in Britain had emerged in a more formal and rigid way than was originally envisaged'*. The establishment in 1975 of the Society for the Interpretation of Britain's Heritage (SIBH) provided a focus for interpretation professional practice (Pierssene, 1999).

During the 1980s, with the growth in the number of natural protected areas as well as increasing public interest in natural and historic sites, environmental interpretation really 'took off' in the UK (Holden, 2008). It became recognised as a professional activity and its usage became widely adopted across natural, cultural and heritage sites largely due to the influence of the Centre for Environmental Interpretation which had been established at Manchester Polytechnic (Merriman and Brochu, 2006). Whilst interpretation had initially been regarded as a tool which provided entertainment, information and enhanced the visitor

experience, from the late 1980s the focus concentrated instead upon promoting positive environmental attitudes and behaviours in order to contribute to the conservation and management of protected areas (Beaumont, 2001; Goodey, 1979; Holden, 2008; Tubb, 2003).

In 2004, Tim Merriman and Lisa Brochu on behalf of the National Association for Interpretation in the United States stimulated new debate by identifying a number of trends facing the interpretive profession in the 21st Century. These trends included:

- the role of volunteers in front-line interpretation;
- the lack of financial resources to support the profession;
- the 'exciting' potential of the link between interpretation and the visitor experience;
- the need for interpretation to support managing authority messages;
- the importance of early 'natural' childhood experiences;
- the need for accreditation of interpreters;
- the rise in interest in experiencing the natural and cultural environment.

(Merriman and Brochu, 2006).

3.1.2 Defining interpretation

'*There is no single definition of interpretation which has been widely adopted by all of the practitioners in the field*' (Hall and McArthur, 1998:165). However, probably the most widely accepted definition remains that developed by Freeman Tilden (1977:8) when he defined interpretation as:

> '*an educational activity which aims to reveal meanings and relationships through the use of original objectives, by first-hand experience, and by illustrative media, rather than simply to communicate factual information*'.

Over the last thirty years, the debate on refining Tilden's definition of 'interpretation' has continued not only based upon his original philosophy but also involving a similar definition developed by Interpretation Canada in 1976. Currently, there is particular interest in agreeing a single definition's parameters and in exploring how far it overlaps with understandings related more specifically to environmental education (Benton, 2009, Cable and Cadden, 2006; Novey, 2008). Early definitions of interpretation have always tended to concentrate on its educational importance whilst more modern definitions tended to focus upon the ethical and personal experiential dimensions of interpretation (Novey, 2008).

Interpretation has been defined in a number of ways, including:

- '*the communication process which aims at helping people to discover the significance of things, places, people and events…..helping people change the way they perceive themselves and their world through a greater understanding of the world and themselves*' (Colonial Williamsburg USDA, in MacFarlane, 1994:10).
- '*creating an experience or situation in which individuals are challenged to think about and possibly make decisions concerning natural resources*' (Vermont Department of Forests, Parks and Recreation USA, in MacFarlane, 1994:10).
- '*the process of stimulating and encouraging an appreciation of our natural and cultural heritage and of communicating nature conservation ideals and practices*' (Queensland National Parks and Wildlife Service, in Davie, 1993:76).
- '*a kind of educational enterprise where the concern is that which is interesting to the visitor, or that which can be made interesting to the visitor, not that which someone else thinks the visitor ought to know, regardless of how interesting it is*' (Makruski, 1978 in Knudson *et al.*, 1995).

Date (in chronological order)	Author	Definition
1977	Tilden (1977:8)	An educational activity which aims to reveal meanings and relationships through the use of original objectives, by first-hand experience, and by illustrative media, rather than simply to communicate factual information
1985	The American Association of Museums (Alderson and Low, 1985:21)	A planned effort to create for the visitor an understanding of the history and significance of events, people and objects with which the site is associated
1999	The Society for Interpreting Britain's Heritage (quoted in Pierssene, 1999:1)	The process of explaining to people the significance of the place or object they have come to see, so that they enjoy their visit more, understand their heritage and environment better, and develop a more caring attitude towards conservation
2000	Moscardo (2000:327)	Any activity which seeks to explain to people the significance of an object, a culture or a place. Its three core functions are to enhance visitor experiences, to improve visitor knowledge or understanding, and to assist in the protection or conservation of places or cultures.
2002	National Association for Interpretation (NAI) Brochu and Merriman (2002:20)	A communication process that forges emotional and intellectual connections between the interest of the audience and the inherent meanings in the resource.
2008	Interpretation Australia Association (2008)	A means of communicating ideas and feelings which helps people understand more about themselves and their environment
2009	Association for Heritage Interpretation (2009:2)	Interpretation enriches our lives through engaging emotions, enhancing experiences and deepening understanding of people, places, events and objects from past and present

Table 3.2: Definitions of interpretation

Inevitably, various definitions have emerged in recent years and they tend to reflect the particular objectives of the organisation involved in developing them (McArthur, 1998;

Novey, 2008). Table 3.2 reflects some of the main themes within the interpretation movement including; recognising the importance of visitor enjoyment and appreciation of the site, the communication of information, the dimension associated with visitor knowledge and understanding as well as the management objectives which encourage the conservation of the site itself.

Whilst this range of definitions confirms that the approach to interpretation varies between settings, they do all share a common theme which is that of providing interpretative experiences to visitors through which site managers can enhance the visitors' understanding and appreciation of the site. Beck and Cable (1998), Benton (2009) Ham (2009) and Keirle (2002) all argue that interpretation should encourage visitors to think about the site and in so doing challenge their knowledge, understanding and beliefs.

For the purposes of this research study no particular definition of interpretation has been singled out and promoted principally because they all capture the essence of the enhanced visitor experience which is at the heart of this thesis. However, it seems appropriate given the UK-basis of this research to recognise the two definitions most widely favoured within the UK interpretation community. These two definitions come from the National Association for Interpretation in the United States which currently commands a leading role in guiding the world-wide interpretation profession and the UK's own Association for Heritage Interpretation whose definition usefully communicates the emotion and the enrichment of the visitor experience. These two favoured definitions are therefore stated again below:

- National Association for Interpretation (NAI)
  '*A communication process that forges emotional and intellectual connections between the interest of the audience and the inherent meanings in the resource*' (Brochu and Merriman, 2002:20)

- Association for Heritage Interpretation (2009:2)
  '*Interpretation enriches our lives through engaging emotions, enhancing experiences and deepening understanding of people, places, events and objects from past and present*'.

3.1.3 Beyond Tilden's six principles of interpretation

In 1998, Larry Beck and Ted Cable published '*Interpretation for the 21st Century*' which importantly embraced the work of Enos Mills as well as Tilden's six principles but then added nine more ideas (Table 3.3) which they suggested brought Tilden's principles up to date, as they stated '*we aim to sculpt and elaborate upon their contributions*' (1998:10) thus providing a '*more elaborate interpretive philosophy*' (1998:8).

Brochu and Merriman (2002) discussed these updated principles and made two interesting comments which reflected the current professional climate at that time:

- Principle 8 which focuses upon new technology but warns against the over use of 'gadgetry'. They suggested that technology should be used where it enhances the interpretive programme but advised strongly that '*if it detracts from or overrides the message, pull the plug*' (2002:28);
- Principle 12, they argued was one of the most important in the way in which it reflects the current financial climate faced by most interpreters. They suggested that it reminds interpreters that they must '*make difficult decisions about what we can and should provide for the public*' (2002:28).

They also welcomed the inclusion of Principle 15, the 'passion' which Tilden described as his 'priceless ingredient'. Brochu and Merriman (2002:28) suggested that an interpreter should '*want to employ their enthusiasm and energy in their programmes, because it makes their interpretation more powerful and motivational*'.

Principle	
1	To spark an interest, interpreters must relate the subject to the lives of the visitors.
2	The purpose of interpretation goes beyond providing information to reveal deeper meaning and truth.
3	The interpretive presentation – as a work of art – should be designed as a story that informs, entertains, and enlightens.
4	The purpose of the interpretive story is to inspire and to provoke people to broaden their horizons.
5	Interpretation should present a complete theme or thesis and address the whole person.
6	Interpretation for children, teenagers and seniors – when these comprise uniform groups – should follow fundamentally different approaches.
7	Every place has a history. Interpreters can bring the past alive to make the present more enjoyable and the future more meaningful.
8	High technology can reveal the world in exciting new ways. However incorporating this technology into the interpretive programme must be done with foresight and care
9	Interpreters must concern themselves with the quantity and quality of information presented. Focused, well-researched interpretation will be more powerful than a longer discourse.
10	Before applying the arts in interpretation, the interpreter must be familiar with basic communication techniques. Quality interpretation depends on the interpreter's knowledge and skills, which should be developed continually.
11	Interpretive writing should address what readers would like to know, with the authority of wisdom and the humility and are that comes with it.
12	The overall interpretive programme must be capable of attracting support – financial, volunteer, political and administrative – whatever support is need for the programme to flourish.
13	Interpretation should instil in people the ability, and the desire, to sense the beauty in their surroundings – to provide spiritual uplift and to encourage resource preservation.
14	Interpreters can promote optimal experiences through intentional and thoughtful programme and facility design.
15	Passion is the essential ingredient for powerful and effective interpretation – passion for the resource and for those people who come to be inspired by the same.

Table 3.3: Principles of interpretation after Beck and Cable (1998)

3.2 The role and benefits of interpretation

Grant Sharpe (1976:8-9) identified a range of benefits of interpretation (Table 3.4).

Participate directly in the enhancement of the visitors experience
Encourage visitors to be more aware of their place, role and responsibilities towards the natural environment
Inform the visitors on matters related to natural resources management
Minimise the unnecessary degradation of natural and cultural areas
Provide the means of subtly moving visitors from sensitive areas to other areas which can better sustain heavy visitor impact
Broaden the visitors' horizons beyond the immediate area, to the natural environment more generally
Improve or enhance the public image of a site as well as establishing public support for the managing authority
Be effective in preserving a significant natural or historic site by arousing the curiosity and concern of local community groups
Instil in the visitors and locals a sense of pride in their region, country and natural / cultural heritage
Assist in the successful promotion of natural areas where tourism is essential to an area or country's economy
Encourage the thoughtful use of the site on the part of the visitor as well as reinforcing the concept that public spaces are special places

Table 3.4: Benefits of interpretation

The benefits of interpretation can therefore be summarised as educational, recreational, inspirational, economic, promotional and managerial (with a resource protection-focus). The educational benefits centre upon increasing visitor knowledge and understanding of the natural environment in which they find themselves (Ballantyne and Packer, 1996; Ham, 2009) whilst the recreational benefits focus entirely upon the enjoyment of the on-site experience. Meredith (2000:34) suggests that a positive interpretive experience should ensure that the visitors leave the site '*feeling they have received something of value for their time spent*'. This positive experience she suggests could be based upon increasing their knowledge, the discovery of something new and/or exciting, the value of participation or perhaps something of a more spiritual, moving and even enlightened nature.

Interpretation can also provide economic benefits in a number of ways including contributing to the financial stability of the managing organisation through facilities, materials and services, creating local employment for people as interpreters and guides and generally satisfying visitor demand through the enhanced use of facilities whilst on-site. Keirle (2002) and Merriman and Brochu (2005) suggest that good interpretation can develop a focused and positive image for the organisation involved in the management of the site. Thus, effective interpretive services can also be useful in promoting the 'image' or the 'visual identity' of the site and its managing authority as well as promoting its values, objectives and practices. So in purely economic terms, interpretation can be viewed as 'propaganda' or 'interpreganda' as well as a value-added product for the tourism industry (Keirle, 2002) although Brochu and Merriman (2002:17) have argued that the notion of 'interpreganda' demonstrates a '*lack of respect for the audience'* and their '*right to honest communication*'.

3.2.1 Interpretation as a tool to manage visitors

Buckley (2009), Ham (1992/2009), Keirle (2002), Sharpe (1976) and Uzzell (1989) have argued that well placed interpretation can help visitors understand why a site is special and how even a small change in their behaviour could help to protect it further. Huffman and Williams (1987) provide a good example of this strategy through a computer information display providing information on trail choices for 'back country' hikers in the Rocky Mountains National Park, Canada. In their study 60% of the hikers who used the display screen chose to use a route suggested by the programme which potentially alleviated the pressure on heavily used trail areas. The 'Skyrail' trip in Queensland (Australia) studied by Moscardo and Woods (1998) provides a further example. Beyond the very high appreciation of the rainforest gondola experience itself and its association with three, themed interpretative activities, their research also identified benefits in terms of visitor management. This research

suggested that by providing a rewarding 'Skyrail' experience it appeared to have '*decreased visitor intentions for most other activities, especially for short rainforest walks, wildlife viewing and rainforest day trips*' (Moscardo and Woods, 1998:6). If this pattern of behaviour continued over a period of time then the pressure exerted on a heavily visited rainforest site would be significantly reduced. Buhalis *et al.* (2006) suggest that visitor flow can also be successfully managed through the provision of interpretive information using communication technologies such as Personal Digital Assistants (PDAs) which can enhance the visitors' on-site experience whilst still carefully managing and directing the flow of visitors around the site.

In addition to influencing on-site visitor behaviour, interpretation should also aim to contribute to longer-term conservation goals through promoting positive visitor attitudes and encouraging a commitment to global conservation priorities (Ballantyne and Packer, 1996; Ham (2009); Ham and Weiler, 2002a: 2007). Hwang *et al.* (2008) in developing the work of a number of researchers including Hungerford and Volk (1990) have identified that attitude, locus of control, knowledge, social norms, gender, responsibility, sensitivity and intention to act are all related to the creation and establishment of responsible environmental behaviour amongst visitors. They have argued that it is the on-site situational factors which are most important in ultimately determining the success of interpretive programmes which are designed to influence the on-site behaviour and attitudes of visitors. Their research on 523 visitors participating in a forest trail experience in Korea revealed that 'locus of control' appeared to have the most significant impact upon behaviour. They therefore concluded that interpretive programmes which make visitors '*think more critically about their own choices*' (Hwang *et al.*, 2008:20) are most likely to be successful.

3.2.2 Interpretation as a tool to enhance the visitor experience

Interpretation can contribute significantly to the economic viability of a site by enhancing the quality of the visitor experience (Table 3.5) and therefore potentially encouraging an increased visitor spend on-site as well as increasing the chance of repeat visitation.

1	providing information on recreational activities available on site
2	providing information which supports a safe, comfortable visit
3	providing information which supports the on-site managing authority and its objectives
4	creating a means of entertainment by bringing a destination 'to life' as well as capitalising on visitor curiosity
5	creating and/or enhancing an 'actual' experience

(Based on Bramwell and Lane; 1993b; Buckley, 2009; Ham, 2009; Moscardo, 1999; Moscardo and Woods, 1998 and Munro *et al.*, 2008).

Table 3.5: Five activities to enhance the visitor experience

Interpretation plays a key role in providing visitors with good information and on-site orientation to ensure that they find the range of recreational activities which they wish to pursue and more importantly perhaps, are aware of all of the options available to them. In consequence, as Moscardo (1998) suggests, visitors can make the best choices for themselves in terms of what they do, where they go and what they see. In addition, interpretation can reinforce the importance of safety in a recreational setting which can significantly enhance the overall quality of the visitor experience.

Whilst education is often cited as another important purpose of interpretation, Ham and Weiler (2007) argue that it should also provide enjoyment and entertainment for the visitors. Smith (2003) and Ward and Wilkinson (2006) suggest that interpretation is about making sites more accessible and more 'fun' for visitors. However, Knudson *et al.*, (1995) state that effective interpretation should not merely be 'fun' and should move beyond mere recreational goals by creating stimulating and inspirational experiences. There is little doubt however that

interpretation can significantly enrich and enhance the visitors' on-site experience. Putney and Wagar (1973:43) state that:

> '*by helping recreationists enjoy and understand the areas they visit, interpretation of natural and cultural history can add substantially to the quality of visitor experiences and therefore to the stream of benefits produced by such areas*'.

There is an interesting debate within the academic community over whether interpretation can and should be regarded as the 'experience itself' or as an important component within the overall experience. Veverka (1994) and Ward and Wilkinson (2006) argue that a good interpretive experience can be the reason itself for visitors coming back to a site because of the 'added value' it provides. However, over-interpretation can be problematic particularly if it leaves nothing left to the imagination. Howard (2003) reminds the interpreter that some sites might 'speak for themselves' and that on those sites interpretation which tells everything can easily destroy the subtleties of the site and of the experience. Ward and Wilkinson (2006) argue that experiencing the interpretation itself is a major component for visitors in activities such as guided walks, tours, living history and self-guided trails and that because many visitors are seeking increasingly educational elements within their travel and/or recreational experience, interpretation is likely to become an increasingly integral part of that overall experience.

Moscardo and Woods (1998) provide a good example of this, in their study of the 'Skyrail' Rainforest Cableway in North-Eastern Australia. This 'Skyrail' which takes visitors on a gondola-style trip across the canopy of the Wet Tropics World Heritage rainforest offers them a series of three, themed interpretative activities which make up an integral part of the overall experience (Moscardo and Woods, 1998). The results of visitor surveys indicate that the visitors who participated enjoyed their 'Skyrail' experience (mean satisfaction score of 8.7) and that the interpretation on offer was regarded as an important component of their overall

satisfaction. It seemed clear therefore that the interpretation itself was found to have enhanced the visitors' experience (Moscardo and Woods, 1998).

Hammitt (1984) and Ham and Weiler (2002) also stress the importance of high quality interpretation as a major contributor to the satisfaction of visitors. Hammitt (1984) argues that interpretation kindles the visitors' imagination and encourages them to develop a 'sense of place' which stimulates an emotional connection with the site. Ham and Weiler (2002/2007) also suggest that interpretation leads to satisfied visitors who enhance the economic sustainability of a site through word-of-mouth advertising as well as increasing repeat visitations in the longer term.

John Burroughs, an early American naturalist, in a book entitled '*Under the Apple Trees*' (1916), wrote:

> '*to absorb a thing is better than to learn it, and we absorb what we enjoy. The joy of knowing is very great; the delight of picking up the threads of meaning here and there, and following them through the maze of confusing facts, I know well*'. (Knudson *et al.*, 1995:59).

While debate will continue in academic and interpretive communities over the potential balance between the educational and entertainment benefits of interpretation, there is little doubt that beyond the element of 'fun' lies an emotional and inspirational area for visitors which many interpreters and nature guides would wish to kindle and arouse (Knudson *et al.*, 1995; Ward and Wilkinson (2006). Many first-hand interpreters have identified the importance of the 'discovery' aspect of interpretation and have suggested that the feelings generated within the visitor by such an encounter can by 'truly profound' (Ham, 1992; Sharpe, 1976). Enos Mills back in 1920 suggested that nature guiding is more '*inspirational than information*' (Knudson *et al.*, 1995:60). In consequence, a number of researchers have

argued that an interpretive programme, particularly a guided one, should at least in part take the visitor on a journey of self-discovery where they can develop their own interpretive capabilities, where their sensitivities are heightened and where as a result they walk more closely and lightly with nature (Brochu and Merriman, 2002; Buckley, 2009; Ham, 1992: 2009; Sharpe, 1976). Thus, interpreters have the potential opportunity to inspire visitors through enhancing their ability to sense the quality, beauty and uniqueness of the natural world around them.

In recent years, the concept of the 'experience economy' has been widely adopted within the field of interpretation, it was first introduced by Joseph Pine II and James Gilmore in a 1998 issue of the '*Harvard Business Review*' and was developed more fully within their ground-breaking text *'The Experience Economy: work is theatre and every business a stage'* (1999). According to Pine and Gilmore (1999) businesses should offer five basic elements, by attempting to:

- harmonise customer impressions with positive cues;
- eliminate all negative cues;
- engage all five senses;
- theme the overall experience;
- mix in memorabilia (such as, souvenirs).

They identify four realms in which the overall experience can take place: 'educational', 'entertainment', 'aesthetic' and 'escapist'. However Brochu (2002) argues that where possible an interpretive media should identify itself with only one or two of these realms, which she suggests will then make its overall message more powerful. Brochu and Merriman (2002) suggest that the application of the experience economy philosophy to the field of

interpretation is obvious and grounded in the work of both Tilden (1957) and more recently, Beck and Cable (1998). They suggest that good interpretation should '*craft a complete guest experience*' (Brochu and Merriman, 2002:36) and that in so doing the interpreter will establish longer lasting connections with their visitors. Weaver (2007) in commenting on their work suggests that most experiences are actually a blend of some or all four of these realms and in illustrating this 'guest experience' and working with the ideas of Pine and Gilmore (1999) she developed eight stages (Table 3.6) which would ensure a crafted visitor experience.

Stage	Activity
1	Invitation
2	Welcome
3	Orientation
4	Comfort
5	Communication
6	Sensation
7	Common sense
8	Finale

Table 3.6: Stages of the visitor experience (Weaver, 2007)

3.2.3 The challenges associated with the development of on-site interpretation

Bramwell and Lane (1993b) present one of the most complete discussions of the challenges associated with the development and establishment of on-site interpretation and in discussing them, they identify the following issues; economics, message simplification, over-interpretation, intrusion and elitism.

a) Economics

One of the main criticisms of on-site interpretation can be that it is '*driven by economic objectives*' (Bramwell and Lane, 1993b:75). Brochu and Merriman (2003), Ham (1992) and Ward and Wilkinson (2006) all suggest that the issue of income and the need to encourage

repeat visitation can often over-ride any other objectives leading to the development of interpretive media which are attractive to visitors but may have little value to the interpretation of the site itself on a broader scale or may even actively encourage activities which may be detrimental and possibly even erosive to the site. Care should also be taken where the principle asset of the site in terms of visitor interest is something which is small, fragile or of significant local cultural or spiritual interest. In this context interpretation which encourages increased visitation can be potentially harmful both to the site and the needs and feelings of the local community.

b) Message simplification

A further criticism of interpretation is that it often tends to simplify stories and meanings into something which is easily 'consumed' by the visitors (Brochu and Merriman, 2003; Hall *et al*., 2010; Ham, 1992; Knudson *et al*., 1995). Hall *et al.* (2010) illustrate this with a discussion of the design of 'bear warning' signs used in Yosemite National Park, USA. Bramwell and Lane (1993b) also illustrate this concern through the suggestion that most of the geological processes which have shaped the landscape are extremely complex and that as a result most interpretation of them requires these processes to be simplified to a significant extent. Brochu and Merriman (2002) suggest that often a key element is the human involvement with the landscape, the 'human interest' they claim, being a good and often emotive story for interpretation which will frequently take centre stage in any interpretive experience irrespective of whether the real-life processes in the landscape were as well dominated by human activity.

c) Over-interpretation

Over-interpretation is a common problem faced by the interpretive profession and typically occurs where a managing authority offers too many interpretive media, experiences, activities and events (Brochu and Merriman, 2003; Ward and Wilkinson (2006). Ham (1992) suggests that on some sites, the scenery, wildlife or local community can say it all and there is simply no need for interpretation, here sometimes '*less can be more*' (Ham, 1992:125). Timothy and Boyd (2003) remind the managing authority of the importance of the 'magic of a site' which might relate to a 'sense of wonder', of 'strangeness' or 'awe' which can so easily be destroyed through over-interpretation. A further criticism is levelled at the use of interpretive panels which when used too frequently can detract not only from the views and the scenery but also from the messages being conveyed (Fennell, 2008; Merriman and Brochu, 2005).

d) Intrusion

Bramwell and Lane (1993b), Buckley (2009) and Butler (1999) all remind the managing authority that high quality interpretive experiences can attract the attention of a 'mass' audience to the site which can then so easily become intrusive to local communities. Brochu and Merriman (2002) argue that on sites where an increase in visitor numbers occurs, the authenticity of the experience may be compromised to provide a visitor experience which safeguards the site itself and respects the needs of the local community. Urry (2002) argues that interpretation can create 'quaint landscapes' where tourists view local people coexisting with nature and the landscape in a harmonious, tranquil and even idyllic manner. Bramwell and Lane (1993b:77) argue that in this context interpretation can encourage the establishment in the visitors mind of a '*false sense of reality in relation to the site and the local community*'. Equally, interpretation in identifying interesting features on a site can establish and reinforce

their importance out of all proportion to the site and landscape as a whole (Bramwell and Lane, 1993b)

e) Elitism

A final criticism of interpretation again centres upon the interpretive professionals and the managing authority which can over-interpret or 'over-experience' a site simply to promote it in relation to neighbouring sites or within the region as a whole. This form of interpretive 'elitism' is particularly common as the popularity of a site begins to grow and expand when the managing authority may then need to continually create additional facilities and experiences to maintain their visitor numbers and their status, as a site worthy of visiting (Merriman and Brochu, 2005).

Despite these criticisms of interpretation which will be explored further within the overall research study through a discussion of visitor perceptions of the interpretation offered at two locations on the Jurassic Coast World Heritage site, UK. Interpretation is still widely regarded as being beneficial for the on-site managing authority and the remaining sections in this chapter will explore the ways in which interpretation can be successfully delivered and evaluated.

3.3 The principles underpinning effective interpretation

This section will concentrate upon the key principles which underpin successful interpretation and which have been explored by several researches in recent years, including; Ham (1992), Ham and Weiler (2007), Klenosky *et al.* (1998), Knudson *et al.* (1995), Lewis (1980), Moscardo (1998), Newsome *et al.* (2002), Veverka (1994) and Ward and Wilkinson (2006). These principles reflect the three key tenants of Tilden's original definition from 1957,

namely; the provocation of ideas, the revealing of meanings and emotions and the relevance to the individual or the experience of the visitor. Based upon these three tenants and more recently the 'experience economy' work of Pine and Gilmore (1999) several fundamental principles of effective interpretation can be identified. Those detailed below are based upon the work of Newsome *et al.* (2002:241-2), where interpretation:

- should focus upon a clear, central theme and associated messages;
- facilitate the maximum use of the senses;
- encourage active involvement and the engagement of first hand experiences;
- seek to stimulate self-discovered insights;
- be of relevance to the visitor, who should find the imparted knowledge and insights valuable.

Ham (1992) identified a similar list as his 'recipe for success' for an interpretive programme, his four qualities are:

- interpretation should be enjoyable;
- interpretation should be relevant – or, meaningful and personal;
- interpretation should be organised;
- interpretation should have a clear theme.

Three essential elements in the development process for successful interpretation can be identified which Hall and McArthur (1998) suggest are; 'audience', 'message' and 'technique', and these three components are explored in the following sub-sections.

In terms of 'audience', Hammitt (1984) and Ward and Wilkinson (2006) suggest that visitors are more likely to store information which somehow relates to something within their own personality or past experiences. Keirle (2002) suggests that past experiences and knowledge form the 'foundations' upon which new knowledge is based. It is therefore essential to ensure that interpretive information is delivered effectively to the targeted visitors, indeed the relationship between the information and the state of reception of the visitor has been well explained in the mindful / mindless model developed by Moscardo (1996/1999) and Hall and McArthur's (1998) 'audience'.

3.3.1 The 'audience' and the 'Mindful' versus 'Mindless' model

Ellen Langer in her book entitled '*Mindfulness*' (1989) introduced the notion of someone being in either a 'mindful' or 'mindless' state. Her research (along with colleagues) has become pivotal in psychology and since 1996, it has been Gianna Moscardo who has applied Langer's theories to the interpretive profession. A 'mindful' mental state is said to be needed if visitors are to engage with new information, for as Moscardo and Ballantyne (2008) state, a 'mindful' visitor will tend to notice their surroundings and responds to the information they receive. 'Mindful' visitors are typically more likely to enjoy their visit and are also more likely to choose to fully explore the site. They are typically more aware of the consequences of inappropriate behaviour and in turn, might be more likely to modify their behaviour after receiving administrative and interpretive information (Bauchop and Parkin, 2000; Ham and Weiler, 2007; Ham, 2009; Moscardo, 1996/1999; Prentice *et al.*, 1998; Stewart *et al.*, 1998).

'Mindless' visitors typically will tend to pay little attention to their surroundings and are less likely to receive new information (Moscardo and Ballantyne, 2008). Interestingly, if a visitor goes to a site regularly and becomes very familiar with the setting they are more likely to

become 'mindless' because they tend to switch to an "auto-pilot" mode whilst on site and are thus less likely to notice changes to the management or interpretation of the site. Such "auto-pilot" styles of visitation recognise the need for site managers to regularly reinforce on-site messages and provide new interpretive experiences to reduce the likelihood of this state occurring. Table 3.7 provides a useful comparison between the 'mindful' and 'mindless' state.

	'Mindful' state	**'Mindless' state**
Key characteristics, situations and outcomes	1. Open to learning	1. Unlikely that learning will take place
	2. Likely to pay attention to the setting	2. Likely to pay very little attention to the setting
	3a. Interested in developing new routines, events and activities 3b. Interested in new and varied settings and situations	3a. Prefer existing and well established routines, events and activities 3b. Likely to prefer familiar settings and situations
	4. Characterised by a sense of control and choice, which is personally relevant	4. Characterised by a sense of limited control, with few choices needing to be made. Not necessarily interested in the personal relevance of the site
	5. Motivated to 'learn' and recall information	5. Unlikely that 'learning' will take place, information recall is likely to be poor
	6. Likely to deal with problems whilst on-site	6. Limited ability : interest to deal with problems whilst on-site
	7. Seeking a feeling of achievement and satisfaction from their visit	7. A feeling of lack of achievement and dissatisfaction or indifference, is more likely, as a result of their visit

Table 3.7: A comparison between the 'mindful' and 'mindless' state (Moscardo, 1999)

Given that most site managers would wish to stimulate their visitors 'mindful' mental state, Moscardo (1999) suggests that there are two groups of factors which should be taken into consideration; 'communication' and what she describes as 'visitor factors'.

'Communication' factors include the content of the information as well as the media adopted whilst, 'visitor' factors refer to such things as their demographic background, group size and composition and their expectations whilst on-site. In consequence, there are real benefits for site managers associated with carrying out regular visitor research which can notably explore and challenge these 'visitor' factors. As Ham and Weiler (2007), Moscardo (1999) and Timothy and Boyd (2003) all suggest, active and regularly updated communications with visitors for instance through organising different guided activities and changing exhibitions in the visitor centre in accordance with the season can not only encourage repeat visitation but also stimulate a more mindful experience.

This model of mindfulness / mindlessness emphasises the relationship between the visitor profile and the interpretive technique in linking visitor cognition, satisfaction and behaviour. Thus, Table 3.8 illustrates that mindful visitors are more likely to engage with and potentially learn from the interpretation and will have a higher level of satisfaction with their visit. In contrast mindless visitors are likely to have less interest in the content, are less likely to engage with it and may well have an overall lower level of satisfaction with the interpretation. The notion of mindfulness / mindlessness is explored further through the discussion with participants who undertook guided walks in one of two locations on the Jurassic Coast World Heritage Site, UK.

Interpretation (setting) factors	Visitor factors	Cognitive state	Organisation of content	Consequences
1. Variety : Change 2. Use of multi-sensory media 3. Use of novelty : conflict : surprise 4. Use of questions 5. Visitor control : interaction with exhibits 6. Connections made to visitors 7. Good physical orientation	1. **High** interest in the content 2. L**ow** levels of fatigue	**'MINDFUL'**	Clear structure to the range of media offered, matched to what the visitors want to know	**1. More learning** **2. High satisfaction** **3. Greater understanding**
1. Repetition typical 2. Use of uni-sensory media 3. Use of traditional exhibits 4. Limited or no questioning 5. No control or interaction, use of static exhibits 6. No attempt to connect to : challenge visitors 7. Poor physical orientation	1. **Low** interest in the content 2. **High** levels of fatigue	**'MINDLESS'**	Poor structure to the range of media offered, not matched to what the visitors want to know	**1. Little learning** **2. Low satisfaction** **3. Little understanding**

Table 3.8: The mindful / mindless model (Moscardo, 1999:27)

3.3.2 Targeting the 'audience'

Meredith (2000) argues that most sites relate their activities to their 'typical' visitors which means the visitors are often '*lumped together in broad categories*' (2000:34) whereas as she suggests visitors with broadly similar interests still tend to differ in their requirements in sometimes subtle but also occasionally, significant ways. Targeted interpretation must start therefore according to Hall and McArthur (1998:170) with a '*detailed understanding of the audience*', for most interpreters this would naturally be regarded as the critical first step in planning any form of interpretation (Brochu, 2003). Many researchers have discussed and emphasised the variety of ways in which seemingly similar groups of visitors may actually differ (Field and Wagar, 1976; Ham and Weiler, 2007; Hall and McArthur, 1998; Moscardo, 1998/1999; Veverka, 1994). Such differences can be based upon their demographics; their country of origin, prior experiences and educational background, the likelihood of repeat visitations, their motivations and activity preferences whilst on-site and of course, the social groups in which they arrive (Brochu, 2003; Field and Wagar, 1976; Veverka, 1994; Ward and Wilkinson (2006). These differences, particularly if visitors tend to return to the site on a regular basis can in turn influence their response to the interpretation, the time spent within a specific interpretive setting, the level of interpretation sought or expected and the level of their pre-existing attitudes towards and knowledge of the site.

These attitudes and expectations can be translated on-site by the managing authority who can vary the interpretation on offer through the seasons or through scheduled special events in order to recapture the interest of the visitor (Beck and Cable, 1998; Brochu, 2003; Field and Wagar, 1976; Ward and Wilkinson (2006). The differences between visitor groups were identified by Moscardo (1998) in research conducted on the Great Barrier Reef in Australia, where visitors were grouped according to the range of activities they chose to undertake. The

differences between the resulting groups were investigated and were found to be based upon a range of characteristics and attitudes including; their time available on site, any prior reef-based experiences, their educational level and their attitudes towards the reef and conservation issues, in general. The research concluded that providing on-site interpretation in '*different layers and levels*' (Moscardo, 1998:11) would help to support the reef experiences of this diverse visitor base. There is little doubt therefore that when planning interpretation it is important to ensure that the range of experience offered are best suited to the visitors and their needs, motivations and interests (Brochu, 2003; Hall and McArthur, 1998: Moscardo, 1998: 1999; Ward and Wilkinson (2006). The overall visitor experience and the recognition of the needs of the individual visitor sub-groups are an important aspect of this research study.

3.3.3 The 'message' - targeting clear and thematic content

Hall and McArthur (1998) identify the 'message' as the second component of effective interpretation. Beck and Cable (1998) reinforce the importance of the interpretation programme being 'holistic' in its outward face arguing that Tilden (1977:40) stated that:

> '*a cardinal purpose of interpretation, it seems to me, is to present a whole, rather than a part, no matter how interesting the part may be*'.

Veverka (1994:40) agrees arguing that this 'whole' within the interpretive programme should be represented by a theme which he defines as '*the central or key idea of any presentation*'. In particular it is useful to develop a theme or story which contains concepts and messages because this allows the ideas and information to be organised and thus easier to follow and these themes should embrace a single focus or core idea to which all of the other information or concepts can be linked (Ham, 1992; Moscardo, 1998: 1999; Moscardo *et al*., 2007;

Veverka, 1994). Ham (1992:38) in describing the establishment of a theme suggests that it should be:

- stated as a simple, short and complete sentence;
- contain only one principle idea;
- reveal the overall purpose of the programme;
- be specific;
- and be interestingly worded (if possible using active verbs).

McArthur and Hall (1996c:96) illustrate the difference between a theme, concept and message, as follows:

- a theme reflects 'the characteristics of the region's natural or cultural heritage';
- whilst, concepts (or sub themes) refer to 'a strong idea underlying a group of common messages';
- and, messages (or story lines) refer to 'what is actually planned to be said' based upon these themes and concepts.

Brochu (2003) and Moscardo *et al*. (2007) in discussing the creation of a theme and its associated messages suggests that three questions about the site should be considered:

- what are the most significant stories about the site?
- what are the visitors most interested in, whilst on the site?
- what key messages does the managing authority wish to communicate to the visitors?

Beck and Cable (1998) suggest that the resulting messages derived from the answers to these three questions should be combined to create a 'holistic theme' for the site. Equally, from the

visitors' point of view, the content of interpretation requires messages to be organised in such a way that visitors can both access and follow them (Moscardo *et al*., 2007).

Another important aspect is providing personal connections in the way in which information is presented to the visitors perhaps by using personal guides or interpreters (Moscardo, 1998). It is also necessary to target the different levels of messages relevant to the visitors' interest, capabilities and previous knowledge (Hall and McArthur, 1998; Moscardo, 1998; Moscardo *et al*., 2007). However, Keirle (2002) reminds interpreters that the majority of visitors who visit a site do so for enjoyment and entertainment. Interpretation should be 'fun' and should endeavour to stimulate them rather than purely trying to 'educate' them. Other successful techniques which reinforce this 'fun' element in the development of links between the message content and the visitor include the use of humour, analogies, metaphors and 'real' characters as well as giving visitors the opportunity to interact with the staff, ask questions, participate directly and also make decisions about their choice of interpretive experience (Brochu, 2003; Ward and Wilkinson, 2006).

3.3.4 The 'technique' – determining the appropriate media

The 'technique' is the third component of effective interpretation (Hall and McArthur, 1998). Whilst there are a broad range of factors which can help the managing authority determine the correct selection of media used for an interpretive experience, it is not within the scope of this sub-section to explore in detail the full range of factors involved. However, Brochu (2003) and Ham (1992) summarise the whole range of factors by dividing them into two groups: 'designing different interpretive experiences' and 'providing opportunities for visitor participation'.

1) Designing differences into interpretive experiences

Moscardo (1998:8) suggest that '*humans as a species instinctively pay greater attention to differences and changes in our environment*', providing difference or variety is arguably therefore of real importance within the visitor experience. This variety can be designed into 'interpretation' in a number of ways, such as; the range of media used as well as the way in which each is presented, the level of engagement (mental, physical and within their social group) required by visitors, the senses required, the pace of the media as well as its overall dispersal around the site and surrounding areas. However it is achieved, there is no doubt that it is important to provide variety in the interpretive experience for visitors (Brochu, 2003; Ham, 1992; Moscardo *et al*., 2007; Sharpe, 1976; Ward and Wilkinson, 2006).

Variety can simply be achieved through the ways in which visitors are required to respond to exhibits, tableau or displays such as in the form of a physical action (pulling down a lever, pressing a button etc.) or a mental process associated with playing a game or undertaking a quiz. A change of pace in the media is also particularly helpful as repetition at a particular pace will quickly become dull and lose visitor attention and without this attention, it is difficult to create a successful and 'mindful' communication process (Moscardo, 1998; Moscardo and Ballantyne, 2008). The use of various senses is also recommended, a good example might be on a self-guided trail where listening for natural sounds at one station might be replaced by careful observation or even taste experiences at another station (Ham, 1992; Ward and Wilkinson, 2006). Similarly, Weaver (2007) advocates the addition of sounds and even smells to otherwise fairly traditional visitor centre exhibits and displays, this practice as she states, is already very common in the more complex dioramas and tableau, guided tours and living history exhibits.

Variety can also be achieved through the actual mix of media available, some of which might also encourage social interaction (Moscardo, 1999; Moscardo *et al*., 2007). Moscardo (1999) cites a particularly good example where a guided cruise tour in Queensland (Australia) involved the visitors forming into mixed groups and undertaking a variety of marine-based activities during the cruise. Variety is also created in the way the interpretive experiences and their associated media are dispersed through an area. Stewart *et al.* (2001) report on their work in interpretive planning within the Brecks countryside which straddles the Norfolk / Suffolk border (UK) and in so doing comment upon the advantages and disadvantages of dispersed or centralised interpretive facilities and media. Dispersed media across a given area allows for greater community participation and involvement and is also ideal where multiple points of access to the area are available for visitors. Dispersed media also has the advantage of being able to move visitors around a large area in an interesting and informative way, but also in a site-sensitive manner.

The disadvantages of dispersed media include the risk of dilution of the message, the potential over-interpretation of the area, a lack of control of the visitors and a danger of intrusion into the private lives of local people (Bramwell and Lane, 1993b; Stewart *et al*., 2001). Bramwell and Lane (1993b) argue that dispersed media tend to be better suited to achieving sustainable tourism goals whereas centralised media tend to be better at enhancing the visitor experience in a coordinated and planned manner.

2) Encouraging participation and providing personal connections

Tilden stated in his fourth principle that '*the chief aim of interpretation is not instruction, but provocation*' (1977:9), it is therefore important to remember that providing opportunities for visitors to participate and engage with an interpretive experience has several key benefits.

Opportunities for interaction can encourage a sense of control over their experience as most activities require decisions and/or choices to be made which can help to build personal connections both within the group and between the group and the site (Brochu, 2003; Moscardo, 1998; Ward and Wilkinson, 2006). Moscardo and Ballantyne (2008) agree stating that on-site interpretation should provide visitors with a range of choices and options thus allowing them to create their own '*unique and personal experience*' (Moscardo and Ballantyne, 2008:245). Personal contact with a guide or talking with on-site staff provides an opportunity for the visitor to ask questions which are personally relevant to them but also gives staff the opportunity to tailor their response to the individual needs of the visitor (Sharpe, 1976; Ward and Wilkinson, 2006).

The establishment of a personal connection with the visitors is an important component for any interpretive media. These connections can be established very effectively through humour, but analogies and metaphors which link the content of the interpretation with the visitor and their own life experiences can also be very useful (Moscardo, 1998). Other techniques adopted include story telling, challenging and provoking the visitors, allowing them to touch and/or find objects, to ask questions and finally, the opportunity more broadly to interact and participate with the staff whilst walking around the site (Brochu, 2003; Ham, 1992; Sharpe, 1976; Ward and Wilkinson, 2006).

In order for on-site interpretation to be effective it is important to determine when and why interpreters might choose different types of interpretive media in order to attract the attention of the visitors, enhance their experience, deliver those key on-site messages as well as promoting the site generally and delivering additional income streams. In providing a context

for guided walks as one particular type of media, the next section will briefly introduce each of the main groups of interpretive media before focusing specifically upon guided walks.

3.4 An introduction to interpretive media

Interpretive media are traditionally divided into two types: personal or attended services and non-personal or unattended services (Ham, 1992; Sharpe, 1976). Personal media involve the use of site personnel whose role could include greeting visitors, policing and patrolling the site, leading guided activities, responding to emergencies, manning the visitor information centre, kiosk and undertaking 'performance activities' such as living history, role playing and storytelling. Non-personal media include the visitor centre itself together with a whole range of signage and panels, audio-visual devices, printed materials and maps, self-guided trails and exhibitions. Regnier *et al.* (1994) take a slightly different approach and illustrates the full range of media, as follows:

- **Personal service** – guided tours, display with commentary, visitor guides;
- **Visitor participatory media** – leaflets, maps, self-guided trails, interactive displays and exhibits, interactive re-constructions;
- **Static media** – posters and panels (both 2D and 3D), exhibitions and tableau, labels and press releases;
- **Mechanical media** – son et lumiere, audio-visual electronic displays, models and dioramas, web sites;
- **Live media** – displays with a sensory stimuli, audio-visual displays, 'living history' displays.

Despite the differences in categorising the range of media available, in practice both personal and non-personal media operate jointly on most sites to distribute messages, engage with visitors and provide a link between the range of hard and soft visitor management techniques being used on the site. Although some researchers suggest that personal media are always more powerful and intense in delivering interpretive information (Munro *et al.*, 2008; Sharpe, 1976; Ward and Wilkinson, 2006), in fact this is not inevitable. Visitors may choose to come to a site to undertake a variety of recreational activities and they may not want to commit their limited time on site to any form of guided interpretive activity. Moreover, directional and administrative information which are likely to be encountered by visitors on most sites often rely purely on non-personal media for their delivery. In practice, in considering effective visitor management the emphasis should always be placed upon using a combination of both personal and non-personal media.

Table 3.9 illustrates the two principle types of interpretive media and within these two types, the range of media, their applications as well as advantages and disadvantages.

Interpretive media	Application	Advantages	Disadvantages
Non-personal media 1. Visitor Centres and their exhibits	1. Can provide information of landscape, flora and fauna and management information. 2. Particularly helpful in large, wilderness areas, where there may not be an obvious central location. 3. Provides an opportunity for face-to-face contact with visitors. 4. Typically located near the entrance to national parks and other designed natural areas.	1. Recognisable sites where visitors can obtain information, advice and help. 2. Provide the location for the application of a wide variety of other media, which can bring the site, its people and artefacts to 'life'. 3. The visitors can view and 'discover' the exhibits at their own pace.	1. Can be expensive to establish and may be out of keeping with the environment, on some sites. 2. May not be able to cater for different audiences and different sizes of groups.
2. Publications, guidebooks and websites.	1. Supplies pre-contact information about the site. 2. Valuable in orientating visitors, whilst on-site. 3. Provide basic (or detailed) information about the site, its landscape, flora and fauna.	1. Cost effective, portable information. 2. Capable of wide dissemination of information. 3. Can be distributed from a whole variety of entrance: access points. 4. Can be written individually to cater for different audiences.	1. There is no active visitor involvement. 2. Does not necessarily cater for different audiences. 3. Can become expensive, if regular updates or alterations are necessary. 4. Leaflets and publications are easily discarded!

Interpretive media	Application	Advantages	Disadvantages
3. Self-guided trails	1. Provides a focus for visitors, in a whole variety of natural settings. 2. Opportunities to provide messages through signage and the trail leaflet.	1. Once established, the trail is always available. 2. Visitors can explore the site, at their own pace. 3. Ideal for visitors with families.	1. Trails are often subject to vandalism. 2. Signage may contain too much or too little information. A 'fixed' message. 3. Only suitable for children with families if the trails are specifically aimed at them.
Personal media 1. Guided trails	1. Suitable for a whole variety of natural settings and locations. 2. Especially useful in areas where wildlife viewing takes place. 3. Time frames can be anything from 30 minutes to a two-week tour.	1. Powerful and effective if applied properly. Value of 'storytelling'. 2. The guide can respond to the visitors needs and deal with complex issues. 3. Information can be constantly updated. 4. The guide can facilitate active visitor involvement and engagement with the site.	1. Requires effective and well-trained staff. 2. Requires audience commitment and attention, if it is to be truly effective. 3. Potentially only ever reaches a small proportion of the overall visitor numbers.

Interpretive media	Application	Advantages	Disadvantages
2. Living history and Cultural demonstrations	1. Suitable for a whole variety of natural and cultural settings. 2. A wonderful media for 'bringing the past to life'. Dramatic events possible. 3. Time frames can be anything from 10 minutes to a whole day event. 4. Provokes visitor interest, on a greater scale than most other media. 5. 'Personification' of non-human objects can bring these to life, in an often dramatic way.	1. Bring the history and culture of the site, to life. 2. Bring a reality and humanity to a site 3. Provide the opportunity for visitors to talk to and question the interpreter. 4. Visitor can often take part (occ. in costume)	1. Expensive to produce (cost of interpreter together with the associated props). 2. Interpreters need regular training and updating. 3. Issues of language and dialect can be problematic, for visitors. 4. Not all volunteers can become successful interpreters! 5. Some visitors find 'first person' interpretation slightly intimidating. 6. Some visitors will try to catch living interpreters 'out', by asking questions etc.

(Based on Beck and Cable, 1998; Ham, 1992; Keirle, 2002; Newsome *et al.*, 2002; Veverka, 1994 and Ward and Wilkinson, 2006)

Table 3.9: Summary of the main interpretive media

3.5 Non-personal interpretive media

Non-personal media is regarded as 'static' or 'one-way communication' in terms of having little or no scope in which to respond to changing contexts and individual visitor needs. However, its lower short-term costs means that it is far more widely used in environmental interpretation contexts (Brochu, 2003; Munro *et al.*, 2008). In addition, it does provide the visitor with more freedom to roam about the site at will, to participate in their own way and ultimately to spend as much or as little time on the site as they wish. Non-personal media includes: the visitor centre itself; exhibits, signs, panels and displays; self-guided trails as well as brochures, guidebooks and other publications (Ham, 1992; Ward and Wilkinson, 2006; Wearing and Neil, 1999).

3.5.1 The visitor centre

For the general public, the visitor centre will typically be regarded as the place to visit to find out what is happening on a site, for most visitors therefore it represents the starting point for their interpretive experience. Whilst most site managers would argue that the most important role of a visitor centre is orientating the visitors, most centres do perform a whole variety of services, including:

- offering services, such as; access, orientation, toilets, recreational activities, information desks and guided tour services;
- providing income-generating services, such as; accommodation units, gift shops and restaurant facilities;
- enhancing the quality of the visitors experience and their appreciation and enjoyment of the site through the provision of exhibits, displays, panels and dioramas, leaflets and guidebooks and, audio-visual presentations;

- promoting the site and its managing authority through a whole variety of marketing activities including; signs, panels, leaflets and other interpretive media;
- and improving the visitors understanding of the site and its management issues through a whole variety of orientation and control as well as filtering and substitution activities.

This list of services is based upon the work of Fallon and Kriwoken, 2003; Ham, 1992/2009; Moscardo, 1998/1999; Newsome *et al.*, 2002; Pearce and Moscardo, 2007; Wearing and Neil, 1999). Visitor centres can be expensive to build and equip and even their very presence may not be appropriate on some sites. However, once constructed they do have the advantage over most other media that they can easily be tailored to suit a variety of different audiences (Newsome *et al.*, 2002).

3.5.2 The visitor centre: audio-visual programmes

Audio-visual programmes are widely used within visitor centres, typically they consist of either tape-slide or video / DVD presentations and are regarded as one of the traditional stand by's for the interpretive programme (Brochu and Merriman, 2002; Ward and Wilkinson, 2006). They offer a number of significant benefits including; site orientation, the illustration of the wildlife and geology of a site as well as the opportunity for the visitor to view the site through a series of images taken throughout the year. In terms of site management objectives, audio-visual presentations can send very clear messages about the fragility of a site and the underlying reasons for its conservation and protection as well as more general messages about the site managing authority and its work. Audio-visual presentations can also provide an immediate response to the needs of a newly arrived group of visitors appealing to their demand for "sights and sounds". This media offers the opportunity for sustained repeat functions and is easily adaptable to a whole variety of audiences and sizes of groups (Hall and

McArthur, 1998; Ham, 1992; Ward and Wilkinson, 2006). Whist the slide presentation itself is now somewhat dated, the danger of over-use of it or its modern equivalent the film strip, DVD or PowerPoint presentation should not be under-estimated by on-site staff, thus presentations should be kept brief, concise and with a clear message (Brochu and Merriman, 2002).

3.5.3 The visitor centre: displays and exhibits

Displays and exhibits are one of the most common media used in natural settings either within a visitor centre or outdoors (Ham, 1992; Moscardo *et al*., 2007; Sharpe, 1976; Wearing and Neil, 1999). Exhibits are particularly useful in that they can display original objects, artefacts and/or natural specimens. Typically, a visitor centre will include a whole variety of displays and exhibits which if laid out correctly will enable the visitor to move through the experience at their own pace (Moscardo *et al*., 2007; Sharpe, 1976). In addition, displays and exhibits are extremely cost effective once developed making them a popular media (Moscardo *et al*., 2007; Wearing and Neil, 1999). Veverka (1994:130) uses the term 'exhibit load' to indicate the amount of '*time and energy (physical or emotional) that a visitor must exert to interact with it*' and this concept is now widely applied in relation to exhibits which use real or replica artefacts (Brochu and Merriman, 2002).

The term 'exhibits' is a broad one which encompasses a whole variety of different types of media including panels (photographs, diagrams, images and text mounted on a board), models (either 2 or 3-dimensional, static or with moving parts), displays (typically a variety of mounted and labelled specimens, artefacts and models) and dioramas (models and specimens in a scenic view with a curved back-wall to create depth of field). Each type of exhibit performs a slightly different function and involves the visitor in a slightly different experience

so that when used together they collectively provide an experience which attract, hold and convey a whole series of messages (Marsh, 1986; Moscardo *et al*., 2007).

Exhibits have today embraced modern technology and moving exhibits are far more common including hologram projections, animatronic animals and a whole range of interactive computer displays (on a variety of scales). Indeed, Buhalis *et al.* (2006) argue that there is a strong case for the on-site managing authority to consider the use of 21st Century technology such as virtual reality or augmented reality within the exhibits on offer.

Beck and Cable (1998) however offer a word of caution suggesting that it is difficult for most sites to 'keep up to date' with modern technology and that the technology of today can look 'horribly old fashioned' within a very short period of time. They suggest that in consequence site managers should be wary about embracing technology at too great a level unless they have the funding in place to ensure that regular 'updates' are undertaken (Brochu, 2003). Exhibits have other limitations as well, in that they cannot easily relate on a personal level, they cannot convey detailed information or abstract ideas (as a publication can) and do not easily offer a tailored, personal service (Ham, 1992; Moscardo *et al*., 2007; Veverka, 1994).

3.5.4 Signs, boards and interpretive panels

Two types of signs are commonly used; interpretive and administrative signs (McIntosh, 1976; Moscardo *et al*., 2007). Interpretive signs, boards and panels are used to interpret the site aiming to increase the visitors' knowledge and appreciation of it. Administrative signs are typically more basic in function and design, provide directional information, as well as some forms of management information about the site (Moscardo *et al*., 2007; Sharpe, 1976).

Orientational information will typically include directions and distances to locations and services across the site as well as the naming of parts of the site. The management information offered could include basic information about access to the site, entry timings, safety information etc.

Interpretive signs have the advantage of being inexpensive to produce and maintain and being relatively long lasting, they can however be vulnerable to damage by weather, decay and wildlife and on some sites can become a target for acts of vandalism most notably 'graffiti artists' (Brochu, 2003; Timothy and Boyd, 2003). The limitations of panels and signs include the limited amount of information which can be displayed and their overall lack of adaptability to different audiences (Hall and McArthur, 1998). Ham (1992) suggests too many signs on a site can create 'visual pollution' by impairing the visual and aesthetic nature of the site. Turley (1998) in reporting on the use of interpretive panels at Hadrian's Wall (UK) comments on the problems of erosion which can occur where both visitors on their own as well as those undertaking a guided tour congregate around a panel, creating over time, patches of heavily worn ground.

3.5.5 Guidebooks, brochures and other publications

On-site publications can include; guidebooks, brochures, leaflets, notelets, maps, books, posters, postcards and a whole variety of paper-based souvenirs (Wearing and Neil, 1999). Simple publications such as maps and notelets have an important role in providing basic on-site information both directional and operational. Maps in particular, should provide information about services and facilities, site infrastructure, major site characteristics and wildlife areas as well as the obvious site orientational information (Buckley, 2009; Ham, 1992; Sharpe, 1976). Notelets and maps can also be used to promote a whole variety of

options for visitors in terms of on-site attractions, locations to visit and activities to undertake (Hall and McArthur, 1998; Wearing and Neil, 1999). Publications such as guidebooks usually provide the more detailed information about the site including specific site management and visitor impact information as well as the variety of messages about the site, its history, culture and wildlife (Buckley, 2009; Newsome *et al*, 2002). A number of research studies have demonstrated the effectiveness of brochures in educating visitors and influencing their on-site behaviour including the work of McAvoy and Hamborg (1984) and Roggenbuck and Berrier (1982). McAvoy and Hamborg (1984) assessed the effectiveness of a brochure on visitor knowledge of regulations within the Boundary Waters Canoe Area Wilderness (USA) and found that the brochure and the distribution method employed by the Forest Service were highly successful in raising the visitors' knowledge of the site and its regulations. They concluded that publications can be an extremely cost-effective way of reaching and targeting the visitors.

However as a one-way communication, they do have a limited ability to satisfy different audiences and if discarded whilst on-site can be regarded as 'interpretive litter'. Critics of paper-based media have long-argued that it represents 'throw away interpretation' which can actually contribute significantly to the litter pollution on many sites (Timothy and Boyd, 2003). Publications usually require regular updating and may need to be produced at a variety of levels to cater for mixed audiences (Ham, 1992; Ham and Weiler, 2007; Newsome *et al.*, 2002), this was illustrated by the work of Therkelsen and Sorensen (2005) who through in-depth but focused interviews, evaluated the ways in which twenty-two tourists read their guidebooks.

3.5.6 Self-guided trails

Sharpe (1976) argues that trails of varying types and lengths are traditionally one of the most widely adopted forms of on-site interpretation. He suggested that they were often developed in a 'scatter-gun approach' with little regard for the landscape and its protection or for that matter the needs of the visitors. Today, trails remain an important part of any on-site interpretative experience but their role and development has been critically debated (Beck and Cable, 1998). A self-guided trail either on foot or by car ('auto tour') or other form of transport usually involves a designated series of stops (or 'stations') along a route that visitors can follow at their own pace (Ham, 1992). Each station along the trail interprets the features of the site which could be geological, cultural or historical as well as the more usual plants and signs of animal life. The interpretation at each station can be delivered through a trail brochure, sign or panel or through a hand-held audio device such as a mobile phone, head set or tape player (Ham, 1992; Newsome *et al.*, 2002; Ward and Wilkinson, 2006).

A self-guided trail has the freedom and flexibility to allow visitors to explore the site at their own pace and is a relatively inexpensive way of targeting large numbers of visitors with a form of interpretive experience (Brochu, 2003). Trails leaflets can also be designed for different age and interest groups and a whole series of colour-coded trails can be developed to take visitors on a variety of different themed walks around the site which can really offer different lengths and/or types of experience (Sharpe, 1976; Ward and Wilkinson, 2006). However, trails can be problematic, visitors can easily get lost and miss stations, are not always suitable for children and trail stations can easily become exposed to vandalism on some sites (Ham, 1992).

A recent development in this area has been the introduction of audio-tours and listening posts. First developed in the late 1980s, listening posts provide a short commentary on the part of the site adjacent to the visitor (Ham, 1992). Traditionally, either coin or token-operated, they have now developed through touch screen buttons to automatic operation using pressure pads and laser beams (Brochu, 2003). Unlike the static listening posts, audio-tours now employ hand-held tape players or audio guides with anything up to 45-minutes of commentary on a pre-recorded tape which enabled interpreters to provide an audio-tour of the whole site, together with an appropriate range of music and sound effects. This technological development has the advantage of being portable, relatively inexpensive and unobtrusive and yet still flexible enough to allow the visitor to explore the site at their own pace.

For historic sites in particular, the advantage of the sound effects is obvious in being able to establish an atmosphere and thus potentially creating a stronger emotional link between the visitor, the site and the audio commentary. Audio-tours can also be 'individualised' for a range of different audiences including international parties, children and school groups. Today, audio-tours are widely used and the next generation of handset technology includes MP3 and I-pod players as well as the potential use of 'tour downloads' directly to the visitors mobile phone (Brochu and Merriman, 2002; Buhalis *et al.*, 2006).

3.6 Personal interpretive media

Most researchers (Beck and Cable, 1998; Munro *et al.*, 2008; Sharpe, 1976; Ward and Wilkinson, 2006) regard personal media as a more powerful tool because the interpreter can welcome and greet visitors personally, react to their needs and interests, respond to their questions and observations as well as reacting to any changing conditions on-site. A number of recent studies have revealed that personal contact with visitors is more likely to influence

their on-site behaviour that non-personal techniques. Wearing and Neil (1999) argue that guided tours provide the most widely used method of controlling where visitors go and what they do, whilst on site. Ward and Wilkinson (2006) argue that personal interpretation is really valuable with tour groups and school children in that it can stimulate and facilitate active visitor involvement and engagement with their on-site experience. Personal media is however only as good as the interpreter; if they are unwell, having 'a bad day' or tired of saying the same thing for the fifteenth time that day, the quality of their performance can be compromised (Brochu and Merriman, 2002). This highlights a potential problem with personal interpretation which is when it potentially fails to deliver the expected on-site experience demanded by the visitors.

Aiello (1998) describes a study where one of the sources of visitor dissatisfaction was with the tour guides lack of knowledge. He explored the 'Great Adventures' marine tour operator on the Great Barrier Reef, Australia which offered luxury, daily catamaran cruises between the islands on the reef. He studied their training programmes which were designed to increase their guides overall knowledge of the reef, its fish and other associated wildlife species. His research with visitor groups showed that these training programmes had been successful in raising the quality of the guided experience and had also promoted feelings of 'stewardship' amongst the guides but had not developed their knowledge in a broader sense which had been the expectation of some visitors. Ham (1992) suggests that it is not just knowledge that is important however in the guided experience, the use of humour, stories and metaphors all help as does the ability to perceive and respond to the feelings and interests of the audience.

There are however limitations to the use of personal interpretation these include; the requirement for guides and the high cost of guide training and updating programmes (Munro *et al.*, 2008; Newsome *et al.*, 2002). In addition, some visitors prefer self-guided trails rather than guided tours because they can walk at their own pace, explore the site in their own way and are not faced with interference in terms of their desire for freedom of movement around the site (Brochu, 2003; Ward and Wilkinson, 2006). On a site, the visitor might come into contact with personal media through interpretive staff; on information duty, running guided walks and tours, offering talks to groups or, through 'living interpretation' and cultural demonstrations. These activities are explored in the following sub-sections.

3.6.1 Personal interpretive media: 'information duty'

Typically, the interpreter would 'station' themselves in a particular location and the visitor would choose to find them when they had questions or queries which needed answering (Knudson *et al.*, 1995; Sharpe, 1976; Ward and Wilkinson, 2006). The location of an interpreter could be at the main site entrance, at an information desk in a visitor centre or camping ground or at a roadside information booth (Sharpe, 1976). Alternatively, the interpreter might chose to stand at a point of visitor concentration on the site such as a view point, at the location of dramatic scenery (e.g. waterfall) or at a key point on a route or trail (Ham, 1992).

Ham (1992) and Knudson *et al.* (1995) also describe the role of the 'roving interpreter' who will roam around a small or designated area or the environs of the visitor centre talking to visitors offering advice on orientation, activities and events available and so on. This type of role can work particularly well at scenic viewpoints or areas of dramatic natural features where the added value of an interpreter roaming on site can enhance the visitors appreciation and understanding of the scenery displayed in front of them. The roving interpreter will often carry a small pack of information leaflets, field guides

and other resources with them and where appropriate may even carry a small first aid kit (Knudson *et al.*, 1995). This activity whilst enjoyable for the interpreter is made challenging by the nature of the spontaneity and flexibility required and will therefore typically only be undertaken by knowledgeable and experienced staff who know the site and its visitors extremely well and who may also have multilingual skills (Shackley, 1998a).

For the managing authority, on-site roving interpreters can also provide valuable public relation opportunities by providing information about the site in a general sense including; orientation, places to camp and/or stay, the local weather conditions, the range of attractions and activities on offer, as well as the wildlife and the scenery (Buckley, 2009). 'Roving interpreters' may typically also lead a short, mini tour of the area in which they find themselves which can for the visitor be a spontaneous and powerful experience (Ham, 1992).

3.6.2 Personal interpretive media: 'living history' interpretation

At heritage sites in particular, living interpretation is widely used where it can range from a 'personal welcome' from a first or third-person interpreter in costume through to spectacular, choreographed re-enactments and events. Living history typically involves costumed interpreters (in a 'first' or 'third' person role) with a series of artefacts, props, backgrounds and music (Sharpe, 1976). Living history also includes 'personification' where an interpreter is portraying a non-human object, such as a waterfall, volcano, fire or tree (Ham, 1992). The re-enactments and events offered are often performed by actors or re-enactment societies and might include a banquet or mock battle as well as displays of archery, falconry or jousting. However, events may also simply be in the form of a 'cultural demonstration' of a past experience or activity such as basket weaving, candle making, early hunting techniques or a traditional dance, song or a rural craft. As well as bringing the past to life, these events bring

a humanity and reality to the site and in providing entertainment for the visitors are often well advertised in the hope of attracting a broader range of visitors to the site (Timothy and Boyd, 2003).

However, re-enactments are often criticised particularly where they involve 'blood and guts' battles and it is important that site managers recognise the sensitivities of their audience, some researchers suggest that the events (be they battles or atrocities) on some sites simply should not be re-created, irrespective of the laudable goals of the interpretation programme (Beck and Cable, 1998; Timothy and Boyd, 2003).

Music can also be a particularly important dimension in that it can set a mood and bring an audience together as well as encourage participation (Brochu and Merriman, 2002). When living history is performed well, it can be extremely powerful in terms of a total involvement of the senses and a significant emotional engagement by the audience (Garrison, 1976). Some events, even allow the visitor to take part by 'stepping on stage' either in or out of costume (Garrison, 1976), a particularly popular example being the staging of a 'Medieval banquet' or for the more adventurous visitor, a 'Knights of the Round Table'-style tournament. Here, training for the performers is particularly important as dialect and language as well as body posture and movement are as important as the costume and props (Garrison, 1976). In consequence, living history interpretation is often performed by professional actors or drama studies students who have a greater appreciation of the 'performance' aspect required (Ham, 1992).

However living history performances have been criticised, critics of them argue that they can be expensive to undertake, require a great deal of time to develop, can be difficult to manage,

encourage negative responses from some visitors, can be unresponsive to visitor needs and are often criticised in terms of their lack of authenticity and that they are always 'imperfect re-creations' (Beck and Cable, 1998; Brochu and Merriman, 2003; Ham, 1992, Sharpe, 1976).

3.6.3 Personal interpretive media: 'conducted activities' and guided walks

The most widely recognised formal conducted activity is the guided tour which may last thirty minutes as visitors are guided around a historic building through to a full ten-day coach-based tour stopping at various places of interest each day. In this latter situation a tour guide is expected to perform a wide range of roles to facilitate and enhance the visitor experience. Cohen (1985), Holloway (1981) and Pond (1993) identify, categorise and discuss many of these roles which include; leader, group manager, cultural broker, information giver, navigator, mediator, motivator of conservation values and interpreter / educator. However, this extensive literature on the management of guided tours and indeed on the principles of tour guiding is beyond the scope of this thesis which will instead concentrate in this section on the more informal guided walk. In adapting a definition from the European Federation of Tour Guides Associations (1998) a guided walk might be regarded as '*a person who guides groups or individual visitors around a site or landscape whilst providing inspiring and entertaining interpretation*'. Whilst, Ham (1992:131) suggests that a guided walk is used to '*show people things that they'd otherwise not see or that the untrained eye probably wouldn't notice*'.

Guided walks and trails which are usually conducted on foot are what most visitors would typically regard as 'interpretive experiences' (Ham, 1992; Sharpe, 1976; Ward and Wilkinson, 2006). But, guided walks can also involve transportation including the use of car, horseback, tram, boat, canoe or kayak, bus and train tours (Brochu and Merriman, 2002). The

visitor joins the interpreter guide for a guided walk from a specific starting location and moves along a pre-selected route via several points of interest (Ham, 1992). During the walk, the natural environment viewed can be interpreted, questions can be asked and the visitors can be encouraged to enter into a discussion about the site. Diment (1992) suggest that the three factors most critical in ensuring the success of a guided walk are a knowledgeable, well-trained guide, interesting subject matter and opportunities for interaction both socially within the group and with the guide. This participation by the visitors is typically a very important part of conducted activities and may include handling objects, spotting wildlife, expressing opinions about the site as well as developing personal skills, such as tracking, painting or photography. In reinforcing the importance of participation on a guided walk, Lewis (1980:27) reminds the guide that visitors remember about '*10% of what they hear, 30% of what they read; 50% of what they see and 90% of what they do*'. Bryant states that a guided walk should be in the 'do' category, warning that those which are merely '*an outdoor lecture, belong in the low retention 'hear' category*' (2006:184).

The guide is able to assess the needs of the group throughout the walk and should modify the experience and storyline as deemed necessary. The guide is in a position where he / she can watch over the visitors and they should be able to take the visitors to areas which may be normally 'off-limits' to individual visitors for reasons of safety or because of the vulnerability / fragility of the site itself (Ham, 1992; Ward and Wilkinson, 2006). In running a guided walk, the guide should establish a 'staging area' where the visitors can meet before it commences (Brochu and Merriman, 2002). It is then that details of the walk; its length, physical demands and the type of terrain to be covered should be discussed and visitors who are inappropriately clothed or shod should be informed and given the opportunity to change, as necessary (Ham, 1992; Ward and Wilkinson, 2006). A finishing point should be identified

and the number of 'comfort stops' during the walk explained, all of which as a briefing will put the visitors at their ease and ensure they are comfortable in the hands and experience of their guide (Ham, 1992; Ward and Wilkinson, 2006).

In conducting the walk, an appropriate pace should be set to ensure that there are no visitors lagging behind at the back and 'comfort stops' should be taken as necessary without causing the pace of the walk itself to become too slow (Brochu and Merriman, 2002). When the guide does stop, they should make sure that all of the visitors have gathered around them and can clearly see the object or view before commencing a commentary, participation by the visitors should be encouraged at all times and the guide should always be on the look-out for 'teachable moments' irrespective of the theme of the walk (Brochu and Merriman, 2002; Ham, 1992; Ward and Wilkinson, 2006). The walk should finish at a clear dismissal point and always close with a summary of the main theme, any on-site messages and a strong, concluding statement about the site and its conservation issues (Diment, 1992; Ham, 1992). These concluding remarks are vital and as Brochu and Merriman (2002:76) suggest '*this is you last and best chance to make a good impression and to leave them smiling*'.

Guided walks have faced a degree of criticism over the years (Diment, 1992) including that they are 'old fashioned', costly to run, often designed for 'expert' visitors and may well be 'preaching to the converted'. More recent studies (for instance Brochu and Merriman, 2002) argue that the inclusion of dance, drama, storytelling and poetry can potentially make them more exciting and innovative in terms of design and delivery. Diment (1992) advocates the use of the interpreter's 'imagination' to inspire and re-vitalise the guided experience and also suggest that walks offering this quality of experience may well 'pay for themselves' in terms

of visitor response and subsequent attitude towards other on-site services and of course some guided walks can be offered at a charge.

Bryant (2006) argues that walks led by an authoritative guide covering a single subject (e.g. birds, butterflies, geology) where little visitor participation can be offered should well be an 'experience of the past' suggesting that visitor attitudes and expectations have changed. Likewise, whilst in the 1980s and 1990s it was reasonable to agree with the notion that guided walks 'preached to the converted' with Ham (1992) confirming the assumption of the time that most participants were well-off, well-educated, well-informed and usually over the age of 40. Bryant (2006) argues that most sites are now anxious to attract a much wider demographic of visitor and have therefore tended to adopt a more 'populist approach' to their interpretive offerings to reach the casual tourist, the passer-by and therefore the 'unconverted'.

In considering other current themes within the literature on guided walks, the quality of the experience is inevitably a central theme with the role of the guide under particular scrutiny. Ham and Weiler (2002b) interestingly have explored the relationship between quality and guide dependency arguing quite reasonably that 'quality indicators' may be perceived to be less important where visitors are not entirely dependent on a guided experience in order to enjoy the setting. It is therefore these 'quality indicators' which they argue are in need of further study across a broader range of guided experiences.

3.7 Evaluation of interpretive media

In the previous sections of this chapter, an overview of the different interpretive media and the importance of the audience, message and technique have been explored. The final stage in developing effective interpretation is some form of evaluation which can be used to assess whether on-site interpretation has achieved its initial objectives and given that evaluation should occur on a regular basis, whether it continues to do so.

The evaluation of interpretation is:

> "*a multidimensional process used to determine the qualities of interpretation and is an integral part of all interpretive operations. The process includes input and feedback and considers the interrelationships among people, organisations, environments and technologies*" (Knudson *et al.,* 1995:441).

Putney and Wagar (1973:43) stated that '*you cannot say how well you are doing until you specify what you are trying to do*'. Merriman and Brochu (1995:45) suggest therefore that an '*interpretive master plan should include measurable objectives upon which any evaluation can be based*'. McArthur (1994:120) suggests that this evaluation should be '*a systematic, objective assessment of the effectiveness, efficiency and appropriateness*' of an interpretive programme, activity or event. This systematic process of evaluation can be simplified in terms of a number of key questions, including; *Why? When? What?* and *How?* – these questions are explored more fully in the following sub-sections before the evaluation of guided walks is considered in more detail.

3.7.1 Evaluation stage 1: Why?

Evaluation should play a key role in improving the experience of entire interpretive programmes and/or specific media for the visitors as well as demonstrating their value and effectiveness to on-site managers as well as external funding agencies (Diamond *et al*., 2009; Knudson *et al.*, 1995; Veverka, 1994; Ward and Wilkinson, 2006), as illustrated in Table 3.10.

Stage	Activity
1	To determine the educational and recreational impact of interpretation, in both the short and longer-term
2	To assess the cost effectiveness of various interpretive media used
3	To assess the contribution of interpretive programmes or, individual media, to the visitors overall on-site experience
4	To assess the contribution of interpretive programmes or, individual media, to the modification of visitors overall on-site behaviour
5	To provide accountability
6	To convince managing authorities, public bodies and others of the value of interpretation, providing evidence that interpretation addresses and achieves important public and site-based goals
7	To help inform policy and planning decisions
8	To help provide the public with a way to indicate their response to interpretive services, beyond simple attendance data
9	To assess the contribution of the overall interpretive programme to achieving sustainable goals, in terms of the management and perpetuation of the site and its resources

(Based on Diamond *et al*., 2009; Ham, 1992; Knudson *et al.*, 1995; Light, 1995; Marsh, 1986; Putney and Wagar, 1973; Veverka, 1994; Ward and Wilkinson, 2006).

Table 3.10: The key purposes of the evaluation of interpretation

It is suggested that in evaluating interpretation, the aims and objectives of the organisation can be more fully achieved, equally site managers can be better informed which can in turn lead to the development of a higher quality of interpretation provision in the future. The evaluation of an interpretative programme or media should therefore be considered an integral part of the visitor management process and should also highlight the strengths of the interpretive programme or media as well as

any potential weaknesses (Diamond *et al.*, 2009; Knudson *et al.*, 1995; Veverka, 1994; Ward and Wilkinson, 2006).

3.7.2 Evaluation stage 2: When?

Evaluation is an on-going process requiring the regular review of interpretive media and should be undertaken at all phases of the interpretive process – before, during and after the preparation and development of the media (Diamond *et al.*, 2009; Knudson *et al.*, 1995; Uzzell, 1998; Veverka, 1994; Ward and Wilkinson, 2006). Evaluation can be 'goal-referenced' or 'goal-free' where 'goal-referenced' relates to measuring specific objectives whilst 'goal-free' allows for a more open evaluation which may reveal unexpected effects (Knudson *et al.*, 1995). There are three forms of evaluation typically adopted in interpretive settings, these are; front end, formative and summative (Diamond *et al.*, 2009; Keirle, 2002; Knudson *et al.*, 1995; Veverka, 1994; Ward and Wilkinson, 2006).

Front end evaluation is undertaken at the earliest stage of the interpretive planning process and aims to reveal any potential problems with the planned interpretation before on-site staff begin to develop and build the media. This will usually involve market research focusing upon visitors' pre-existing levels of knowledge of the site as well as their levels of interest in new interpretive stories and particular types of interpretive programme. Research at this point could also test levels of interest in new interpretive themes and/or media (Diamond *et al.*, 2009; Knudson *et al.*, 1995; Merriman and Brochu, 2005; Uzzell, 1998; Veverka, 1994; Ward and Wilkinson, 2006).

Formative evaluation typically occurs during the implementation of an interpretive plan to test the validity of the pilot version (Brochu, 2003; Diamond *et al*., 2009; Merriman and Brochu, 2005). It if often used to test the visitors' reaction to the media being developed by examining their attention to it and their understanding of the messages and themes which it is trying to communicate (Brochu, 2003; Ward and Wilkinson, 2006). This evaluation provides the on-site staff with the opportunity to change the design or content of the media at this stage in its development to make sure that it is ultimately effective. Formative evaluation can also help an interpreter to establish the correct level at which to pitch an interpretive communication and/or media most notably for living history as well as personal and conducted activities (Diamond *et al*., 2009; Keirle, 2002; Merriman and Brochu, 2005; Ward and Wilkinson, 2006).

Summative evaluation is generally more widely and regularly used than the previous two forms. It is carried out after the interpretive media has been completed and is most often used to assess its success in relation to its original objectives (Brochu, 2003; Diamond *et al*., 2009; Merriman and Brochu, 2005). It provides an opportunity for visitors to tell on-site staff what they think about a particular interpretive media and/or overall on-site experience (Keirle, 2002). Together with observations from on-site staff, this form of evaluation might include consideration of the learning taking place, preferences from visitors for particular types of media, any knowledge gain, levels of visitor enjoyment as well as specific attitudinal and behavioural changes observed (Diamond *et al*., 2009; Merriman and Brochu, 2005; Uzzell, 1998; Ward and Wilkinson, 2006). The use of questionnaires is the most common method of undertaking summative evaluation (Brochu, 2003; Keirle, 2002).

Summative evaluation can also include a time frame element where perhaps a questionnaire or telephone interview is conducted some weeks after the visitors have returned home, typically to assess longer-term learning and/or recollection of experiences, this is known as post-occupancy (POE) evaluation (Diamond *et al.*, 2009; Knudson *et al.*, 1995).

3.7.3 Evaluation stage 3: What?

It is always important to identify and agree clear objectives in order to measure the effectiveness of individual interpretative media and/or entire programmes of activity (Ham, 1992; Kuo, 2002). These objectives can then be used to assist in the determination of exactly what is to be evaluated and how it should be undertaken. Once this is completed it is then possible to measure the potential outcomes of the evaluation in relation to the original objectives of the interpretation (Diamond *et al.*, 2009; Knudson *et al.*, 1995; Thom, 1980; Ward and Wilkinson, 2006). Ham (1992) suggests four qualities through which successful interpretation can be measured, these are; to be enjoyable, relevant, organised and thematic. Beck and Cable (1998) added further qualities including the all important notion of provocation. Table 3.11 illustrates various methods through which the effectiveness of interpretation could be evaluated based upon; the type of objective being considered, the required information sought, the choice of evaluative technique and the desired outcomes.

The evaluation of interpretation has four major categories:

- evaluating ***visitors*** to examine their interest and reaction to the interpretation on offer as well as their response to the three main types of objectives (learning, attitudinal and behavioural changing);
- evaluating ***interpretive programmes*** to identify which media have consistently achieved their objectives and to modify others where greater effectiveness might be achieved;
- evaluating the ***performance of interpreters*** and helping them to identify ways in which they could improve their delivery methods and their overall interpretive approach;
- evaluating ***overall productivity*** of the interpretative programme and the associated on-site facilities to determine whether money and effort are being managed effectively. (These categories are based upon the work of; Diamond *et al*., 2009; Knudson *et al.*, 1995; Merriman and Brochu, 2005; Veverka, 1994; Ward and Wilkinson, 2006).

3.7.4 Evaluation stage 4: How?

Evaluation can take advantage of a range of research methodologies according to its objectives and the type of information required. These methodologies typically might include questionnaires and interviews, focus groups, observational studies, direct participation by an observer and behavioural mapping exercises (Diamond *et al*., 2009; Keirle, 2002; Knudson *et al.*, 1995; Uzzell, 1998; Veverka, 1994; Ward and Wilkinson, 2006). Single or multiple methods of evaluation can also be adopted when considering different objectives, as can be seen in Table 3.11.

Four broadly grouped categories of investigation have traditionally been identified, these include:

- first, the informal appraisal of a site's interpretation, usually by a professional interpreter or other 'expert', such techniques usually involve little contact with the visitors;
- second, the observation of visitor behaviour without their knowledge. Such techniques include the noting of routes taken around an exhibition by visitors and the amount of time spent looking at individual displays;
- third, are techniques involving informal but direct contact with visitors, for example, the use of self-completed questionnaires or informal and short interviews;
- and fourth, are the more formal personal interviews with visitors often involving the use of a questionnaire or even detailed interview.

Of these methods the ones most widely employed in evaluating interpretation are the combination of an interview and questionnaire. If carefully designed and implemented interviews: questionnaires can yield rigorous and high-quality data. Behavioural observation and mapping are also becoming increasingly popular as an evaluative tool and are now widely used in the evaluation of visitor centre exhibits and the movement of visitors through and around them (Diamond *et al.*, 2009; Keirle, 2002; Knudson *et al.*, 1995; Merriman and Brochu, 2005; Veverka, 1994; Ward and Wilkinson, 2006).

Evaluation objectives	Type of information required	Evaluation technique	Desired outcomes
1. The visitor 1A) Their openness to interpretation 1B) Their attention to the interpretation	1A) Comparison between numbers using the provision and numbers on the site, as a whole 1B) Comparison between time visitors spend looking at interpretation and the minimum time needed for exposure to the full message	For both; 1. Value judgements 2. Behavioural mapping 3. Observation 4. Questionnaires 5. Focus groups	For both; 1. Improvement in quantity and design of media 2. Improvement in the visual impact of media 3. Improvement in the appropriateness of media content, to the visitor and their needs
2. The impacts of the media 2A) On the visitors enjoyment	Comparison of visitors enjoyment and satisfaction before and after the visit	1. Interviews 2. Questionnaire 3. Focus groups 4. Comment cards	1. Improvement in visitor satisfaction and enjoyment with the site and its interpretive media
2B) On the visitors learning	Comparison of visitors understanding of site-based topics interpreted, before and after the visit	1. Questionnaire 2. Interviews	1. Improvement in visitor knowledge of the site and their broader awareness of its fragility: uniqueness etc.
2C) On the visitors concerns for the site	1. Changes in attitude resulting from the visit. 2. The need to examine and understand visitor profiles	1. Questionnaire 2. Interviews 3. Focus groups 4. Comment cards	1. Improvement in the visitors awareness of the fragility : uniqueness etc. of the site

2D) On the visitors behaviour	Changes in observed visitor behaviour	1. Questionnaire 2. Interviews 3. Observations 4. Focus groups	1. Improvement in visitor on-site behaviour towards the site and its artefacts, wildlife, peoples etc.
3. The performance of the interpreter	Evaluation of the interpreter's performance by their; ~ supervisor, ~ peers, ~ outside experts, ~ self-evaluation and the audience.	Individual or group critique, by; 1. Observation 2. Interview 3. Focus groups 4. Comment cards	1. Improvement in the presentation of interpretive media by the interpreter. 2. Improvement in the interpreter's overall performance.
4. The operator			
4A) Cost-effectiveness of the interpretation	4A1) In relation to capital, running, staffing and maintenance costs. 4A2) In relation to visitor numbers in attendance on the interpretive programme.	4A1. Record keeping 4A2. Observation 4A3. Interview 4A4. Questionnaire 4A5. Focus groups	4A1. Recognition of the cost-effectiveness of the provisioning of interpretive media.
4B) Functional efficiency of the interpretation	4B1) Records of operational and maintenance problems. 4B2) Observations and comments from visitors and staff.	And based upon the experience itself; 4B1. Record keeping 4B2. Observation 4B3. Interview 4B4. Questionnaire 4B5. Focus groups	4B1. Improve the functional efficiency of the media in relation to maintenance levels and the needs of and usage by visitors.

(Based on Diamond *et al*., 2009; Ham, 1992; Ham and Weiler, 2007; Knudson *et al.*, 1995; Merriman and Brochu, 2005; Moscardo, 1999; Pearce and Moscardo, 2007; Thom, 1980; Veverka, 1994; Ward and Wilkinson, 2006)

Table 3.11: The evaluation of the interpretation

Recent research on evaluating interpretation has included the work of Munro *et al.* (2008) who evaluated twenty-one studies which had themselves evaluated the outcomes of natural area interpretive programmes based upon 'behaviour change', 'knowledge gain' and in two cases, 'visitor satisfaction'. They evaluated the internal validity of the case studies as well as comparing the different evaluative approaches adopted. The internal validity was measured against sample size, methodological rigour, use of control groups and any follow up work undertaken. Interestingly only four of the studies successfully fulfilled all of the internal validity criteria established by this review. Their conclusions noted that evaluation across the sector was '*sporadic and limited in value*' (Munro *et al.*, 2008: 10) and appeared to overly concentrate on the measurement of behavioural changes, they suggested that:

> '*the complexity of interrelationships between information assimilation, attitudes and behaviour change is extremely complex and difficult to evaluate on-site*' (Munro *et al.*, 2008:10).

They concluded that a core group of evaluative techniques need to be established and that in using them a much greater level of evaluation of interpretive programmes needs to be undertaken and reported on to build on the level of previously published research.

3.7.5 The evaluation of guided walks

In evaluating guided walks one of the principle areas for consideration is assessing the actual relationship which has been established between the guide and the visitors as Davidson and Black (2007:27) comment '*the rapport between the visitor and the guide is one of the key visitor satisfaction variables*'. Diment (1992) suggested that one of the three factors which were most critical in ensuring the success of a guided walk was the opportunity for interaction both socially within the group and with the guide. He suggested that groups should be given time to sit and chat, take a break and reflect on what they have seen as part of the guided experience. Although only limited research has currently been undertaken, a small number of

studies (notably Beckmann, 1999; Chen *et al*., 2006; Geva and Goldman, 1991; Ham and Weiler, 2002b) have explored the role of the guide and the question of their performance as well as the nature of the visitors' satisfaction with their guided experience, thus creating opportunities for critical investigation within this study. Other studies that currently exist include Ballantyne and Hughes (2001) who explored the role of the guide from the tour guide's own perception. Whilst, Davidson and Black (2007) investigated the role of the guide in a karst cave situation by specifically exploring the perceptions and experiences of the guides themselves, arguing that the current literature lacks this authentic 'voice of the guide' within the visitor-guide relationship.

The actual method of evaluating a guided walk has been established through the work of Beckmann (1999), Chen *et al*. (2006) and Weiler (1999) amongst others who all suggest that a self-administered questionnaire is a useful principle tool in gaining basic demographic information about the visitors as well as choice of on-site activities and general attitudes towards the site itself and the range of interpretive facilities and services available. However, Beckmann (1999) also suggested that this was a crude tool to measure the enjoyment, engagement and emotional connection of visitors with the guided walk and the site as a whole. She therefore suggested that informal participation on the guided walk, observation of visitor reaction and informal (open-ended questions, group discussion) or even formalised, face-to-face interviews with visitors at the end of the walk should all be considered if the evaluation of these finer dimensions of the experience is proposed. Ham and Weiler (2002b) took the case study approach further in their investigation of two cruise-based guided tours using questionnaires, participant observation of the actual excursions and in-depth focus groups exploring the overall tour experience.

In this study therefore, the guided walk experience was evaluated primarily within the main questionnaire using a series of closed and Likert scale questions to gain a 'basic picture' of each respondent's attitude towards guided walks. In being guided by the work of Weiler (1999), open-ended questions were also used to encourage the respondents to comment more fully on their experience. These questions asked the respondents to consider, for instance whether:

- they found anything particularly interesting or useful within the guided walk;
- they noticed anything in particular which was left out or not explained fully which disappointed them;
- there was anything else they would wish to comment upon in relation to the guide and the way in which they led the walk.

The methodology adopted within this study is fully described and analysed in Chapter Five.

3.8 Summary

This chapter has attempted to explore three main topics relating to the field of interpretation. First, it has reviewed the range of definitions of interpretation as well as exploring the history of the interpretive movement both in the UK and overseas. Second, the benefits which interpretation can offer in achieving the goals of sustainable visitor management have been explored, where it seems clear that interpretation can play an important role in two main ways; by enhancing the quality of the visitor experience and by managing their on-site behaviour. However, it is also clear that if these goals of sustainable management through interpretation are to be achieved, effective interpretation must be delivered and this requires several principles to be adhered to, which include; a thorough and integrated understanding of the visitor and the use of clear, thematic messages and techniques which relate directly to the visitors and their interests. The role of guided walks as a particular media was explored

in detail. Finally the chapter concluded by considering the importance of the evaluation of interpretation in determining whether it has achieved its goals and objectives. The different aspects to evaluation were explored before a review of the ways in which guided walks might be evaluated was presented. This included investigation from both the guide and the visitor perspective, visitor attendance to and reaction to the walk, their satisfaction levels, and potentially any learning, attitudinal and behavioural changes.

Thus having reviewed the literature and in recognising the current focus on 'guided walks' within it, four qualities (Ham, 1992) through which successful guided walk interpretive activities can be measured were accepted as being worthy of further exploration. However, based upon the more recent evaluative work of Ballantyne and Hughes (2001), Chen *et al.* (2006) and Davidson and Black (2007) where a further two qualities 'two-way communication' and 'emotion' emerged through their research, it was felt appropriate that these two should also be included for critical investigation within this study. Thus in exploring the quality of the guided walks offered on the Jurassic Coast World Heritage site, UK and in subsequently developing a clear framework for future guided walks this study intends to explore the following six qualities, namely:

Quality 1: **Enjoyment**: guided walks should be designed to entertain visitors;

Quality 2: **Relevance**: guided walks should offer information which is relevant both to the audience and the site being interpreted;

Quality 3: **Organised**: guided walks should be well organised so that the visitors feel comfortable and are able to concentrate on what is being presented;

Quality 4: **Themed**: guided walks should deliver a key theme: message that has the capacity to link all of the information given together;

Quality 5: **Two-way communication**: guided walks should encourage participation from the visitors;

Quality 6: **Emotion**: guided walks should facilitate and stimulate an emotional connection to the experience itself and the site as a whole.

It is indeed this last quality of 'emotion' which is perhaps most interesting and certainly least explored within the current 'guided walk' literature and is of significant relevance to the well-documented relationship between the guide and the visitor and of course between the visitors themselves.

In conclusion, the last two chapters have explored the value and importance of soft and hard visitor management techniques and notably the role interpretation can play in the enhancement of the visitor experience and in the management of environmentally sensitive areas. Chapter Four will now introduce the case study site for this research study before Chapter Five presents and explores the overall research process undertaken to examine the aims and objectives of this thesis.

Chapter Four

The Jurassic Coast World Heritage site

4.1 Introduction

The previous two chapters reviewed the literature relating to soft and hard visitor management approaches and the field of interpretation. Chapters Four and Five will explore the overall research process undertaken to examine the aim and objectives of this thesis. This chapter will introduce the Jurassic Coast World Heritage site which is the case study for this thesis and the specific locations of the Lulworth Cove Heritage Centre, West Lulworth and Durlston Country Park, Swanage.

4.2 Aim and objectives

The aim of this study is to analyse the choice of activities made by visitors on the Jurassic Coast World Heritage site and to explore the importance of, and the visitors response to, on-site interpretation, notably guided walks and therefore to assess their potential role in enhancing the on-site experience of the visitors.

The reaction of visitors and their attitude towards guided walks will be used to inform the development of a framework for the design of future walks. A characterisation and understanding of the visitor will provide a valuable contribution to the further development and enhancement of interpretive opportunities along the Jurassic Coast World Heritage site and will also provide useful background data for other natural locations where interpretive facilities exist or are being proposed.

The objectives of this thesis are to:

- review the variety of hard and soft approaches recommended for the management of visitors at designated natural areas and notably natural World Heritage sites;
- review the theoretical basis which underpins the provision of the visitor interpretive experience as it relates to site management objectives;
- analyse the choices of on-site activity made by visitors at the Jurassic Coast World Heritage site;
- explore the importance of, and the visitors response to on-site interpretation, notably guided walks, at the Jurassic Coast World Heritage site;
- develop a framework for the potential design of guided walks which could support the successful enhancement of the visitor experience.

The locations under investigation within the Jurassic Coast World Heritage site are Lulworth Cove Heritage Centre, West Lulworth and Durlston Country Park, Swanage.

4.3 Selection of the research case study site

In order to achieve the aim and objectives of this thesis, the research needed to focus upon a protected natural area which was attractive to visitors and where the natural environment and the visitor experience was being managed. The accessibility of an area of coastline with both 'heritage coast', a national designation established by the Countryside Agency in 1974 as well as the more recent 'World Heritage' designation in 2001 presented an appropriate case study location. Beyond the designations, there

were several other reasons why this coastline made an ideal location as the case study site, these included that it is:

- easily accessible for both visitors, local residents and the researcher;
- attractive to a variety of visitor groups and local residents who come to undertake a wide variety of leisure activities whilst on-site as reported by Cochrane (2007) and Goss (2007);
- managed not only to conserve its unspoilt beauty and conservation value but also for the enjoyment and education of its visitors as reported by Durlston Country Park (2010d) and Lulworth Estate (2009c);
- currently managed using a variety of soft and hard management techniques with interpretation being a key part of the overall management strategy as reported by Durlston Country Park (2010a) and Lulworth Estate (2009c).

The area as a whole has seen a steady increase in visitor numbers in recent years (Dorset for You, 2011c) and this increase in numbers has inevitably resulted in a range of negative impacts upon the local environment especially during the peak summer season. Cochrane (2007) and Goss (2007) identified the following impacts: erosion of footpaths; disturbance to wildlife; dog fouling and the uncontrolled release of dogs on-site; increased vehicular traffic and the associated parking congestion problems as well as more broadly the social and cultural impacts associated with increased visitor numbers within a rural community.

In response to these impacts, a strategy of positive visitor management and increased on-site interpretation has been adopted by the on-site managing authorities in order to lessen the impacts, address the environmental concerns and manage the increased

visitor numbers more effectively whilst continuing to offer the visitor an enhanced on-site experience. The need for a sustainable management approach and the growing recognition of the importance of soft visitor management notably through interpretation has meant that along this coastline a greater awareness of the profile of the visitor, their choice of on-site activities and the range of interpretive media taken up has become increasingly important.

It is therefore suggested that the choice of this coastline as the location for the case study not only provides a realistic background in order to complete the aim and objectives of this thesis but also means that the outcomes of the thesis will contribute to the background knowledge base of the on-site managing authorities in a significant way and will therefore help to inform the management of not only this site in the future but also similar environmentally sensitive locations as well as other World Heritage sites.

4.4 Introduction to the World Heritage Convention

This Convention which is concerned with the protection of the world's natural and cultural sites was launched by UNESCO in 1972, came into force in 1976 and now involves 153 state parties (World Heritage List, 2010). Von Droste *et al*. (1992:7) argued that the major innovation of the Convention was the '*linking of nature and culture*' long before the relationship between the natural environment, local people and local development needs had been fully explored. Today, the Convention recognises both natural and cultural sites of 'outstanding universal value' which can be identified and nominated for inclusion on the World Heritage List (Jha, 2005).

Initially inscription was based on six specific criteria for cultural sites and a further four criteria for natural sites but since 2005, these have been combined into a set of ten criteria (Leask, 2006). The List now includes 936 sites (725 cultural, 183 natural and 28 mixed sites) across 153 state parties (World Heritage List, 2010). The natural sites range from geological marvels such as the Jurassic Coast and the Giant's Causeway (UK) and the Grand Canyon (United States), biodiversity hotspots such as the Great Barrier Reef (Australia) and the Grey Whale sanctuary (Mexico) as well as sites which showcase the story of evolution (the Galapagos Islands, Ecuador). Cultural sites perhaps most noticeably include the foundations of ancient civilisations such as the Giza Pyramids (Egypt), the Abu Simbel Temple complex (Egypt) and the city of Machu Picchu (Peru) but they also include sites of human endeavour and achievement such as the Mountain Railways (India), Ironbridge Gorge (UK) and the artistic works of Gaudi (Barcelona, Spain).

Sites which are selected for inclusion are required to demonstrate the way in which their presence is integrated into the life of the local and regional community and the country concerned is required to develop a rigorous planning and management programme associated with the conservation and preservation of the site (Von Droste *et al*., 1992). Whilst many sites are incredibly popular attracting visitors from all over the world, some sites receive very few visitors and this diversity in the range of visitors has been explored by Jha (2005) who reported that in the USA:

> '*Smoky Mountains gets 9 million visitors and 16 other sites attract over a million visitors each year, but 15 sites get no visitors at all*' (Jha, 2005:981).

Jha (2005) suggests that within the USA-Canada region on average each site receives 2.5 million visitors per year, for Australia–New Zealand the figure is 0.767 million,

whilst for Western Europe the figure drops to 0.344 million and is lowest in Africa with a score of 0.02 million visitors per year. In commenting on the results Jha (2005) suggests that the visitor numbers can be explained by five factors which are: per capita income; population and the number; size and access issues to each of the sites within the country. Jha (2005:982) concluded that whilst income and number of sites has a significant effect on visitor numbers, '*infrastructure and peace*' explain most of the variation between sites.

4.5 Background to the Jurassic Coast World Heritage site

The Dorset coastline around Purbeck is part of the Jurassic Coast which was designated a World Heritage natural site (criteria i) in December 2001 through meeting the World Heritage criterion that a nominated site should be 'an outstanding example representing a major stage in the earth's history' (Jurassic Coast Team, 2011a/d; UNESCO, 2002). The site, of approximately 2,550ha, comprises 95 miles (155 km) of unspoilt coastline (described in the designation as being from low water mark to cliff top) from Studland Bay on Purbeck to Orcombe Rocks near Exmouth, in East Devon (Brunsden, 2003; Jurassic Coast Team, 2011a/d). The Jurassic Coast World Heritage site is both nationally and internationally important in terms of its geology, geomorphology and perhaps most notably its fossils, it represents an impressive 185 million years of earth history covering Triassic, Cretaceous and Jurassic periods as well as offering a scenic and unspoilt coastline, cliffs and beaches (Brunsden, 2003; Jurassic Coast Team, 2011a/d).

The Jurassic Coast is also protected through established conservation designations including thirteen geological and/or biological Sites of Special Scientific Interest

(SSSIs), seven Special Areas for Conservation (SAC) and three Special Protection Areas (SPA), as well as the two Areas of Outstanding Natural Beauty designations which cover 87% of the overall site (Brunsden, 2003; Larwood, 2002; Rose, 2005).

The two Dorset 'Heritage Coasts' are both situated within the Jurassic Coast. The Purbeck 'Heritage Coast' extends from Arne and the mud flats of Poole Harbour along a spectacular series of chalk and limestone cliffs to Weymouth Bay via the beauty spots of Kimmeridge Bay, Lulworth Cove and Durdle Door. Whilst the West Dorset 'Heritage Coast' extends from the Isle of Portland's limestone cliffs across the Fleet lagoon and the shingle bank of Chesil Beach to the picturesque villages around Lyme Bay (Jurassic Coast Team, 2011d).

The Jurassic Coast is of significant importance as a visitor attraction in offering a unique coastline with exceptional fossil exposures and other geological features as well as stunning cliffs and beaches which are highly accessible through the gateway towns and the South West Coast path (Jurassic Coast Team, 2011d; Jurassic Coast World Heritage Steering Group, 2009; Rose, 2005). In the introduction to the Interpretation Action Plan for the Jurassic Coast, the vision is stated as:

> *'inspiring people to celebrate, appreciate and enjoy the World Heritage Site, and to safeguard it for future generations in the best possible condition. We wish to ensure World Heritage status becomes a vibrant strand of the life of Dorset and East Devon, benefiting local people, visitors and the environment throughout the area'* (JCWH Steering Group, 2005:4).

Given this vision and the unique set of features displayed, it is not surprising to discover that this coastline has long been a popular destination for both domestic and international tourists visiting the south-west peninsula (Dorset For You, 2011a/c; JCWH Steering Group, 2005). However, the increase in visitor numbers brings its

own pressures and conflicts to the coastal environment as well as the local communities through which they travel and/or stay. In order to minimise the conflict between tourism development, quality of life issues for local people and the conservation and sustainable use of the coastal and geological resources, several management plans and strategies have been established in recent years and they demonstrate a clear commitment by the managing authorities to engage in the practice of sustainable tourism management (Dorset Coast Forum, 2011; The Dorset For You Partnership, 2011c).

The range of plans and management strategies which have some relevance to the Dorset coastline include the 'Dorset Coast Strategy', the 'Dorset AONB Management Plan' and the 'Jurassic Coast World Heritage Site Management Plan 2009-2014' (Dorset Coast Forum, 2011; JCWH Steering Group, 2009). The latter plan refers specifically to its overall aim being:

> *'to manage the Site and this wider area, the World Heritage Coast, in a cohesive way, which recognises it as an 'attractor' for visitors (including local people), and leads to an increased understanding, appreciation and support for conservation of the World Heritage Site, and to tangible benefits for the quality of life of local people and visitors'*
> (Jurassic Coast World Heritage Site – Framework for Action, 2009:3).

The underlying focus of the Plan is on the conservation of the site through the management of visitor activities. The practical objectives of the Plan and its supporting strategies have been developed in order to achieve the goals of sustainability which in turn it is hoped should guarantee the quality of the natural environment, the visitor experience and the sustainable development of the region (JCWH Steering Group, 2009). Dorset County Council has emphasised that interpretation should play a pivotal role in contributing to the environmental

sustainability of the coastal and geological environments (Johnson, 2002). To date, the main direction interpretive projects have taken is supporting the Jurassic Coast World Heritage Site Management Plan and Framework for Action as well as more specifically in aligning with the scoping study on 'interpretation facilities', undertaken in 2003 by the Natural History Museum, London (JCWH Steering Group, 2005). For instance, according to this scoping study, it is stated that the vision is that:

> '*interpretation of the Jurassic Coast World Heritage Site should allow intellectual, emotional and physical engagement with the landscape, science and history of the coastline, for people who live close by and for those who visit for study and recreation'* (Natural History Museum, 2003:4).

Based upon the scoping study, the core message of interpretation on the Jurassic Coast is that the:

> *'World Heritage Coast presents a unique 'Walk through Time' of 185 million years of geological and biological change'* (Natural History Museum, 2003:4).

This scoping study identified a target audience for the interpretation of the World Heritage Site as 'non-specialist family groups' (Natural History Museum, 2003) and within the study five main interpretive themes have been established, namely; 'fossils', 'coastal geomorphology', 'history', 'conservation and sustainability' and 'wildlife'. Theme 4 (Conservation and Sustainability) identifies three core interpretive messages, which are:

> '*we must preserve the JCWHS for future generations to use and enjoy'*;
> '*you can play a part in conservation*';

and more specifically:

> '*please help us preserve the cliffs be keeping to the paths*' (Natural History Museum, 2003:15).

In this context, the Jurassic Coast World Heritage site is suitable as a case study site in that interpretation is clearly regarded as pivotal to a strategy which focuses upon the management of the site as well as the enhancement of the visitor experience.

4.6 Selection procedure for the two study locations

This section discusses the procedure for the selection of each of the two study locations, within the Jurassic Coast World Heritage site.

The scoping study undertaken by the Natural History Museum suggested that the key conceptual theme for the interpretation on the Jurassic Coast was a unique 'walk through time' storyline, which provided a picture of past life and natural earth processes over 185 million years of geological and biological change (JCWH Steering Group, 2005; Natural History Museum, 2003). However, due to the diverse nature of the coastline as a whole, the Jurassic Coast Interpretive Plan and the Natural History Museum scoping study recommended that the World Heritage site-wide themes of rocks, fossils and coastal landforms (Table 4.1) be interpreted in various ways along the coast such that site-specific themes could include; marine life, coastal and cliff-top wildlife, social and cultural history as well as focusing upon fossils and the classic geological features (JCWH Steering Group, 2005).

Primary interpretive themes	World of the dinosaurs
	The ever-changing coast
	Birthplace of a science
	Geology for the future
	World Heritage Sites for today and tomorrow
Secondary interpretive themes	Geology and the landscape
	Local stone – local character
	Stories of stones
	Great nature's open book
	Inspiration from the coast
Tertiary interpretive themes	Sea stories
	Local history and culture
	Archaeology
	Transport and geography

(Adapted from; JCWH Steering Group, 2005:7).

Table 4.1: Interpretive themes on the Jurassic Coast

This site-specific interpretation has been further enhanced through the collaboration of local communities and the gateway towns along the Jurassic Coast. Of particular relevance is 'Dorset Coastlink' which was originally established to raise visitor awareness of the then relatively undiscovered marine and geological features of the Dorset coast (Dorset Coast Forum, 2011). Dorset Coastlink includes a network of six main visitor centres along the coastline and each interprets their own particular features of the coast but also emphasises the important of the marine influence on their site as a whole.

The main themes of each centre are as follows:

- **Charmouth** – local geology and fossils;
- **Chesil Beach** – coastal lagoons and bird life;
- **Lulworth Cove** – 'earth processes', evolution of coastal landforms;
- **Kimmeridge Bay** – marine habitats, rock pooling and the natural stone;
- **Durlston Country Park** – sea birds, cliffs, quarrying and dolphins;
- **Studland Bay** (National Trust reserve) – sand dune ecology.

(Dorset Coastlink, 2008).

In terms of the Jurassic Coast stories and themes, Purbeck (which includes Lulworth Cove) and Swanage (which includes Durlston Country Park) have clearly identified interpretive themes, these are illustrated in Table 4.2.

PURBECK (incl. Lulworth Cove)	
Primary interpretive themes	'Textbook' geomorphology at Lulworth Cove and Durdle Door
	The 'Lulworth Crumple' and Fossil Forest
Secondary interpretive themes	The chalk ridge dominating the landscape and its importance as a habitat
	Important biodiversity areas , particularly in the MOD range land
Tertiary interpretive themes	Tyneham village and the MOD
	Extensive archaeology including major hill forts

SWANAGE (incl. Durlston Country Park)	
Primary interpretive themes	Dramatic coastal scenery
	Important coastal geomorphology
Secondary interpretive themes	Cliffs quarried for Purbeck stone (incl. Tilly Whim caves)
	Purbeck stone – high quality Purbeck marble
	Durlston SAC and SSSI – wildlife, birds and orchids
	George Burt's Great Globe and Arcadian landscape
Tertiary interpretive themes	George Burt's Victorian legacy
	Coastal boats trips
	Eastern gateway to the WHS

(Adapted from; JCWH Steering Group, 2005:10).

Table 4.2: Interpretive themes on the two study locations

The two study locations were chosen because of their involvement and overall profile with Dorset Coastlink, the JCWHS interpretation action plan and the Natural History Museum scoping study. Although both locations emphasise interpretation based upon the marine and coastal environment, there are unique site-specific differences including visitor profiles, on-site visitor activities and management issues which makes the inclusion of both locations within the overall thesis of interest and relevance. It was hoped that by including respondents from both locations, common as well as contrary features in terms of visitor profiles, expectations, choices and attitudes to interpretation may emerge which will enhance and broaden the scope and depth of this study.

4.6.1 Lulworth Cove Heritage Centre, West Lulworth

Introduction

Lulworth Cove is situated within the Purbeck Heritage Coast of East Dorset and lies roughly halfway between the seaside resorts of Swanage and Weymouth. The Lulworth coastline stretches for some five miles from Warbarrow Bay in the East to White Nothe in the west and includes many fine beaches such as; Durdle Door, Man O' War Bay, St Oswald's Bay, Mupe Bay and Lulworth Cove itself. (Lulworth Estate, 2009c).

Lulworth Cove is an important visitor attraction in its own right; its features include the Cove itself, Stair Hole and the 'Lulworth Crumple', Durdle Door, Fossil Forest, the wildlife of the surrounding limestone and chalk grasslands, the social history associated with the village of West Lulworth and a rich archaeological heritage (Lulworth Cove Online, 2011). Indeed, the area between Lulworth Cove and Durdle Door is regarded as an important 'honey pot' within the South-West region and is renowned as a tourist destination offering breath-taking coastal scenery and fine examples of coastal geology (Lulworth Estate, 2009c). Lulworth Cove itself is a horse-shoe shaped cove (400ft feet wide at its entrance) cut into Bindon Hill, it was formed by the coastal erosion of the soft Wealden Beds through the interaction of the weather and the sea, with the rocks around the Cove representing the Cretaceous period (150 – 65 million years ago) (Brunsden, 2003; Davies, 1956).

The 'Lulworth Crumple' at the adjacent Stair Hole is a '*complex fold formed by major earth movements that occurred at the same time as the Alps were formed*' (Brunsden, 2003:49). Perkins (1977:126) recalls W J Arkell who described this area as '*the most*

interesting and most perfectly exposed of all the folds thrown up across the chalk plains of North-West Europe'. Another stunning feature of the area is 'Fossil Forest', where fossilised rings of algae ('burrs') can be found which gathered around coniferous tree trunks, some 150 million years ago. The sediments which stuck to the algae built up over time to create large circular 'burrs' of tufa which have remained long after the wood of the tree trunks has eroded away (Davies, 1956; Perkins, 1977), thus the 'Fossil Forest' is the '*most complete fossil record of a Jurassic forest in the world*' (Brunsden, 2003:50).

Wild flowers, bird life, butterflies and other insects are all rich on the site but in terms of wildlife, the most notable species is the Lulworth Skipper (*Thymelicus acteon*), a butterfly unique to the area which was first discovered near Durdle Door in 1832 (Lulworth Estate, 2009c).

Pressures from visitors and on-site management issues

The stunning natural landscape, the rich biodiversity and the unique geological features attract a large number of visitors to Lulworth each year. Typical activities include relaxation on the beach, swimming in the Cove, rock pooling and fishing, walking, biking or horse riding as well as wildlife viewing and exploration of the rocks and their fossils (Lulworth Estate, 2009c). Boat trips regularly leave the Cove throughout the summer months for Swanage, Bournemouth or Weymouth or just to cruise along the edge of the cliffs enjoying a guided experience of the Jurassic coastline. The Estate has a range of accommodation facilities to support visitors including B&B, self-catering and camping provision (Lulworth Cove Online, 2011; Lulworth Estate, 2009c).

Visitor numbers have been steadily increasing from 408,000 in 2000 to currently about 500,000 visitors each year (Dorset For You, 2011c). 30% of the visitors come through the peak summer season (July and August) with 10% visiting through the winter months (November – February) (Lulworth Estate, 2009c). The increasing numbers bring management problems associated with footpath erosion, disturbance to wildlife, dog fouling, climbing of the chalk cliffs, the visual dominance of the car park, excessive vehicular traffic and the perceived 'commercialisation' of the West Lulworth village (Lulworth Estate, 2009c). In order to manage these impacts a number of management strategies have been established by the Lulworth Estate which owns much of the village of West Lulworth together with the Cove, Lulworth Castle and the neighbouring village of East Lulworth since 1641 (Lulworth Estate, 2009c).

The management policies established in recent years include those which limit a number of activities such as beach access, climbing on the cliffs, fossil collecting and dog walking. Two visitor codes of conduct have also been established (one is specifically for the seashore) and are available from the Heritage Centre (Lulworth Estate, 2009c). The climbing of the cliffs presents an interesting issue. Professional and semi-professional climbers together with geologists regularly visit the cliffs and whilst they are allowed to climb and collect rock samples, visitors unless licensed are not. Inevitably, visitors seeing others climb will tend to do likewise despite the fact that the cliffs are dangerous and unstable (Lulworth Estate, 2009c).

Interpretation at Lulworth Cove

Interpretation has a significant role at Lulworth in helping visitors to appreciate the stunning and unique landscape around them as well as its associated management issues. This interpretation is centred around the Heritage Centre itself, which opened in 1994.

Interpretive panels, signs and way markers are strategically placed around the site and within the Heritage Centre are guidebooks, trail leaflets and DVD's as well as a series of themed interpretive experiences representing the formation of the Cove, the wildlife of the site and the social history of the village. The Heritage Centre at the Cove is one of the Coastlink visitor centres and is open almost every day of the year, with free admission. Educational experiences are run on a regular basis throughout the year for local and regional school children and students and guided walks are offered throughout the summer months for the general public. Supervised rock pooling activities are also offered for the peak holiday month of August (Lulworth Cove Online, 2011).

4.6.2 Durlston Country Park, Swanage

Introduction

Durlston Country Park, south-east of Swanage is a 280-acre (110 ha) cliff top site of international importance for its habitats, wildlife and geology (Cooke, 2008; Murray and Cooke, 2006). Durlston Head itself is a dramatic exposure of Portland limestone above which lie the Purbeck Beds (House, 1993) and is topped by the splendid Victorian Durlston Castle (built between 1887-1891). Whilst the headland itself

offers superb views across the English Channel and more locally across Durlston Bay towards the Isle of Wight (Brunsden, 2003, Cooke, 2008).

The rocks themselves have proved to be an incredibly rich source of Jurassic fossils including; turtles, crocodiles, insects, flying reptiles as well as dinosaur footprints (Durlston Country Park, 2010a; Murray and Cooke, 2006). The Purbeck limestone has proved to be exceptionally good as a building stone most famously through the Purbeck marble (a freshwater limestone) which polishes extremely well (House, 1993). This stone has been worked since Roman times but most noticeably perhaps during the Medieval period when it was used for '*decorative piers in Durham, Canterbury and Salisbury cathedrals*' (House, 1993:121). Tilly Whim caves represent a much more recent working of the stone, activity peaked around 1800, when '*the Purbeck stone was worked in galleries*', the caves themselves at one time a major visitor attraction, are not currently open to the public (House, 1993:124).

Durlston Park on the headland was created by George Burt (a member of the family who established the Mowlem construction company). He bought 80 acres of land in 1862 in order to develop a series of high-class residences set in a superb landscape with stunning scenic views. The residences never sold and as a result Durlston went into decline and by the 1960s was badly degraded. Heritage Coast designation in the early 1970s meant that Dorset County Council took the initiative in managing the area, it formally acquired and established the site as a Country Park in 1975 but many of Burt's features remained including the Castle (the lease being returned to DCC in 2003) and the Great Globe (Brunsden, 2003; Cooke, 2008). The Globe is carved from

Portland limestone and depicts the world in 1887, it is three metres in diameter and weighs some 40 tonnes (Brunsden, 2003).

In terms of environmental designations, 40% of the Durlston site is a Special Area for Conservation and 65%, a Site for Special Scientific Interest. Durlston's biodiversity is exceptional, the downlands and meadows are incredibly rich with wildflowers (notably orchids and gentians), birds and butterflies whilst the south-facing limestone cliffs host important seabird colonies including guillemot (*Uria aalge*) and nesting peregrine falcons (*Falco peregrinus*) (Brunsden, 2003).

Statistics for the wildlife found within the Park include; '*60 species of breeding bird, 400+ species of wildflower, 600 moths, 34 butterflies and 10 species of grasshopper*' (Murray and Cooke, 2006:22) with at least 200 of these species being of national or international importance (Durlston Country Park, 2010d). On 6th June 2008, Durlston Country Park was awarded National Nature Reserve status by Natural England, the first designation made since the body was formed in October 2006 (Anon A, 2008; Anon B, 2008; Durlston Country Park, 2010d). This designation carries one of the '*highest levels of conservation protection and recognises Durlston's outstanding natural heritage and value, both to the local community and to the nation*' (Anon A, 2008:10).

Pressures from visitors and on-site management issues

This spectacular landscape and the unique biodiversity as well as the geological features attract a large number of locals as well as visitors each year for both educational and recreational purposes. Typical activities include walking and

rambling, relaxation, sea cliff climbing in the designated zones, dog walking, picnicking as well as wildlife viewing and exploration of the meadows, downland, rocks and their fossils. The climbing is particularly popular due to the nature of the sea cliff 'climb experience' and the relatively easy proximity of the site to the M3 corridor and thus London.

Visitor numbers have steadily increased from 128,000 in 1999 to currently about 250,000, of these about 120,000 visitors pass through the Visitor Centre itself each year, with about 10,000 of these in educational groups (Murray and Cooke, 2006). A flourishing 'Friends of Durlston' group (with some 700 members) provides voluntary support for the Park's team of rangers. The balance between locals and visitors in terms of numbers is about even, '*the locals of course, use the site throughout the year whereas visitors tend to peak at Easter and then through July and August*' (personal communication with Murray, 2007). The peak months for visits from school groups, currently about 500 per year of mostly pupils at Key Stage 3, is May and June, with a smaller peak in September and October (Durlston Country Park, 2010b; Murray and Cooke, 2006).

The increasing numbers bring management problems associated with; trampling and footpath erosion, visual intrusion, disturbance to wildlife, dog fouling, climbing of the cliffs, and excessive vehicular traffic in a very small and confined area. In order to manage these negative impacts and to achieve the environmental goals associated with such a sensitive landscape, a new management plan for the period 2005-2012 has been established by 'Dorset Countryside' who mange the Park on behalf of Dorset County Council. The vision encapsulated in the Plan states that:

> '*we will develop and manage Durlston as an inspirational, world class visitor facility with the highest commitment to conservation, learning, community involvement, sustainability and customer satisfaction*' (Murray and Cooke, 2006:40).

The four key priorities identified within the Plan include; 'conservation', 'access, learning and enjoyment', 'involving and benefiting' and 'sustaining'. The climbing of the cliffs presents an interesting challenge between the demands of the climbers in relation to their 'climb experience' and the needs from the internationally important nesting sea-bird colonies. Careful zoning of climbing together with the promotion of the interests and the monitoring of bird numbers has been successful in the past (Murray and Cooke, 2006). Dog walking is a particular issue for the wardens and visitors are encouraged to keep dogs on a lead because of the sensitive bird species found across the Park. Equally the pressure of visitor numbers means that the location of pathways, stiles and gates, walls and fences as well as signs and trail leaflets are regularly monitored and reviewed to ensure that the levels of trampling and erosion are managed at an acceptable level (Murray and Cooke, 2006).

Interpretation at Durlston Country Park

Interpretation plays the same important role at Durlston as it does at Lulworth in helping the visitors to understand the stunning and unique landscape around them and to appreciate its associated management issues. Interpretive panels are strategically placed around the site and within the Visitor Centre are guidebooks, four self-guided trail leaflets and DVDs. The visitor centre also offers a series of themed interpretive experiences representing the wildlife of the site, the Tilly Whim Caves and the local geology as well as the seabird colonies on the cliffs (with 'Guillemot' camera) and the Durlston dolphin project (Durlston Country Park, 2010b).

The Visitor Centre is one of the Coastlink visitor centres and is open almost every day of the year with free admission, it houses two important interpretive facilities used extensively by locals and visitors, the ranger's 'Daily Diary' and the 'Durlston Today' notice board, both offering topical wildlife information which is updated on a daily and weekly basis (Durlston Country Park, 2010b). A daily duty ranger also ensures that both locals and visitors have the opportunity to acquire first hand information about the site.

The four self-guided trails are well established and offer visitors the chance to explore the 'Victorian Park' as well as taking the 'Wildlife', 'Cliff top' and/or 'Woodland' Trail. The Durlston dolphin project watch was established in 1987 and provided the basis for what today is the 'Durlston Marine Project' which links research with raising the visitors awareness and understanding of the marine environment on their doorstep (Murray and Cooke, 2006). Other visitor facilities available at Durlston include the Castle (recently re-opened following major renovation work, under a Heritage Lottery bid), toilets and the Lookout Café and exhibition area devoted to George Burt (in the Castle's lower annexe), the Great Globe, Anvil Point lighthouse and of course the car park.

Educational sessions and tours are run on a regular basis throughout the year for local and regional school children and students. Local guided walks (up to 80, in 2010), exhibitions and bespoke events (notably art and live theatre) are offered on the site throughout the year for the general public. The web site hosts a virtual tour of the park as well as a virtual wild flower and two butterfly walks. School groups are also catered for by four virtual field trips, namely; 'history', 'coastal geology', 'wildlife

and habitats' and 'managing Durlston'. The web site currently achieves 3000 'hits' per week (Durlston Country Park, 2009).

The 'Durlston Project' established by Dorset County Council with the support of the 'Friends of Durlston', the Dorset Wildlife Trust and the South-West Regional Development Agency (SWERDA) proposed a major redevelopment of Burt's Castle as an integral part of the overall Country Park and more specifically as a 'Gateway Visitor Centre' for visitors not only to the Park itself, but also the Eastern end of the Jurassic Coast (Cooke, 2008). In December 2006, the Durlston Project passed Stage One from the Heritage Lottery Fund (HLF) with a £3.27m grant, as part of the overall £5.85m project bid (Cooke, 2008; Davey, 2007; Durlston Country Park, 2011). The Stage Two bid was submitted in March 2008, was successful and has received match funding of £2.4 million (Anon A, 2008). The work commenced on the Castle site in the summer of 2009 with the proposal that the Castle would be open to visitors some 12-16 months later (Anon A, 2008; Cooke, 2008; Durlston Country Park, 2011).

The 'Great Globe' was fully restored in 2009 and the Castle itself re-opened to the public in November 2011. '*It is fantastic to see this exciting project finally taking shape on the ground*' (personal communication with Murray, 2011) and Murray was right, the features for the Castle now open also include an exciting geological 'timeline' by artist Gary Breeze, a short audio-visual film in four-screen mode and a one-ton, fossil-packed slab of Purbeck stone, known as 'The Rock'.

4.6.3 A comparison between the two selected study locations

The procedures for selection and the background to the two locations involved in the study have now been presented. Table 4.3 offers a summary of a range of comparative aspects between Lulworth Cove and Durlston Country Park.

	Lulworth Cove	Durlston Country Park
1. Management Plan	Dorset Coast Strategy; JCWHS Management Plan and assoc. strategies; Natural History Museum scoping study; Dorset AONB management plan;	
Site-specific plans	Lulworth Estate Management Plan 2008-2012	Durlston Management Plan 2005 - 2012
2. Visitor management issues	1. Limited beach access 2. Prohibited climbing 3. Prohibited collecting of fossils 4. Dog fouling 5. Trampling and erosion 6. Wildlife disturbance	1. Licensed climbing 2. Licensed collecting of fossils 3. Visual intrusion 4. Dog fouling 5. Trampling and erosion 6. Wildlife disturbance
3. Owners of the site	Lulworth Estate (private)	Dorset County Council
4. Visitor numbers	One of the most popular destinations along the Dorset heritage coastline. 2008: 500,000 p.a.	Popular locally, but largely unknown to visitors. Very popular with climbers. 2008: 250,000 p.a.
5. Codes of Conduct established	General Code Seashore Code	General Code Climbing Code
6. Interpretive themes developed on-site	Geology and the rocks; coastal processes; Local social history	Seabirds, migrants and dolphin; Summer meadows; Local social history
7. Interpretive facilities, offered on-site	Heritage Centre Interpretive Panels Self-guided trails, official web site brochures, maps, souvenirs	Visitor Centre Interpretive Panels Four self-guided trails, official web site and tours, brochures, maps, souvenirs
8. Role of on-site staff	Meet and greet visitors Guided walks for visitors Meet school groups	Meet and greet visitors Guided walks for visitors Meet school groups

Table 4.3: Summary of the comparative aspects between Lulworth Cove and Durlston Country Park

It can be seen that both sites promote sustainable management practices, offer interpretation as a key strand within their visitor management strategies and have visitor management issues which they are working to manage. The two locations have similarities in terms of management policies regarding climbing, rock and fossil collecting as well as respecting the wildlife on site. Both have codes of conduct to encourage appropriate behaviours from their visitors and are managed to protect and conserve the coastline, the cliffs and the associated wildlife and this informs the main interpretive themes offered on each site. However there are differences between the two sites, the most obvious being the number of visitors visiting each site together with their profile and demographic characteristics. Lulworth tends to attract international tourists, coach parties and family groups whereas, Durlston tends to attract locals and to a lesser extent regional tourists, by car, and typically in smaller groups. Whilst climbing is an issue at Lulworth, dog walking is a much greater issue at Durlston. Lulworth is privately owned whereas Durlston is run by Dorset County Council which in turn means that Durlston is heavily reliant on public donations, community support and of course, community involvement.

4.7 Summary

This chapter has introduced the case study for this thesis by briefly exploring the Jurassic Coast World Heritage site together with the two study locations of Lulworth Cove and Durlston Country Park. The next chapter will explore in detail the procedures used in the selection of appropriate research methodologies, the development of the questionnaire, the procedures for data collection and then suitable techniques of data analysis which were undertaken in order to examine the results of

the questionnaire and therefore construct a series of conclusions to this thesis which fulfil the research aim and objectives.

Chapter Five

Research methodology

5.1 Introduction

The selection and design of an appropriate research methodology is a crucial part of the research process and critical in order to ensure that the research aim and objectives are achieved. In the previous chapter the case study location of the Jurassic Coast World Heritage site together with the two study locations was introduced. Chapter Five provides an explanation of the research methodology adopted. Having explored the research design, the development of the research questionnaire is discussed including the types of survey methods adopted, the population and sample size and question format and content. The process of managing the pilot study, the data collection techniques and response rates are all explained as are the statistical approaches used to analyse the data obtained. The chapter concludes with a critical exploration of the limitations encountered with reference to the reliability and validity of the overall research method.

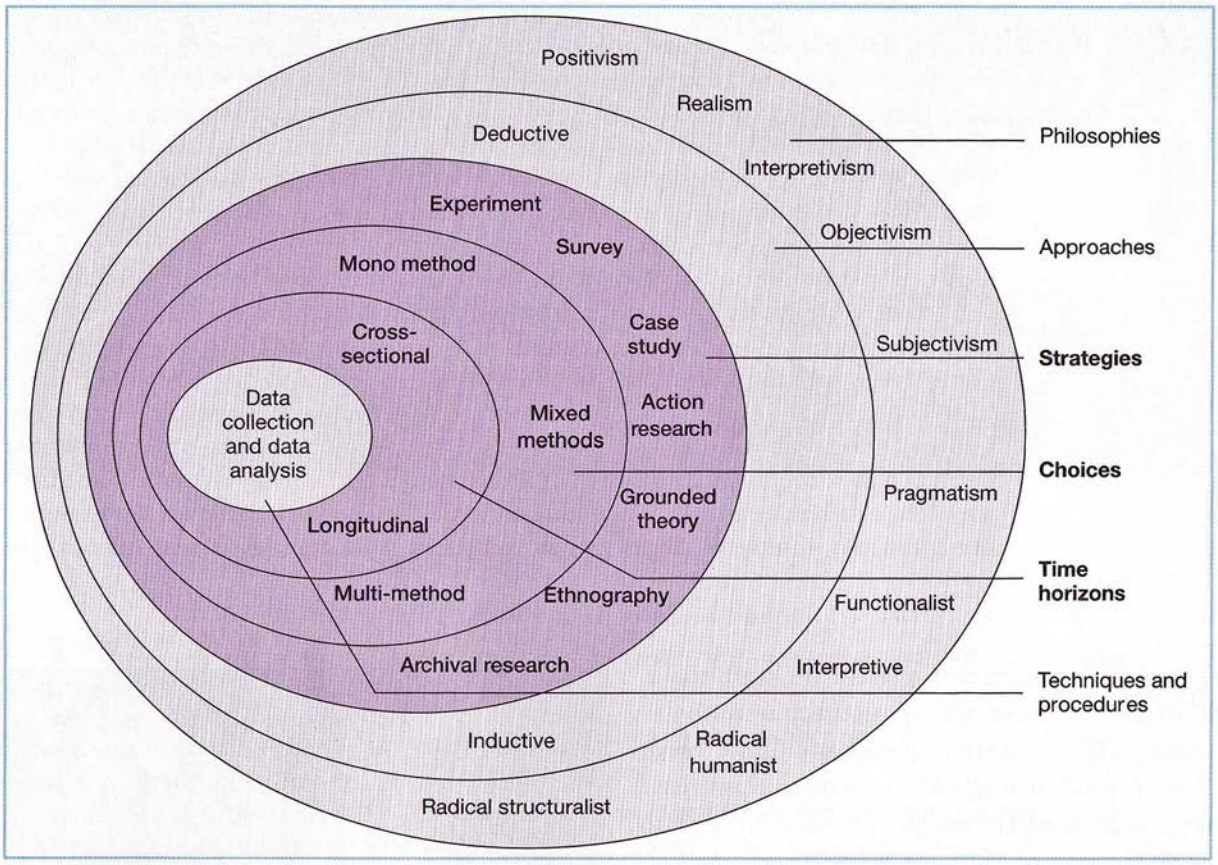
The research process adopted for this thesis is illustrated by a diagram (Figure 5.1) which begins with the development of initial ideas worthy of investigation and ends with conclusions being drawn. The diagram identifies key stages including the setting of an aim and objectives, the establishment and justification of research design and measurement tools, data collection, data analysis and conclusions.

1. Research investigation	1.1. Exploration of the literature and establishment of research framework 1.2. Development of research aim and objectives 1.3. Literature Review
2. Site selection	2.1. Selection of research site – Jurassic Coast World Heritage site
3. Research methods	3.1. Selection and justification of research methods and techniques – administered questionnaire including qualitative elements to add depth to the data set 3.2. Sampling design – tourists and locals, weekdays and weekends etc. 3.3. Questionnaire design and format
4. Data collection	4.1. Pilot study – reliability and validity tests 4.2. Data collection
5. Data analysis	5.1. Data analysis – Chi-square test, Mann-Whitney U test – Kruskal-Wallis test – Binary and Multinomial Logistic Regression – Reliability Analysis (Cronbach's alpha) – Factor Analysis and Principle Components Analysis 5.2. Exploration of the qualitative elements
6. Discussion and Conclusion	6.1. Discussion of results 6.2. Identification of main conclusions 6.3. Recognition of opportunities for further research 6.4. Achievement of research aim and objectives

Figure 5.1: The research process

5.2 The philosophy of research: a brief introduction

Saunders *et al*. (2009) introduce the idea of the 'research process onion' which when aligned to the scales of a cut onion reveals the process of undertaking research through five logical and progressive stages, Figure 5.2 illustrates the 'onion'.



Source: Saunders *et al.* (2009:138)

Figure 5.2: The 'research process onion'

a) The research philosophy

In the first stage of development, Saunders *et al*. (2009) identify a range of philosophies upon which a 'research process' might be based, these include; 'positivism', 'interpretivism' and 'realism'. The 'positivism' philosophy which has its origins in the work of Descartes and Newton suggests that '*truth is confirmed by (scientific rules and) empirical evidence*' (Finn *et al.*, 2000:6), it takes a more mechanistic approach to the research process and tends to assume that the researcher

is objective and value-free (Jennings, 2001). This 'positivism' philosophy therefore adopts a more scientific and deductive approach where the role of the research is to test theories. A further development is the 'post-positivist' philosophy which is regarded as a more ethnographic or qualitative approach (Bryman, 2008). 'Positivism' also tends to assume that behaviour can be measured and that the researcher can be totally independent of the measuring tool, it has therefore been suggested that it may be less applicable to studies of human behaviour (Cohen *et al.*, 2007).

The aim and objectives of this research focuses on visitor choice and the use of, and demand for interpretive media and the research used an administered questionnaire as the principle measuring tool within the study. However, eliciting qualitative comments from the respondents during the completion of the administered questionnaire was an important component of the overall study which added depth and richness to the data and meant that a 'post-positivism' approach might be regarded as more relevant within the overall study. The 'post-positivist' philosophy seeks to understand meanings and realities as they relate to those people studied in order to understand their actions, motivations and intentions (Cohen *et al.*, 2007; Saunders *et al.*, 2009), in other words 'post-positivist' is interested in social action and interaction. It is therefore suggested that the 'post-positivist' philosophy is of principle relevance to this study and in particular to the 'guided walk' element where the researcher wished to focus upon the 'richness of meaning' in relation to the guided experience and its subsequent commentary from each of the respondents.

b) The research approach

The second stage according to Saunders *et al*. (2009) identifies the research approach as being either 'deductive' or 'inductive'. 'Deductive' research (or theory testing) tends to be supported by scientific principles and moves from theories and a hypothesis or objectives to sets of data which are based upon rigorous, quantitative methods with the ultimate intention of proving or refuting the original hypothesis, objectives and theories (Bryman, 2008; Finn *et al.*, 2000). Whilst, 'inductive' research (or theory constructing) tends to offer a more flexible approach and is usually informed by empirical data, this flexibility encourages changes of direction or emphasis during the research process. The outcomes typically would be to generate a set of theories, underpinning some conceptual framework which relates to the overall research objectives (Saunders *et al.*, 2009). Inductive research also usually includes an 'iterative' element which according to Bryman (2008:12) involves a process of '*weaving back and forth between data and theory*'.

The extensive use of an administered questionnaire as the principle measuring tool might traditionally be regarded as a 'deductive' approach. However, the importance placed upon the qualitative comments elicited from each respondent would suggest that a 'theory constructing' approach is also taking place. Indeed, a principle objective of this research is the development of a framework for the design of guided walks, it is therefore suggested that given this focus and whilst recognising that 'deductive' elements exist within the study, the overall research approach should be deemed as one of 'inductive' research.

c) The research strategy and tactics

The third stage identifies the research strategy to be adopted. Finn *et al*. (2000) suggest that the three main research strategies applicable to social science research are the use of surveys and/or experimental or ethnographical methods. Research involving survey methods requires a sample of respondents to answer a number of questions that have been specifically designed to be relevant to the research being undertaken and typically this type of resulting data can be used to compare the similarities and differences between a targeted sample of the population (Denscombe, 2007). Experimental research involves testing variables under closed conditions to measure the effects of one variable (or factor) upon another, usually a control group is established in addition to the experimental group who can then be treated differently (Finn *et al.*, 2000). The application of experimental methods in visitor management research is however somewhat limited (Denscombe, 2007).

By contrast, ethnographical studies are widely used and typically explore complex social interactions, attitudes and behaviours over a period of time. Ethnographic studies can be time consuming for the researcher and may also produce data which can be difficult to interpret, however the quality and depth of the data is often extremely rich (Denscombe, 2007; Finn *et al.*, 2000). Finally, Saunders *et al*. (2009) also suggest the notion of 'tactics' within the overall research approach adopted, which describe the time frame and the specific methods of research such as the use of a questionnaire or focus group. In consequence, the final two stages or 'layers' of their 'research onion' identify the time frame / horizon (cross sectional or longitudinal) for the research and the data collection methodology.

5.2.1 Types of data collection methodology

The methods by which primary data is collected can be divided into two main types; namely quantitative and qualitative methodologies. In simple terms, quantitative methods tend to involve a large number of participants whereas qualitative methods tend to focus upon a smaller number of participants but where the intention is to collect richer and more detailed information (Denscombe, 2007). Both of these two data collection methodologies have advantages and inevitably some limitations, the following sub-sections briefly discuss these.

5.2.1.1 Quantitative research methodologies

Quantitative research methodologies are ideal for collecting information on the attitudes and values of a population although whilst quantitative data allows for a much larger sample size which should ideally be representative of the wider population there is often a corresponding loss in the richness of the data collected (Ballantyne *et al.*, 1998; Bryman, 2008). The data is often numeric in form and can be described as 'outcome-orientated' (Denscombe, 2007). Quantitative research is generally associated with a positivist and deductive approach leading to generalisations being made which then allow reasonably accurate predictions and/or models to be made using statistical analysis techniques (Finn *et al.*, 2000).

Quantitative approaches include surveys and questionnaires, longitudinal studies, experimental methodologies and impact assessments all of which will have been 'trialled' and finely tuned before the final data collection tool is used (Jennings, 2001). Despite the limitations, a quantitative method was ultimately chosen to support this study, it being the most suitable method in order to explore the choice of

activities and experiences of visitors on the case study site. Many researchers in exploring interpretation have used a questionnaire method to effectively and rigorously deliver their data (Ballantyne *et al.*, 1998; Ballantyne and Hughes, 2001; Chen *et al*., 2006; Ham and Weiler, 2002: 2007; Hughes and Morrison-Saunders, 2005 and Randall and Rollins, 2009).

5.2.1.2 Qualitative research methodologies

By comparison, qualitative methods provide 'richness' and 'depth' to the data collected (Bryman, 2008). Creswell (1998:15) defines qualitative research as '*an inquiry process of understanding … which builds a complex, holistic picture*'. Qualitative methods may allow for a broader and deeper exploration of a participant's perspective and feelings together with a more complete understanding of their characteristics, social circumstances, experiences as well as their behaviour patterns in a specific situation or period of time (Finn *et al.*, 2000; Jennings, 2001).

Qualitative methodologies do require a significant investment in time both in terms of the data collection and its subsequent analysis. This tends to mean that qualitative methods such as interviews, life histories or focus groups are limited to only small sample sizes and relatively few questions (Bryman, 2008). Some critics of qualitative methodology therefore suggest that the resulting data can sometimes be unrepresentative of a wider population and consequently any resulting generalisations about the wider population cannot be made with any degree of confidence (Mason, 1996). The data can also be un-representative because of its very personal nature which can also easily become 'coloured' by the presence of the researcher (Denscombe, 2007). Despite this, qualitative methodologies have been very

effectively used notably in the evaluation of interpretive media. In-depth structured interviews, the observation of guided walks and visitor flow through visitor centres as well as focus groups with visitors have all been used (Davidson and Black, 2007; Fallon and Kriwoken, 2003; Stewart *et al.*, 1998). A qualitative method was also chosen to support part of this study as it was felt to be the most suitable method in order to explore the guided walk experience of visitors on the case study site.

5.2.1.3 Combining research methodologies

In order to maximise the strengths of any data collection process as well as to minimise any potential limitations or bias, the use of qualitative and quantitative methodologies jointly is often considered beneficial as demonstrated through the work of Ballantyne *et al*. (1998), Ballantyne and Hughes (2001), Davidson and Black (2007), Ham and Weiler (2002), Pearce and Moscardo (2007) and Randall and Rollins (2009). Denscombe (2007) and Philip (1998) advocate this approach which they describe as 'mixed or multiple method' research. Philip (1998) identifies the difference as; 'mixed method' referring to two or more data collection methods used across a range of research questions whilst 'multiple methods' is used to examine different perspectives of the same research question. Bryman (2008) has suggested a number of ways of combining qualitative and quantitative data collection methods, including most commonly one collection method facilitating the other:

- qualitative method preceding quantitative allowing qualitative data to inform the process of a large scale quantitative study. In the case of this research study, a small number of qualitative interviews (n=4) were used to establish the broad research questions and a quantitative method (questionnaire, n=600) was used to collect the principle research data, although during the

administration of the questionnaire respondents were also invited to add explanatory comments to any of their responses, as they felt appropriate (qualitative method);

- quantitative methods used to gain a large sample, which is then used to inform qualitative methods on a smaller scale, which can explore a sample in depth and detail. In the case of this research study, a quantitative method (questionnaire, n=600) was used to collect the principle research data, this was then used to identify a smaller sample (n=110) who specifically were asked to talk about their guided walk experience (qualitative method).

Ham and Weiler (2007) provided an important methodological background to this study (for commentary on this and other relevant studies, see Figure 7.1). In their research 727 respondents (over a 13-week period) undertook a self-completion questionnaire which invited them to comment upon their need for and satisfaction with a range of on-site interpretive facilities. They found that this methodology supported their research objectives and they recorded a 94% response rate. Their questionnaire took ten minutes to complete on average and satisfaction scores and attitudinal values were recorded against a 5-point Likert scale. The subsequent analysis between groups was used to identify differences in response patterns between locals and tourists and between national and international visitors. International visitors and those who undertook a guided tour consistently scored the highest satisfaction ratings although this was compounded by the fact that it was predominantly international tourists who undertook the guided tours. Their conclusions suggested that research in other natural areas would help to explore the external validity of their findings and that more research into the relationship between

visitor satisfaction and interpretive services is needed. They concluded by suggesting that:

> '*a more informed understanding of such relationships would permit tourism providers to be more strategic in how they plan, design and deliver interpretive services in accordance with tourists' desired experiences*' (Ham and Weiler, 2007:21).

Having therefore reviewed the advantages and limitations of each of the two main methodological approaches as well as exploring their use in comparable interpretive and other broader visitor-based investigative studies, it was felt that a questionnaire together with an individual discussion with each participant would be the most effective methods in delivering the aim and objectives associated with this study.

5.2.2 Establishment of the sample population and sampling method

a) The target population to be explored

The term 'population' refers to the total number of people that are the focal point of the research (Veal, 2011) whilst the 'target population' or 'sample' refers to the specific number of people within the overall population who the researcher wishes to make contact with (Bryman, 2008). The 'target population' to be explored on the Jurassic Coast World Heritage site was represented by local residents, English-speaking independent day visitors (both domestic and international) as well as those visitors on organised coach tours, the exclusions therefore from the overall 'population' were non-English speaking visitors, the on-site wardens and rangers, children and young people on organised activities as well as anyone visiting the site who was under the age of 18.

Those excluded therefore were made on the basis that conducting the questionnaire with any non-English speaking visitor would be difficult without translation services being available. Children and young people were also excluded partly because they were not typically making the principle decision about the family's visit but also because their approach to engaging with on-site interpretation is significantly different to that of adults. However, the views of young people were in part captured through the comments of their parents about the activities they were planning to undertake and in section 9.4 a comment is made on the value of a separate study capturing the views of children and young people on their overall 'Jurassic Coast' experience. Finally, the close involvement of on-site wardens and rangers with the development of this study meant that their views were not captured within the questionnaire however their views are recorded as part of the broader discussion of guided walks detailed in Chapter Eight.

To reflect the variations in visitor profile throughout the season, it was felt that the survey period should be set as 1st April – 31st October 2007 and that each location should be visited on a weekly basis throughout the period. The overall response rate for the survey is discussed in section 5.4.2 but stands at 87% thus 690 groups of visitors were ultimately approached to gain the 600 groups of respondents required.

b) The sampling method adopted

Probability sampling is generally considered to be the most suitable method of sampling in order to limit any researcher bias or data skew-ness and therefore support the 'generalisability' of the resulting data set. However, on investigation of the existing data sets covering the visitor populations for the Jurassic Coast World

Heritage site it was found that whilst broad groupings of visitors could be identified, the data was not sufficiently current, detailed or robust to support the creation of the clear sampling divisions needed for effective probability sampling. As a result, it was decided that it would be necessary to adopt a non-probability sampling method for this research study in order to capture the variety of visitors throughout the season.

Non-probability sampling methods are adopted where participants do not have a known or pre-determined chance of being selected. There are several methods of non-probability sampling which include; convenience, judgement (or purposive), snowball and quota sampling (Denscombe, 2007; Saunders *et al.*, 2009; Sekaran, 2009).

For the two pilot surveys, a convenience sampling method was used. Convenience sampling is also known as 'next to pass' or 'grab sampling' (Jennings, 2001; Sarantakos, 2005). As these names imply, this approach simply allows the researcher to question any person who is prepared to participate in the survey (Saunders *et al.*, 2009). This approach was seen as perfectly appropriate in gathering the raw data to inform the two pilot surveys.

In the main survey, a non-probability, purposive quota system was adopted in making initial contact with the visitors, this was selected because the researcher through interviews with the on-site rangers and given the existing data set already knew something about the demographics of the visitors who visited the site. Purposive sampling allowed the researcher to make judgments on the suitably of potential participants to take part in the survey instead of merely sampling a cross-section of all

visitors but this approach can lead to a bias arising amongst the targeted sample (Saunders *et al.*, 2009). This sampling approach was undertaken to ensure that the quota system established and discussed in this section was managed effectively on each of the visits to the two study locations. For younger visitors, judgements were also made about their age prior to making an approach, those who appeared to be only just 18 were asked their age and if they were not, the survey was not completed.

The quota sampling approach meant that the population was subdivided into three groups which were defined as a result of the pre-survey interviews with on-site rangers to very broadly reflect the population visiting the site. These three groups were; 'age', 'social grouping' and 'activity being undertaken' (Table 5.1).

Group	Age	Social Grouping	Activity
	Young (under 30)	**Alone or, with partner and/or friend**	**For pleasure and relaxation (identified as carrying no specific equipment)**
	Middle-aged (30 and over)	**In a group, with family and/or friends**	**Specific purpose to visit (identified as carrying equipment)**
A total of six categories in all			

Table 5.1: The three groups sub-dividing the on-site visitor population

During the course of conducting the main survey, participants falling into each of the groups were selected and approached. A maximum weekly quota of two respondents from each group was set for the main survey this equated to talking to potentially twelve visitors per location per week. Therefore in total twenty-four visitors were approached each week over the seven month period giving an overall potential total of

720 visitors against the target sample of 600 which would also take into account those visitors who 'declined to participate' in the study.

In terms of the timings of the weekly visit to each location, a random sampling process throughout the seven-month time frame of the main survey was established similar to the methodology adopted by Ham and Weiler (2007). Two random days of the week were drawn to start the process from then on throughout the survey period, the location was next visited in a sequence as follows; the day of the week visited was two days after the previous day (so in Week 1 if a Monday was drawn, then the following week the site was visited on a Wednesday etc.). The time of the day of the visit was managed in a similar way, so both locations commenced with Week 1 on a morning visit followed on rotation by a lunchtime visit, then afternoon visit and then back to a morning visit.

Evening data collection was initially considered but dismissed following conversation with on-site staff given that the respondents could not access the visitor centre in the evenings which formed an integral part of the questionnaire. Data collection did take place at weekends and it was therefore anticipated that some of the visitors who could only visit the site in an evening after work may also choose to visit at weekends and so could be 'captured' at that point.

c) The size of the sample adopted

Researchers have identified the need to accept a 'trade off' between the sample size and composition selected and the practical limitations of undertaking the research, such as; time, resources, costs and access to both the site and the target population

(Finn *et al.*, 2000; Jennings, 2001; Krejcie and Morgan, 1970; Oppenheim, 2000). The sample size adopted should be linked to the level of precision required from the research (Saunders *et al.*, 2009), for most social science research a 95% tolerance level for precision is required (Veal, 2011). For the size of population visiting each site (in excess of 100,000 visitors) Neuman (2010:217) suggests that the '*sample size should represent 1% of the population*'. However, this was deemed to be too large a sample to be effectively undertaken within the constraints of the research process.

However a number of researchers have attempted to identify a series of criteria which can be used to determine the optimum sample size and these were felt to be more helpful, the criteria are as follows: a sample size larger than 30 but less than 500 is appropriate for most research studies; where samples are to be broken into sub-samples, a minimum size of each sub-sample of 30 cases is necessary; in multivariate research, a sample size of 150-200 for each identified group should be used; in factor analysis, the sample should have at least 300 cases, with 500 being very good and 1000 excellent. (This set of criteria is based upon the work of Cohen *et al.*, 2007; Hair *et al.*, 1998; Saunders *et al.*, 2009; Sekaran, 2009; Tabachnick and Fidell, 2005; Veal, 2011).

In determining the size of the sample and in following the criteria detailed above, the guidance of previous researchers and also recognising that both multivariate analysis and factor analysis would be undertaken on the resulting data, the sample population was set at 600 groups of respondents. This sample size was duly achieved.

5.3 Development of the design of questionnaire

Date	Phase	Objectives	Process
	1. Co-operation in the sample	Obtaining the co-operation and involvement of both on-site managers and their staff	E-mails and phone calls with both on-site managers
	2. Personal interviews and 3. Development of first pilot survey	Identification of the broad themes, visitor profiles, management issues etc. associated with each location	Personal interviews with on-site staff (n=4). Observation of each VC. Observation of visitors and their activities, at each location
	4. First pilot survey	Testing sampling procedure, administration process, wording of questionnaire etc	Small sample of 10 visitors at each location was undertaken. (20 samples completed)
	5. Questionnaire design for the main study	Revise questionnaire as a result of first pilot.	Develop questions further. Brief interview with on-site staff (n=2) to discuss the results of the first pilot.
	6. The second pilot survey, for both locations	Testing procedure and process, wording of questionnaire etc. Testing reliability and validity of the attitudinal scales developed.	Target sample of 15 visitors at each location was undertaken. (30 samples completed)
01/04/07 to 31/10/07	7. The main survey at both locations	Data collection undertaken, in accordance with procedures established during the pilot study.	Target sample of 300 visitors at each location through purposive sampling was undertaken. (600 surveys completed). Smaller sample (n=110) were identified to talk about their guided walk experiences.

Table 5.2: The phases in the development of the questionnaire

The process of development of the questionnaire is illustrated in Table 5.2 which shows not only the process undertaken but also the objectives at each phase. The limitations of the use of a questionnaire have already been established in both theoretical and practical terms, in responding to this, several phases in the development of the final questionnaire were undertaken to ensure that as far as was reasonably possible the final questionnaire reflected a reasoned response to these identified limitations.

5.3.1 Preliminary enquiries

a) Securing co-operation at each of the two study locations

The initial phases involved contacting staff at both study locations in order to secure their involvement in the research. An initial meeting was arranged at each of the two locations to discuss the objectives of the study and the possibility of conducting research on the site. Staff at both locations were enthusiastic about the proposed study which they regarded as potentially delivering valuable information about their visitors and thus the participation of both sites was agreed and permission was given for the visitor survey to be conducted.

b) Obtaining location-specific details, to inform the survey

It was felt essential that in-depth interviews with staff at each location together with the observation of visitors be undertaken at this initial stage to ensure that the questionnaire once designed delivered against the key aims and objectives of this study in an effective way. This information was obtained in the following ways:

Initial interviews with on-site staff (n=4)

Two brief interviews were conducted at each location. These interviews provided general information about the location, its characteristics, visitor profile, management issues etc. As a result, dog walking and climbing were identified as issues at both locations and were therefore included as specific activities in the questionnaire. However, both of these management issues were regarded as being outside the primary focus of study for this thesis and so more detailed questions were not included but clearly other studies may wish to explore these management issues in more detail. The difference in visitor profile between the two locations also became apparent as a result of these interviews. The interviewees were then invited to comment on the preliminary layout of the questionnaire and suggest question areas which had not been included. Questions on the usage of the visitor centre as well as the importance of the 'World Heritage' designation were added at this stage.

Review of existing interpretive media and facilities

Following the interviews the researcher was invited to take away a sample of the printed interpretive material produced at each location. The researcher was also given a guided tour of the visitor centre facilities as well as an explanation of the interpretive themes established, location of interpretive panels, use of guided walks. This provided valuable background information and helped to inform Section B of the questionnaire which concentrated upon the on-site interpretive experience of the visitors.

Observation of visitors

The researcher then spent an hour at each of the two locations observing the visitors present. Specifically, the types of social groupings were noted as was the broad range of activities undertaken by visitors which also helped to inform the structure and content of the questionnaire.

5.3.2 The first pilot survey

As a result of the interviews and initial observations at each location, a draft questionnaire was produced which was used for the first pilot survey. Beyond the questions which focus specifically upon the aim and objectives of the study, the first pilot survey was also designed to identify whether:

a) the sequence of the questionnaire worked;
b) the attitudinal scales developed worked;
c) the participants found the questions easy to understand and answer;
d) the participants appeared to answer the questions honestly and in a considered way, particularly those with attitudinal values;
e) there appeared to be an easier way to answer any of the questions posed;
f) and finally, whether it appeared that the reliability and validity of the questions as posed in the survey could be demonstrated.

The first pilot was undertaken with ten participants at each location and the key issues arising from this survey were as follows:

a) the number of closed questions was felt to be too great. As a result, more open or attitudinal questions were included to allow respondents to provide richer and more detailed responses;

b) the use of two sub-sections (based upon a filter question) within the questionnaire for those who had / had not undertaken a guided walk on site that day was felt to be too complex and was abandoned;

c) the visitor demographic questions were strengthened to obtain more information about the visitors, where they had come from, who they were with and where they were staying;

d) some of the attitudinal questions had appeared to create confusion in the way they had been written (some negative, others positive) and these were as a result re-phrased. In consequence and for ease and consistency, it was decided that all of the attitudinal questions in the survey would be re-written and these were then tested within the second pilot study.

Subsequent discussion with staff at both locations confirmed that the results obtained were consistent with their view of the profile of visitors, their characteristics, use of facilities and activities undertaken.

5.3.3 The second pilot survey

As a result, a second and modified questionnaire was developed which was presented to each site for comment. Their views primarily presentational in context were taken into account before the questionnaire was ready for a second pilot survey. This second survey was conducted over a three visit period with fifteen participants taking part at each location providing an overall data set of thirty surveys. The three visits to each location were undertaken to ensure a range of visitors were captured. In conducting the survey, the response rate and selection of interviewing area, time taken to complete the questionnaire, the wording and sequence of questions and the

reliability of the attitudinal statements were all explored. However, it was the focus upon the attitudinal questions and the ways in which they were constructed and worded which was perhaps the most important element of the survey. The key issues which arose from this second pilot were again discussed with the on-site staff prior to the completion and undertaking of the main questionnaire.

The key issues arising from this second pilot were as follows:

a) the interview location proved critical. Poor response rates were achieved by the car park and the restaurants. Whilst in front of the Visitor Centre as visitors exited from the building proved more successful. Also successful was speaking to visitors at one of the many seating areas around each location;
b) the length of the survey proved acceptable at 10-12 minutes on average. No refusals were recorded on the grounds of length during the second pilot;
c) the balance between open-ended and closed questions seemed to be more effective in delivering depth and richness of data. Most respondents (n=24) chose to answer Section D despite it being optional. Many also chose 'other answers' in the previous sections which they were then prepared to elaborate on and discuss with the researcher;
d) the filter questions worked well and there were no issues with the yes/no questions. Most respondents indicated that they seemed to easily understand the questions;
e) the revised structure of Sections A-D worked effectively and the flow of questions enabled the researcher to keep a reasonable pace throughout the administration of the questionnaire;

f) the wording of the attitudinal questions seemed to be understood with no obvious confusions. The use of negatives and alternative phrases did not appear to cause confusion but did seem to stop obvious 'response bias', although this was still evident in four cases. In each case, the researcher slowed down in an attempt to encourage greater consideration of the questionnaire. This appeared to work but whether this could be done consistently during the full survey was somewhat doubtful. It was decided that this practice would not be adopted for the final survey and that a level of 'response bias' would have to be accepted.

Discussion with staff at both locations again revealed that the results generated were generally consistent with the perceived profile of visitors, their characteristics and choice of activities. The final questionnaire was produced for the main survey period of April to October 2007.

5.3.4 The development of the main questionnaire

a) The length of the main questionnaire

A key issue arising from the second pilot survey was the length of time taken to complete the administered questionnaire, on average this was 8-12 minutes with four of the thirty respondents commenting at the end of the questionnaire that it had taken too long, one saying that '*I would not have participated if I had known it would take this long*' (Respondent A, 2007). As a result, in developing the final survey, the length of time taken for completion was a key factor. In order to maintain a high response rate, researchers suggest that a questionnaire should have no more than 30 questions in it and take no longer than 15 minutes to complete (Beaumont, 2001;

Oppenheim, 2000; Saunders *et al.*, 2009). It was recognised that the second pilot questionnaire was still on the long side and through discussion it was agreed that the questionnaire whilst still being divided into four sub-sections (labelled A-D) should clearly identify the fourth (Section D) as optional which would help to 'speed up' the process of administration.

It was also agreed that the balance between open, closed and attitudinal questions be reviewed further in order to maximise the depth and richness of response without further increasing the time taken to complete the questionnaire. In consequence, a number of the open questions were moved to the optional fourth section. The increased use of categorical rather than closed questions where possible was felt to be advantageous given the speed at which they can be answered by the respondent. A small number of open questions did remain in the main body of the survey and many of the questions also included an 'other' / 'other reasons' category which allowed for a fuller and more detailed elaboration of their responses specifically in relation to the interpretive and guided walk experiences, as appropriate.

b) The administrative approach adopted

Another way of encouraging the respondent to answer the questions fully was developed in the way in which the survey was administered. As a result of the first pilot, it was found helpful for the researcher to fully explain the nature of the research, the fact that it was part of a doctoral thesis and the importance of the data in informing future developments at both locations. The researcher also asked the respondents to be as honest as possible with their answers, assured them of the confidentiality of the survey and the fact that individuals could not be identified within the data set. After

completing Section D, the researcher closed by thanking the respondent(s) for taking part. This opening and closure which was perfected during the second pilot survey remained constant throughout the main survey period.

c) The structure, style and wording of the main questionnaire

The main questionnaire itself was divided into four sections for convenience and ease of administration. Section A was designed to build a profile of the visit, the reasons for it and the range of activities the visitors were likely to undertake whilst on site. In consequence, Section A opened with a 'filter question' asking whether or not this was their first visit to the location. This was followed by a series of closed and attitudinal questions relating to their visit and the activities they planned to undertake. As suggested by both Oppenheim (2000) and Veal (2011), Section A was arranged with easy, 'comfortable' questions many with straight-forward answers, it was hoped therefore that Section A would put the respondent at their ease.

Section B contained the majority of the more complex, abstract and/or attitudinal questions and focused upon the interpretive experience of the visitors whilst on the site. The questions posed explored the perceived value of the interpretive facilities, their planned usage by the visitor and their views on guided walks. Whilst the attitudinal questions were arranged in a logical sequence where possible they were 'mixed' to ensure that a 'response set bias' did not compromise the responses or influence the responses from one question to the next. At this stage, visitors who had been on a guided walk were also invited to comment more fully on their experience.

Section C explored the demographic characteristics of the visitors such as age, gender, social grouping, employment status, place of residence and place of residence whilst on holiday. Whilst these types of questions can often be regarded as sensitive, the first and second pilot study did not identify any specific problems with 'refusals' to these questions and as a result they were all carried through to the final questionnaire. 'Employment status' was asked instead of the more usual 'educational level' or 'gross family income' as it was felt to be more relevant to the overall focus of the questionnaire.

Finally, Section D included three open-ended questions which invited the respondent to comment more generally on any aspect of their on-site experience. The overall structure of the questionnaire and the grouping of variables within each section are presented in Table 5.3.

Section	Groups	Measurement
A. Visit profile	• Visitation pattern • Importance of Jurassic Coast • Activities to be undertaken, on site • Interest in wildlife, on site	Nominal Ordered categorical Nominal / Ord. cat. Nominal
B. Interpretive experience	• Importance of Visitor Centre • Importance of interpretive facilities • Value of guide books / publications • Value placed on guided walks • Views on guided walks	Nominal / Ord. cat. Nominal / Ord. cat. Nominal / Ord. cat. Nominal / Ord. cat. Ordered categorical : open-ended
C. Visitor demographics	• Holiday arrangements • Demographics (age, sex, employment) • Social grouping for visit • Place of residence etc.	Nominal / Ord. cat. Nominal / Ord. cat. Nominal Nominal
D. Further information	• Best thing about visit • Most interesting thing about visit • Most like to see changed on site	Open-ended (coded as nominal)

Table 5.3: The structure of the final questionnaire

5.3.5 The internal reliability and validity of the main questionnaire

It is essential that any survey instrument is tested for reliability and validity to ensure the 'truthfulness' and therefore the credibility of the findings generated (Cohen *et al.*, 2007; Hair *et al*., 1998; Neuman, 2010).

a) Internal reliability

Veal (2011:46) defines reliability as; '*the extent to which research findings would be the same if the research were to be repeated at a later stage or with a different sample of subjects*'. Sarantakos (2005:88) describes reliability as '*the capacity of a research instrument to produce consistent results*'. Reliability includes measures for 'stability' of the data and a measure for the 'consistency of its measurement' (Cohen *et al.*, 2007; Saunders *et al.*, 2009). There are two ways of testing for 'stability', namely; 'test-retest reliability' and 'parallel form reliability'. The 'consistency of measured' is usually tested by examining the correlation of the cases and any sub-sets of cases in the measuring instrument (Hair *et al.*, 1998; Sekaran, 2009). Hair *et al.* explain that:

> '*the indicators of highly reliable constructs are highly inter-correlated, indicating that they are all measuring the same latent construct, whilst as reliability decreases the indicators become less consistent and thus are poorer indicators of the latent construct*' (1998:583).

In testing this data set and the overall research method for reliability a number of techniques were used.

1. Neuman (2010) suggests that it is important to develop clear, theoretical definitions of each measure in the quantitative method by using as precise a level of measurement as possible.

Response in relation to this study:

All of the attitudinal statements were measured against a 5-point Likert scale, the same approach having been used in previous studies examining visitor attitudes to on-site interpretation, such as Ham and Weiler (2007) and Tubbs (2003). Also, multiple attitudinal questions were developed and some questions were phrased in a positive and others in a negative way to reduce the likelihood of 'response bias' being an issue.

2. Cronbach's alpha is the test used to assess the internal consistency of the data set and is therefore a measure of reliability coefficient, it indicates how well the items being measured correlate themselves in accounting for their relationship with the overall 'containing concept' (Cramer, 2003; Field, 2009). Sekaran suggests that '*the closer Cronbach's alpha is to 1, the higher the internal consistency reliability*' (2009:324). A Cronbach's alpha of over 0.8 is regarded as good, those in the 0.7 range as acceptable and at least 0.6 for explanatory research. Reliabilities of less than 0.6 are considered to be poor (Field, 2009; Hair *et al.*, 1998; Sekaran, 2009).

Response in relation to this study:

The Cronbach's alpha was used to measure the internal consistency and reliability of the main attitudinal questions (e.g. attitudes to guided walks and responses to interpretative facilities) which it seemed reasonable to regard as having related responses. Internal consistency was also achieved as a result of the two pilot surveys after which several questions were modified or removed and some of the attitudinal statements re-phrased. On the main survey, the Cronbach's alpha test generated scores between 0.885 and 0.889, these test results can be regarded as 'good' and

indicate with some confidence that within the 600 responses received there is good internal consistency in the way in which visitors responded to the three separate groups of ordered categorical statements. A discussion of the procedure and fuller details of the test scores is to be found in section 5.5.4.1.

3. Finally, pre-tests and pilot studies can be used as duplication to confirm the effectiveness of the measurement tool (Cohen *et al.*, 2007; Neuman, 2010).

Response in relation to this study:

Two pilot surveys were undertaken prior to the administration of the main survey and after both, the results were discussed with the on-site managers. On both occasions the on-site staff were able to confirm that the results obtained using the survey tools were broadly similar to the characteristics and choices of activities of the visitor groups with which they were familiar.

b) Validity

Veal defines validity as '*the extent to which the information presented in the research truly reflects the phenomena being studied*' (2011:46). Sarantakos (2005:83) describes validity as '*the property of a research instrument that measures its relevance, precision and accuracy*'. Neuman (2010) explains that 'measurement validity' refers to how well the conceptual and operational definitions of the indicators fit with each other. There are three main methods of measuring validity, these are; 'content', 'criterion' and 'construct' validity (Cohen *et al.*, 2007; Neuman, 2010; Saunders *et al.*, 2009).

1. Content validity is also known as 'face' or 'sampling' validity. Sekaran (2009:158) suggests that content validity ensures that the '*measurement of the variables includes an adequate and representative set of items that tap the concept*'. Hair *et al.* (1998) and Saunders *et al.* (2009) suggest that content validity can be tested through the use of ratings against experts, the use of pre-tests and clear reference to the academic literature.

Response in relation to this study:

The content validity of the questionnaire was proved through the use of concepts and survey methods from the established literature, interviews with on-site staff and the two pilot surveys.

2. Criterion-related validity is established when '*the measure is able to differentiate individuals on a criterion it is expected to predict*' (Sekaran, 2009:159). Criterion-related validity includes two different forms, namely; predictive and concurrent validity, which differ over the time frame involved (Bryman, 2008; Cohen *et al.*, 2007). Predictive validity is established when the measuring instrument is able to differentiate amongst individuals in a manner which helps predict future criterion, within a stated time frame (Saunders *et al.*, 2009; Sekaran, 2009). Concurrent validity refers to the extent to which one measure of a variable can predict a criterion variable currently (Tull and Hawkins, 1990).

Response in relation to this study:

The 'concurrent' criterion-related validity was tested using existing data from both locations as an indicator of interpretive interests, intentions and attitudes and choice of

on-site activities. The match with the data obtained through this research together with the anecdotal corroboration of visitor demographics from the on-site staff meant that this data was accepted as having 'concurrent validity'. Testing for 'predictive validity' was not undertaken given the nature of this research study.

3. Construct validity is regarded as the most complex form of validity testing. It refers to '*how well the results obtained from the use of the measure fit the theories around which the test is designed*' (Sekaran, 2009:160). Construct validity is established by measuring convergent and discriminate validity (Bryman, 2008). Convergent validity applies when two instruments measuring the same concept correlate highly. Discriminate validity applies when two results are predicted to be uncorrelated, in other words, the two variables have independent constructs. (Sekaran, 2009).

Response in relation to this study:

As suggested by Sekaran (2009), factor analysis was used to test construct validity and to establish therefore the multidimensional aspects of activity choice and interest in and demand for interpretive experiences. The match between the data obtained through this research together with the data from previous on-site studies and the anecdotal corroboration of visitor demographics from the on-site rangers also helped to satisfy the researcher that construct validity had taken place.

5.4 Data collection procedures: response rates to the main survey

At each location, 300 responses were collected over the April to October survey period. In following the work of Ham and Weiler (2007), the visitors who declined were politely asked why they did not wish to take part and this was recorded together with their social group, whether or not they were on holiday and the date (Cohen *et al.*, 2007; Oppenheim, 2000; Sarantakos, 2005). The rate of refusal varied during the survey period from zero on many occasions to four people which was the most recorded on any one visit to either location. The lowest response rate was recorded on Monday 25th June 2007 at Lulworth when on an extremely wet morning only four visitors were approached to undertake the survey, three declined, giving a response rate of only 25.0%. The second worst response rate of 66.7% was recorded on a similarly wet day at Durlston when only three visitors were approached, of which one declined. Outside these two exceptional days, the response rate never dropped below 70.0%. The overall response rate for the survey was 86.95% whilst the average response rate across the survey period was 86.85%, which is regarded as extremely good, although in their research Ham and Weiler (2007) achieved a response rate of 94.0%, which is exceptionally high. The response rate by month is shown in Table 5.4. It is therefore suggested that the response rate for this study is high, totally acceptable and in line with other comparable research studies.

The recording of non-participation means that a profile of non-respondents can be created which is briefly examined in Chapter Six for any obvious differences to the overall profile of respondents.

Month	Total number of visits to each site	Total number of surveys completed	Total number of refusals	Response Rate (by month)
April	Durlston (3) Lulworth (2)	Durlston (36) Lulworth (25)	8	88.41%
May	Durlston (2) Lulworth (3)	Durlston (18) Lulworth (46)	7	90.14%
June	Durlston (5) Lulworth (4)	Durlston (40) Lulworth (23)	18	77.78%
July	Durlston (4) Lulworth (3)	Durlston (38) Lulworth (40)	8	90.70%
August	Durlston (5) Lulworth (4)	Durlston (89) Lulworth (53)	19	88.20%
September	Durlston (3) Lulworth (2)	Durlston (49) Lulworth (29)	13	85.71%
October	Durlston (3) Lulworth (4)	Durlston (30) Lulworth (84)	17	87.02%
			Average:	86.58%

Table 5.4: The response rates for the main survey, by site

5.5 Data analysis procedures

The responses to the questionnaire were coded and the Statistical Package for the Social Sciences was used to analyse the data obtained from this survey. Following the coding and prior to undertaking the analysis, a process of data 'de-bugging' or 'cleaning' took place to ensure that all of the responses had been coded correctly and that any non-responses or filtered responses were reported appropriately (Denscombe, 2007; Field, 2009; Saunders *et al.*, 2009). In terms of data analysis, it is important to record that the type of data collected (predominantly nominal and ordered categorical) which are both undefined in terms of interval and distribution meant that non-parametric procedures were used to analyse the data. Table 5.5 illustrates the main analysis procedures which were applied to the data in order to explore the research objectives of this study.

In exploring the results obtained from the various analysis procedures significance was accepted and therefore the rejection of the null hypothesis was deemed appropriate where a α probability score of 0.05 or less was recorded. This α score was deemed appropriate on the basis of current research convention (Bryman, 2008; Field, 2009; Pallant, 2010).

Objective of the analysis		**Procedure used**
1. Summarise the data	1. Frequency distribution and measures of central tendency (univariate method)	Use of frequencies and descriptive statistics – pictorial representations, percentages, medians, modes
2. Do the responses of groups of individuals really differ? (covers Objectives 3 and 4)	2. Tests of differences between 2 or more groups (Inferential statistics using bivariate and multivariate methods)	a) For nominal data (2 groups): **Chi-square test** b) For ordered categorical data (2 groups): **Mann-Whitney U test** c) For ordered categorical data (more than 2 groups): **Kruskal-Wallis test**, (followed by pair-wise Mann-Whitney U tests with Bonferonni correction)
3. Are there multivariate differences between the groups? (covers Objectives 3 and 4)	3. Is it possible to model the differences between the groups using more than one predictor? (Logistic regression modelling)	a) For nominal and ordered categorical data (2 groups): **Binary Logistic Regression** b) For nominal and ordered categorical data (more than 2 groups): **Multinomial Logistic Regression**
4. Do any other associations exist within the data? (covers Objectives 3 and 4)	4. Exploring the structure of the data for any other groups as yet undefined, notably between variables	For ordered categorical data; **Factor Analysis** (incl. Principle Components Analysis).
5. Testing internal reliability	5. To test the internal reliability of the data	For ordered categorical data; Use of **Reliability Analysis** (Cronbach's alpha)

Table 5.5: The main analysis procedures applied to the data

The family inflation of type 1 error was also considered and is discussed further (see section 5.6.5) in relation to the repeated use of Mann-Whitney U tests in this research. The inflation of type 1 error associated with the multiple usage of other tests and procedures was of a level comparable with other research studies undertaken in this field (Ham and Weiler, 2007), in consequence the standard α probability score of 0.05 or less was accepted for this study.

5.5.1 Frequency distribution

Descriptive statistical procedures were used to explore the overall profile of the sample which allowed the researcher to create a broad picture of the data for each of the main variables. The frequency distribution was used to describe the responses to the nominal variables for example the purpose of the visit, the use of interpretive facilities and the demographic details of the group. The responses to open questions on guided walks were also considered here. Whilst, the median, mode and percentiles were obtained for the ordered categorical variables such as the visitor perceptions of the visitor centre and guided walk experience.

5.5.2 Tests of differences between the groups

Inferential statistical procedures were used to compare the differences between the groups in order to determine the effects of the independent variables (such as 'visitation') as well as the demographic variables (such as 'residency') on the visitors' choice of activities and intentions in relation to their on-site interpretive experience. The non-parametric procedures undertaken include; Chi-square test, Mann-Whitney U test and Kruskal-Wallis test (followed by pair-wise Mann-Whitney U tests).

5.5.2.1 Chi-square test (χ^2 test)

The Chi-square test is a non-parametric procedure and was used to examine the relationship between an independent variable measured using a nominal data set (Pallant, 2010; Puri, 2002; Saunders *et al.*, 2009). For this study, Chi-square tests were conducted to examine if significant differences existed between two separate and discrete sets of independent variables including; 'residency' (local resident or tourist) and 'visitation' (first or repeat visitor).

5.5.2.2 Mann-Whitney U test

The Mann-Whitney U test is also a non-parametric test and is the most widely used alternative to the independent-samples t-test (Norusis, 2006; Pallant, 2010). It was used to examine the differences between the same two discrete pairs of independent variables when they were measured against ordered categorical data sets (Bryman and Cramer, 2008; Black, 1999). In this test, the 'raw data' is converted into ranks before the test is carried out making it particularly useful where the data has some extreme values (Dytham, 2003). For this study, the Mann-Whitney U test was conducted to examine if significant differences in the medians existed between the two sets of independent variables namely; 'residency' (local resident or tourist) and 'visitation' (first or repeat visitor). Effect size was also calculated to provide comparability with other studies and an r-score was therefore recorded, 'substantive significance' was accepted where the r-score was greater than 0.5 (Field, 2009).

5.5.2.3 Kruskal-Wallis test (followed by pair-wise Mann-Whitney U tests)

The Kruskal-Whitney test was used to examine the relationship between a variable with more than two outcomes (called 'social grouping' in this study) when it was measured against nominal or ordered categorical data sets (Bryman and Cramer, 2008; Kinnear and Gray, 2006; Norusis, 2006). Where significant differences between the outcomes of the variable were recorded, a series of Mann-Whitney U pair-wise comparison tests were run to establish where these significant differences arose, each test was conducted in accordance with section 5.5.2.2.

A particular problem in this data set was this multiple use of Mann-Whitney U tests, which could have tended to increase the chance of producing results (Type I errors) which appear to show positive relationships which did not actually exist. In order to reflect this potential problem and based upon the work of Bryman and Cramer (2008), Field (2009), Kinnear and Gray (2006) and Pallant (2010), the use of post hoc tests (Bonferroni procedure) was undertaken in this study in order to satisfy the researcher that the effects of any positive relationships identified were sufficiently strong to warrant further investigation.

5.5.3 Tests for multivariate differences between the groups

Logistic regression modelling was undertaken to investigate the relative contributions made by 'predictors' (the independent variables or 'covariates' in this study) to a generated model designed to predict categories of an outcome variable (the dependent variables of 'visitation', 'residency' etc.) (Cramer, 2003; Field, 2009; Pallant, 2010).

Two types of regression modelling were undertaken depending on the number of states of the 'outcome' variable. Binary Logistic Regression was used where the 'outcome' variables had two states namely for; 'residency' (local resident or tourist) and 'visitation' (first or repeat visitor) whilst Multinomial Logistic Regression was used where the 'outcome' variables had more than two states namely the 'social grouping' variable.

In terms of this study, the specific objectives for undertaking this modelling focused upon the explanatory contribution it would offer between the independent variables and the dependent measures. In terms of the procedure, a 'forced entry' model was adopted as this is the one of the most commonly used models in social science research (Cramer, 2003; Kinnear and Gray, 2006; Pallant, 2010). This approach allows the researcher to investigate the contribution of each variable to the developing model and thus each independent variable can be evaluated in terms of the extent of its influence over that offered by all of the other independent variables (Norusis, 2006; Pallant, 2010). For the statistical significance of the modelling, the Nagelkerke R square and the beta value were examined. The Nagelkerke R square value is the square of the measure correlation between the observed and the predicted values, it therefore provides a measure of the proportion of the variation which is explained by the model, thus a larger R square value indicates that the model has explained more of the variation (Brace *et al.*, 2000; Pallant, 2010). The B value indicates how strongly each of the independent variables influences the dependent variable. It therefore allows the researcher to directly compare independent variables to determine which has the most influence on the dependent variable, where collinearity is minimal.

A final issue in modelling is to assess the level of multi-collinearity which exists and any impact it may have upon the results (Field, 2009; Norusis, 2006; Pallant, 2010). The impact of multi-collinearity can distort the results substantially and can be assessed through a number of ways. In this study and based upon the recommendations from the work of Bryman and Cramer (2008), Field (2009), Kinnear and Gray (2006) and Pallant (2010), the results from the Principle Components Analysis were used in addition to the results from the logistic regression output tables, to establish a clearer picture of the relationship between the groups of variables.

5.5.4 Exploring other associations within the data

Factor Analysis and Principle Components Analysis were undertaken to further explore the structure of the data and specifically to identify any further, as yet undefined, groups amongst the variables. Factor analysis is therefore a 'data reduction' technique where the variables are grouped or 'clumped' according to inter-correlations which may well be unknown to the researcher prior to the analysis being undertaken (Pallant, 2010). In association with this test, a Reliability Analysis (Cronbach's alpha) was undertaken to explore the internal reliability of the data.

5.5.4.1 Reliability Analysis (Cronbach's alpha)

Cronbach's alpha is the test used to assess the internal consistency and therefore is a measure of reliability coefficient, it indicates how well the items being measured correlate themselves in accounting for their relationship with the overall 'containing concept' (Bryman and Cramer, 2008; Field, 2009; Sekaran, 2009). Sekaran suggests that 'the closer Cronbach's alpha is to 1, the higher the internal consistency reliability'

(2009:324). A Cronbach's alpha of over 0.8 is regarded as good, those in the 0.7 range as acceptable and at least 0.6 for explanatory research. Reliabilities of less than 0.6 are considered to be poor (Field, 2009; Hair *et al.*, 1998; Sekaran, 2009). The Cronbach's alpha was used to measure the internal consistency and reliability of the main attitudinal indicator questions (e.g. attitudes to guided walks and responses to interpretative facilities), which it seemed reasonable to regard as having related responses.

On the main survey, the Cronbach's alpha test generated scores as follows; in Section B, the four ordered categorical statements relating to features of the site (Q.B1b.) scored 0.885 whilst the six statements relating to on-site facilities (Q.B2.) scored 0.889 and the seven statements relating to the guided walk experience (Q.B5c.) also scored 0.889. These test results can be regarded as 'good' given the small number of statements being related, the results therefore indicate with some confidence that within the 600 responses received there is good internal consistency in the way in which visitors responded to these three separate groups of ordered categorical statements.

5.5.4.2 Exploratory Factor Analysis

Exploratory Factor Analysis was undertaken to explore the multidimensional aspects of the visitor's interest in their on-site interpretive experiences. As explained by Hair *et al.* (1998) factor analysis is useful in exploring whether any rational underlying structures or groups exist in the multivariate data sets. Cramer (2003:13) states that factor analysis is used to determine whether '*the responses to a set of items used to measure a particular concept can be grouped together to form an overall index of that*

concept'. In relation to the research objectives for this study, the researcher has used exploratory factor analysis to explore the inter-relationships amongst a set of ordered categorical variables and chose to use Principle Components Analysis (PCA) which is a widely adopted method used to predict the minimum number of factors needed to account for the maximum proportion of the variance represented by the original set of variables (Bryman and Cramer, 2008; Field, 2009; Pallant, 2010).

5.5.4.3 Principle Components Analysis (PCA)

Prior to examining the results of the analysis it is necessary to confirm its appropriateness by examining the Bartlett's Test of Sphericity and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. The Bartlett's Test of Sphericity is a test used to assess statistical probability and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is used to assess the degree of inter-correlations amongst variables. The KMO index ranges from 0 to 1, reaching a value of 1 when each variable is perfectly predicted without error by the other variables. Accordingly, a value of 0.8 is considered good, 0.6 is acceptable and a value of less than 0.5 is unacceptable (Field, 2009; Pallant, 2010).

In determining the number of factors which best represent the underlying relationship amongst the variables, three main reference points can be used, they are; 'latent root criterion', 'percentage of variance' and 'scree test' (Bryman and Cramer, 2008; Cramer, 2003; Pallant, 20107).

'Latent root criterion' is one of the most widely adopted reference points and is also known as the 'eigenvalue' rule, it determines the number of factors to extract, only

factors with an eigenvalue of 1.0 or more are considered significant and retained for future investigation (Kinnear and Gray, 2006; Quinn and Keough, 2002; Pallant, 2010). Critics of latent root criterion suggest that in many situations too many (and occasionally too few) factors can be retained (Quinn and Keough, 2002). Therefore, only when the number of variables is between 20 and 50 is an eigenvalue of 1.0 as a cut-off point most reliable (Hair *et al.*, 1998, Pallant, 2010). This did not however apply to this study where no more than 10 variables were compared at a time.

The 'percentage of variance' reference point is usually taken as 60% or greater for social science research (Hair *et al.* 1998, Quinn and Keough, 2002; Pallant, 2010). In this study, this minimum reference point of 60% was therefore adopted.

The 'scree test' is used as a reference to find the point at which the shape of the curve changes and begins to flatten out. All of the factors above the curve when it first begins to flatten out should be extracted (Bryman and Cramer, 2008; Kinnear and Gray, 2006; Pallant, 2010).

Once these assumptions had been considered, a rotational method needs to be selected, which aids interpretation of the factor matrix. The rotation approach presents the pattern of loadings in a simple manner without changing the underlying result (Bryman and Cramer, 2008; Field, 2009; Kinnear and Gray, 2006; Quinn and Keough, 2002; Pallant, 2010). The two most widely used types of rotation are; 'Varimax' (uncorrelated) or 'Oblique' (correlated), Varimax (Orthogonal) rotational solutions were used for this study because they were found to be easier to interpret.

5.6 Limitations of the research methodology adopted

Several possible sources of error and/or limitation which might have affected the quality of the resulting data have been identified and these are discussed briefly in the subsequent sections below.

5.6.1 The disadvantages of quantitative research

This study principally employed quantitative research methods and can therefore be criticised on its lack of richness of data relating to the visitor experience. In order to try and overcome this visitors were encouraged to discuss their responses as they completed the questionnaire. Visitors were also invited to talk freely about their experience of guided walks during the survey.

5.6.2 Survey design errors

The size of the sample could have been increased. The work of Krejcie and Morgan (1970) suggests that a sample of 384 at each location would have generated a 95% confidence interval however Neuman (2010) would have expected a sample of 1000, the 'generalisability' of the sample is potentially therefore of some concern.

A further problem relates to the weather conditions during the course of the survey period which was variable with more rain occurring through the months of May, June and July 2007 than perhaps might have been expected. The nature of the sampling approach adopted meant that the researcher visited each location on the designated time and day irrespective of the weather conditions. On some occasions the adverse weather conditions meant that the researcher was unable to achieve the sample target identified for the visit due to a lack of visitors on the site. This meant that in overall

terms, the monthly sample size achieved at each location was variable and not as uniform as had originally been designed, it also meant that through the months of September and October larger sample sizes were obtained in order to balance this lack of completions in the earlier months, it is recognised that this variability compromised the quality of the data collected.

Another concern was the length of the main survey, which has already been discussed in section 5.3.4. Whilst the response rate for the main survey which was on average 85.92% is regarded as high, a concern about the length of the survey remained for some visitors. The survey typically took about 10-12 minutes to complete. The longest time recorded was by an elderly lady at Durlston in April 2007 who took 35 minutes to complete the survey whilst the shortest time was a family on the beach at Lulworth in August who completed it in 6 minutes. This raises the concern that the quality and integrity of responses might have been compromised by the inconsistent lengths of time taken to complete the survey.

A further concern relating to the design of the survey focuses on the fact that the survey was completed by both visitors who were on their own and by those in a social group of 'family' or 'friend' units. Those in social groups tended to support each other with the answers and where the survey allowed this, all of the responses were recorded. Where, only a single response could be recorded those in groups had to ensure some degree of agreement was reached. This issue of single or multiple responses was recognised from the outset (Bryman, 2008) and was discussed extensively with the on-site staff, it was however decided that the survey would take far too long to complete if every response to each question was recorded and that also,

the visitor experience is fundamentally different when you travel in a group and the survey should reflect this variance. It was also noted that other researchers in the field of interpretation have raised concerns about this issue but have nether the less still used a similar method to the one undertaken in this study (Merriman and Brochu, 2006).

Finally, the role of the researcher himself could have compromised the data collected. The notion of the 'researcher-as-an-instrument' (Robson, 2002:172) emphasises the potential for bias associated with the researchers role in administering the questionnaire. A number of researchers have suggested that the researcher may unwittingly lead or influence the respondent by the manner in which a question is asked or by the way in which the response is received (Bryman, 2008; Robson, 2002). The researcher was aware of this possibility from the outset and practiced administering the questionnaire and tried to ensure consistency in the way in which the questions were asked. It is however possible that bias crept into the data collection with respondents providing the responses they thought the researcher wanted for instance claiming to have bought or read the guidebook or viewed the visitor centre when in fact they had not.

5.6.3 Sampling errors

One of the difficulties found was ensuring the varied characteristics of the visitor groups were represented in the sample. For instance, finding a location in which to conduct the survey proved problematic, standing near the refreshments or at the entrance to the car park proved ineffective during the pilot stages with many visitors refusing to complete the survey. The entrance to the visitor centre proved more

effective providing that visitors were stopped on their way out. Both locations were extensive in size and standing by the visitor centre only targeted those visitors who actually visited it which would have caused a bias in the final sample. Following the pilot surveys, it was therefore decided that the researcher would need to roam each location more widely in conducting the survey. Through reference to the literature it was also decided therefore that in conducting the survey, a non-probability, purposive approach of 'quota' sampling would need to be employed. Whilst, this approach (as discussed in section 5.2.3) ensured that a broader cross-section of visitors was sampled on each visit to each location throughout the seven month survey period, it may well not create data that could be generalised across the overall population of visitors.

The on-site staff, based upon their existing data helped to categorise the visitors into three broad groups for this purpose, however it should be recognised that in trying to gain data with the broadest view of the population which visited the site, a more random sampling approach would have been more effective. It is suggested that based upon the data obtained in this study, further on-site research work could be developed using this data to inform a stratified or cluster random sampling method.

5.6.4 Measurement errors

One of the main problems associated with the measurement error of the survey is the potential difficulty in capturing interests and intentions through the survey method adopted here. The attitudinal, 5-point ordered categorical (Likert) scales were fully tested in two pilot surveys but none the less it is recognised that they remain a relatively crude method of recording visitor interests. Caution should therefore be

taken with regard to the validity, reliability as well as the sensitivity of the scale measures used and therefore of the resulting data set. In order to attempt to overcome this issue the study conducted two pilot surveys, undertook detailed interviews with on-site site and provided open ended questions in Section D of the survey as well as encouraging fuller responses throughout the questionnaire in order to capture richer data, from the visitors.

5.6.5 Data analysis errors

There were three main problems associated with the data analysis phase. In undertaking the analysis of the data, three variables were identified in line with previous studies (Ham and Weiler, 2002) as being worthy of greater exploration, namely; 'residency' (local resident or tourist), 'visitation' (first or repeat visitor) and 'social grouping' (alone, with spouse / partner, with family / friends and other). However, a problem arose in the significant variation in the number of respondents between some of the states within each of the grouping variables which meant that any statistical analysis undertaken on the data which revealed the statistical probability of significance could not be confirmed with absolute confidence. It is suggested that the grouping variable 'residency' provided the strongest data set for further statistical analysis work. This issue did not prevent the further statistical analysis of the data but it would affect the 'generalisability' of some of the results to other sites, where it was deemed to be appropriate SPSS was used to generate a random sample from the respondents within a specific state to make the comparison within the grouping variable more statistically viable. This is explained more fully where it becomes appropriate in the relevant sub-sections of Chapter Seven.

A 'Type I error' occurs where a hypothesis is tested and the results accepted when in fact the hypothesis was false (Jennings, 2001; Quinn and Keough, 2002; Saunders *et al.*, 2009). This is a particular problem in this data set because of the multiple use of Mann-Whitney U tests which tend to increase the chance of producing results which appear to show positive relationships which do not actually exist. Based upon the work of Bryman and Cramer (2008), Field (2009), Kinnear and Gray (2006) and Pallant (2010), the use of post hoc tests (Bonferroni procedure) were undertaken in this study in order to satisfy the researcher that any positive relationships produced were in fact correct.

A further problem existed with the tests of logistic regression, where multi-collinearity was clearly visible in the output tables where a value scores close to '0'. This is a problem associated with excessive correlation between the 'predictor' variables. Based upon the recommendations from the work of Bryman and Cramer (2008), Field (2009) and Pallant (2010), the results from the Principle Components Analysis were used, in addition to the results from the logistic regression output tables, to establish a clearer picture of the relationship between the groups of variables.

5.7 Summary

This chapter has focused upon the selection of the research method and has explored in detail the process of data collection and analysis which was undertaken. The following two chapters will present the demographic profile as well as the broad characteristics of those 600 groups of respondents who completed the questionnaire (Chapter Six) and will then undertake a detailed analysis of the data (Chapter Seven).

Chapter Six

Visitor profile and their Jurassic Coast experience

6.1 Introduction

This chapter opens with a discussion of the demographic profile as well as the characteristics of those 600 groups of respondents who completed the questionnaire between 1st April and 31st October 2007 and in so doing makes reference to other similar research studies. The chapter then presents an overview of their Jurassic Coast experience before concluding with a brief discussion of those who declined to participate (n=90) in this study.

6.2 Demographic profile and broad characteristics of the respondents

6.2.1 Demographic profile of the respondents

This sub-section presents a general overview of the demographic profile of the 600 groups of respondents who completed the questionnaire including their gender, age, employment status and their county or country of main residence.

Gender	Frequency
Number of men	652
Number of women	602

Note: 1254 individuals took part in the study within 600 respondent groups.

Table 6.1: Gender of respondents

In relation to the total number of individuals involved in the study (n = 1254), Table 6.1 shows that 52.0% were men which was slightly higher than the number of women (48.0%). The total number of groups with more than one man present (16.3%) was

also slightly higher than for women (11.9%) whilst the total number of groups with no men present at all (11.2%) was slightly lower than for women (13.3%). Goss (2007) who surveyed 260 people on the Jurassic Coast found in his survey that 54.0% were women and 46.0% were men. It is therefore suggested that there seems to be a reasonable gender balance in this study when compared with other studies focusing upon the Jurassic Coast World heritage site.

Age	Frequency
Age group 18-25	49
Age group 26-35	113
Age group 36-45	312
Age group 46-55	260
Age group 56-65	204
Age group over 65	314
Declined to respond	2

Table 6.2: Age structure within the respondents

The largest age group involved in the study (see Table 6.2) were the over 65 age group (25.0%) followed by the 36-45 age group (24.9%) and the 56-65 age group (16.3%). The smallest group involved was the 18-25 age group (3.9%). Goss (2007) in his survey found 8.0% of respondents in the 16-25 age group and that the largest age group were the over 65s (29.0%) followed by the 55-64 age group (27.0%), this meant that the majority of visitors he surveyed were 55 and over (56.0%) whilst in this survey this group represented 54.1% of the individuals.

In comparing the age patterns within the social groups, the age group most often represented when more than two adults were present in the group was the over 65 age group. Some examples of the comments recorded in relation to age and social grouping are illustrated below:

'*We try and bring grandad with us at least once a year*' (Respondent 116L, 2007);
'*He does not come away with us any more, he is off with his friends*' (Respondent 331L, 2007);
'*We're on an outing today, it's going to be great*' (Respondent 3D, 2007).

According to the Dorset Tourism Data Project (2010), Dorset's visitor age profile has greater proportions in the 35-54 age groups and noticeably fewer in the under 24 age group (Dorset for You, 2011b/c). In this study, the 36-45 group (24.9%) and the 46-55 group (20.7%) represent 45.6% of the respondents and the 18-25 group only 3.9%. It is therefore suggested that the age profile of the respondents in this study is in accordance with other known data sets for the area.

Employment status	Frequency
In full-time employment	273
In part-time employment	20
Retired	141
Undertaking further studies	3
Unemployed	1
Mixed employment status	162

Table 6.3: Employment status of the 'main householder' within each group

In Table 6.3, the largest group involved in the survey were in full-time employment (45.5%) followed by the retired (23.5%). 'Mixed' employment status included those respondents who were retired, in full or part-time work but who were also undertaking further studies, this group represented 27.0% of the respondents. Two examples of the comments recorded in relation to employment status are illustrated below:

'*I retired early but still doing some part-time work*' (Respondent 141L, 2007);
'*I run a ceramics business on Purbeck*' (Respondent 126D, 2007).

According to the Dorset Tourism Data Project (2010) visitors tend to be mainly employed in a 'professional' occupational grouping or are retired (Dorset for You, 2011b/c). In this study 'retired' accounted for 23.5% of the respondents whilst those employed in full-time work accounted for 45.5%, the nature of the employed work was not sought.

Place of residence	Frequency
Dorset	267
Devon	4
Hampshire	25
South-West region	42
South-East region	115
West and East Midlands	63
Wales	12
East Anglia	8
North-East region	12
North-West region	12
Scotland	1
From overseas	38
Not completed	1

Table 6.4: Place of main residence for each group

Table 6.4 shows that the largest group involved in the survey lived in Dorset (44.5%), followed by the South-East region (19.2%). The South-West region included Cornwall and visitors from the Channel Islands as well as potentially the four respondents who specifically stated their home county as Devon. The number of overseas visitors was higher than those visiting from Wales, the North-East, North-West or Scotland.

Goss (2007) in his study found that 50.0% of the respondents were from the South-West region followed by the South-East (25.7%). 13.5% of his visitors came from the

Midlands and only a small number (2.2%) from overseas. This reflects the statistical information presented by the Dorset Tourism Data Project (2010) which suggests that Dorset's key domestic tourist markets are London and the South-East, the East and West Midlands and the South-West (Dorset for You, 2011b/c). This is illustrated below with two examples of the comments recorded in relation to place of main residence:

> '*We came down for two days to see my friend, we are going back to Chester tomorrow*' (Respondent 142L, 2007);
> '*We regularly drive down the M3; the climbing is so good here*' (Respondent 280D, 2007).

The Dorset Tourism Data Project (2010) also suggests that the South-West and Hampshire are a principal source of day-visitors for Dorset (Dorset for You, 2011b/c). In this study 28 respondents (7.8%) made a day trip to the Jurassic Coast and 19 respondents (67.9%) were from Dorset. Of the remaining nine respondents, four were from the South-West and Hampshire whilst of the remaining five respondents; four were from the South-East and one from the Midlands. The comments below reflect these holiday patterns:

> '*I quite often hop-over the county boundary, Dorset is such a beautiful county*' (Respondent 29L, 2007);
> '*We came down from London for four nights, we walk the coastal path*' (Respondent 25D, 2007).

6.2.2 Travel experience of the respondents

This sub-section presents a profile of the characteristics of their travel experience including whether or not they were on holiday as well as the length of holiday, who they were with and where they have travelled from, on the day they visited the Jurassic Coast.

Are you on holiday?	Frequency
Not on holiday	246
Not on holiday, on business here	3
On holiday, but staying at home	27
On holiday and away from home	324

Length of holiday	Frequency
Day trip	28
2 - 4 days	104
5 - 7 days	109
8 - 10 days	63
11 - 14 days	33
Over 14 days	14

Table 6.5: Holiday arrangements for each group

In Table 6.5, the largest group of respondents were on holiday (54.0%) as compared with those who were local to the area (45.5%) whilst Goss (2007) in his study found that 58.0% of his respondents were on holiday. In terms of their holiday arrangements, the largest group (31.3%) were on holiday for over seven days, 31.1% between five to seven days and 29.6% were on holiday between two to four days. 7.8% of the survey population were on a day trip.

According to the Dorset Tourism Data Project (2010), visitors stay an average of seven nights within the county (Dorset for You, 2011b/c), in this study 49.0% of the respondents were staying 5-10 days (4-9 nights).

Social group	Frequency
Alone	84
Spouse / Partner	223
Family	194
Friends	43
Family and friends	48
Tour group	2
School group	5
Colleagues from work	1

Table 6.6: Composition of the social group

In Table 6.6, the largest group involved in the survey were visiting the Coast with a partner, family and/or friends (84.7%) whilst those visiting on their own represented 14.0% of the sample population. Goss (2007) in surveying 260 visitors found that 73.0% of them were travelling with another adult. The results for this study are illustrated below with three examples of the comments recorded in relation to the social grouping:

> '*I came down to meet my mates and to go fishing*' (Respondent 293L, 2007);
> '*We always try and have at least one main family holiday during the summer*' (Respondent 18L, 2007);
> '*I came early this morning to watch the birds on the cliffs and to fish*' (Respondent 414D, 2007).

According to the Dorset Tourism Data Project (2010), visitors with their family account for about 29.0% (Dorset for You, 2011b/c), in this study 'with family' accounted for 32.3% of the respondents. Whilst adult couples accounted for 51.0% of visitors according to the Tourism Data Project (2010) and in this study this is slightly lower at 37.2% of the respondents.

Where have you travelled from today?	Frequency
Swanage	170
Bournemouth	155
Lulworth	60
Poole	59
Wareham	49
Weymouth	19
Corfe Castle	18
Wool	14
Blandford Forum	11
Dorchester	10
Wimborne	10
Bere Regis	7
Christchurch	2
Bridport	1
New Milton	1
Ringwood	1
Southampton	1
From further afield	11
Not completed	1

Table 6.7: Distance travelled to visit the Jurassic Coast

Table 6.7 indicates that about a third of those who visited the area had travelled less than 10 miles to visit the Coast which represented for Durlston (31.3%) and for Lulworth (20.5%) of their respondents. Respondents who had travelled between 11-20 miles to the Coast represented 13.5% of the visitors at Durlston and 47.2% at Lulworth and for those who had travelled between 21-30 miles the figures were Durlston (44.0%) and Lulworth (29.5%).

In terms of the overall population surveyed, those travelling less than 30 miles represented for Durlston (97.0%) and for Lulworth (97.2%) of the respondents whilst of the twelve respondents who had travelled more than 50 miles to the Jurassic Coast, eight had visited Durlston (66.7%) and four Lulworth (33.3%). In terms of their

interests, six of these were primarily interested in casual walking, three in viewing wildlife and two in rock climbing. This is illustrated below with three examples of the comments recorded in relation to distance travelled:

> '*We came down today to see the dolphin off Anvil Point*' (Respondent 154D, 2007);
> '*We regularly drive down the M3, the climbing is so good here*' (Respondent 280D, 2007);
> '*We came down from London for four nights, we walk the coastal path*' (Respondent 25L, 2007).

Thus, having reviewed the broad characteristics of the respondents, they appear to be broadly similar to the respondents who have participated in comparable studies on the Jurassic Coast.

6.3 The Jurassic Coast experience

This section presents an overview of the Jurassic Coast experience of the 600 groups of respondents. In the following chapter (Chapter Seven), these results are then explored with reference to other similar research studies, comments made by the respondents whilst taking part in the survey are recorded and a statistical analysis of the results is presented.

6.3.1 Activities and interests

Is this your first visit to the site?	Frequency
No	400
Yes	200

Table 6.8a: Visit pattern to the site

The number of previous visits	Frequency
Often daily	35
Weekly	56
Fortnightly	97
Monthly	45
2 or 3 times a year	80
Once a year	27
Less than once a year	60
Not applicable, this is my/our first visit to the site	200

Table 6.8b: Number of previous visits to the site

How long are you planning to stay for?	Frequency
Less than 1 hour	26
1 - 2 hours	275
2 - 4 hours	238
4 - 6 hours	54
More than 6 hours	7

Table 6.8c: Proposed length of stay

The largest group of respondents (66.7%) had been to the Jurassic Coast on a previous occasion (see Table 6.8a) and of those 67.8% were local to the area. When asked how many times they had visited the Jurassic Coast before (see Table 6.8b), the largest group stated that they visited the Coast on a fortnightly basis (16.2%) followed by those who visited the Coast two or three times a year (13.3%). Many of the respondents visited the Coast at least once a week and in some cases on a daily basis (15.1%). When asked how long they were planning to stay on the Coast (see Table 6.8c), the largest group of respondents stated that they were planning to stay for up to four hours (89.8%) whilst a further 9.0% were planning an even longer visit, between four-six hours. Only twenty-six respondents stated that they were only planning to stay on the Coast for up to an hour.

	Very important	Important	No particular view	Unimportant	Very unimportant
Importance of the World Heritage designation	135	221	164	67	13

Table 6.9: Importance of the 'Jurassic Coast'

The respondents were also asked about the importance of the World Heritage designation (see Table 6.9), the largest group (36.8%) felt that the designation had made an 'important' impact upon their decision to visit the Coast whilst if both the 'important' and 'very important' categories are combined then 59.3% of the respondents are included.

On-site activity	Frequency
Enjoying the view	591
Casual walking	567
Viewing wildlife	432
Photography and / or sketching	354
Walking the dog	186
Long walk	157
Games with the family	152
Swimming	107
Having a picnic	51
Rock climbing	39
To go fishing	10
Other activity	10

Table 6.10: Visitors choice of on-site activities

Table 6.10 reveals that the most popular on-site activities were 'enjoying the view' (98.5%) and 'casual walking' (94.5%), viewing wildlife was also very popular for 72.0% of respondents, whilst 31.0% of respondents visited the Coast to 'walk their

dog' and 26.2% chose to 'take a long walk'. The respondents were also asked to rank their choice of activity (see Table 6.11).

Priority of on-site activities	First choice	Second choice
Casual walking	288	117
Long walk	93	25
Viewing wildlife	60	135
Enjoying the view	54	186
Walking the dog	37	42
Rock climbing	14	2
Games with the family	8	36
To go fishing	8	1
Swimming	4	29
Photography and / or sketching	2	16
Having a picnic	1	5
Other activity	29	1

Table 6.11: Visitors priority in their choice of on-site activities

Table 6.11 reveals that the most popular on-site activity was 'casual walking' at 1st choice (48.0%) and at either 1st or 2nd choice (67.5%). The second most popular activity was 'enjoying the view' which at 1st choice (9.0%) is low but when 1st and 2nd choices are combined (40.0%) becomes an important activity for many respondents. 'Viewing wildlife' follows a similar pattern where 1st choice (10.0%) was quite low but when 1st and 2nd choices are again combined (32.5%) becomes more important.

In considering interest in the natural environment of the Coast, the largest group of respondents 'strongly agreed' on the importance of wildlife, geology and scenery as part of their visit (62.5%) whilst combining those who 'agreed' and those who 'strongly agreed', 92.5% of the respondents were included. No respondents 'strongly disagreed' and only two respondents 'disagreed' with this statement.

Tables 6.10 and 6.11 record respondent choice of on-site activities and amongst these choices was the opportunity to view the wildlife of the Coast. Table 6.12 details the results when they were asked to be more specific about the type of wildlife they were interested in viewing. 73.8% of respondents stated that they were interested in 'all types of wildlife'. However, for those who chose to be more specific 'bird watching' proved to be of interest to 63.0% followed by marine life (53.5%) whilst about 50.0% were interested in butterflies and wild flowers.

Wildlife	Frequency
General	443
Birds	378
Marine life	321
Butterflies	303
Flowers	302
Geology	254

Table 6.12: Visitors specific interest in the wildlife of the area

6.3.2 On-site interpretation

This sub-section presents an overview of the respondents' interest in the interpretive facilities on-site including their use of the visitor centre as well as their level of engagement with other interpretive materials available.

Table 6.13 indicates the extent to which respondents felt each interpretive facility played an important part in their overall visit to the Coast. Thus, 'staff on duty' was the most important on-site interpretive facility with 63.5% regarding them as important. The second most important facility was 'displays and exhibits' (62.7%) followed by the visitor centre (54.4%) and finally the opportunity to buy souvenirs (50.1%). Guided walks are commented upon in section 6.3.3.

Facility	Strongly agree	Agree	No particular view	Disagree	Strongly disagree
The Visitor Centre itself	52	274	179	90	5
Rangers and other staff, on duty	116	265	155	60	4
Displays and exhibits, on site	105	271	140	82	2
Opportunity to purchase souvenirs, on site	38	263	247	50	3
Opportunity to take part in a guided walk	17	57	229	189	108

Table 6.13: Interest in on-site interpretive facilities

Have you been into the centre today?	Frequency
Yes	265
No	172
No, but I/we have on a previous visit	163

Table 6.14a: Use of the visitor centre

Quality of the visitor centre and its displays	Strongly agree	Agree	No particular view	Disagree	Strongly disagree
Range of facilities available	94	226	90	12	0
Information about the wildlife	131	225	64	2	0
Information about the geology	165	210	46	1	0

Note: this set of questions was answered by 422 respondents.

Table 6.14b: Quality of the visitor centre and its displays

The respondents were asked whether they had actually been inside the visitor centre on the day of their visit (see Table 6.14a), 44.2% had and 28.7% had chosen not to. For those respondents who had been inside the visitor centre, their views on the quality of the displays and exhibits were sought. In general, respondents were very positive about the information supplied within the visitor centre (see Table 6.14b). For those who responded, the geological information was the most popular with a satisfaction score of 88.9% whilst wildlife information received a score of 84.4%.

Interpretive materials	Frequency
Signs, panels, exhibits and displays	503
Guidebook and leaflets	276
The visitor centre and its staff	234
No sources of information used	74

Table 6.15: Engagement with a range of interpretive materials

83.8% of the respondents had viewed at least one interpretive panel, sign, display or exhibit whilst on-site (see Table 6.15) whilst 46.0% had engaged with a guidebook and/or on-site leaflet during their visit to the Coast. Of these, 70.7% had either bought a guidebook at the time of their visit or already owned a copy and of this group of respondents, 32.7% had 'glanced through it' whilst 19.3% had 'read it carefully', a further 15.7% had bought it primarily for the map(s), it contained.

6.3.3 Guided walks

This sub-section presents an overview of the respondents' specific interest in and response towards guided walks at each location, the results of which are explored in more detail within Chapter Eight.

Have you been on a guided walk today?	Frequency
Yes	9
Yes, but on a previous visit	93
No	498

Table 6.16: Use of guided walks

When asked if they planned to undertake a guided walk on the day of their visit (see Table 6.16), a dramatically small number of only nine respondents intended so to do. To place this question into context, the questionnaire was conducted on forty-seven separate occasions during the survey period and within this, on twenty-six occasions (55.3%), at least one guided walk was available on the site.

Experience	Strongly agree	Agree	No particular view	Disagree	Strongly disagree
Guided walks often take too long	15	120	122	197	19
Too many people want to take part	18	122	138	168	27
Guided walks are often too intense	29	89	133	156	66
Often need to know a lot about the site to take part	8	44	86	172	163
Guided walks often attracts experts	75	170	117	81	30
Prefer to explore at our own pace	74	285	112	2	0
Prefer to enjoy site on our own	106	273	92	2	0

Note: 473 respondents completed each question.

Table 6.17: Experiences of taking part in a guided walk

In Table 6.17, the first five statements presented cover a range of perceived criticisms of guided walks based upon previous academic studies (Bryant, 2006; Diment, 1992; Ham, 1992; Ward and Wilkinson, 2006; Weiler, 1999). In four of the five statements the respondents consistently responded more strongly using the 'disagree' response. For those who responded, this was most evident for 'need previous knowledge of the site' where 55.9% 'disagreed' and 27.2% of respondents 'strongly disagreed'. Whilst, of those respondents who agreed with the statements posed about the criticisms of guided walks, the highest response came from 'they attract experts' where 40.5% 'agreed' and 12.5% 'strongly agreed'. The second highest response came from 'they attract too many people' where 23.3% of the respondents 'agreed'. The criticism that 'they are often too intense' only attracted an 'agreed' response from 18.8% however it did gain the second highest 'strongly agreed' response with 4.8%.

The second group of two statements attempted to gauge whether the respondents preferred to explore the location on their own and at their own pace. The number of respondents agreeing with both statements was high with 63.2% preferring to 'explore on their own' and 59.8% preferring to 'explore at their own pace'.

What is your preferred length for a guided walk	Frequency
Less than 30 minutes	7
30 - 60 minutes	273
Less than 120 minutes	239
Any length	5
No response	76

Table 6.18: Preferred length of a guided walk

The respondents were also asked how long a guided walk should last (see Table 6.18), 99.0% of them suggested that a guided walk should last no more than two hours and of those 53.4% preferred it to only last up to one hour.

Choice of subject	Frequency
Birds	226
Marine life	153
Butterflies	110
Wild flowers	108
Geology	94
General wildlife	76
Local history	59

Note: 826 individual responses were received for this question.

Table 6.19: Choice of subject for a guided walk

The respondents were asked about the type of subject they were interested in learning more about whilst on a guided walk (see Table 6.19). Bird watching was the most popular subject with 27.4%, second in popularity was the marine life typically associated with 'rock-pooling' activities which attracted 18.5% of respondents. Butterflies, wild flowers and geology all attracted approximately 12.0% of those responding.

Table 6.20 reveals that the two most frequently expressed reasons for not wanting to take part in a guided walk were 'not interested' (15.8%) and 'prefer to explore on their own' (10.5%) whilst a further 10.2% of the respondents would only undertake a guided walk if it was specifically designed for children. Finally, it is interesting to observe that a further fourteen respondents would only undertake a guided walk if it was offering a topic of very personal interest to them with beetles, bats, grasses and small mammals all mentioned as specific examples.

Reasons for not undertaking a guided walk	Frequency
Not interested, no thanks	95
No reason stated	80
Prefer to plan own route / own discovery	63
Only if designed for children	61
Not keen at all	31
Guided walks are organised by our tour group	12
Not enough time	10
Only if a very specific and focused topic e.g. beetles	7
Would like other mammals, e.g. bats	7
More interested, if designed for older people	6
Walks need to better tailored by age and subject, please	5
Only if designed for those with disabilities	3
The pace is always too slow!	1

Note: 381 respondents completed this question.

Table 6.20: The reasons why respondents would not choose to undertake a guided walk

6.4 Response to the main survey: the decliners

This section presents a brief description of the characteristics of those who declined to participate (n=90) in this study. At each location, 300 responses were collected over the April to October survey period. In following Ham and Weiler (2007), the visitors who declined to take part were politely asked why they did not wish to participate and this was recorded together with the date, their social group and whether or not they were on holiday. The rate of refusal varied during the survey period from zero on many occasions to four people which was the most recorded on any one visit to either location. The lowest response rate was recorded on Monday 25th June 2007 at Lulworth when on an extremely wet morning only four visitors were approached to undertake the survey, three declined, giving a response rate of only 25.0%. The second worst response rate of 66.7% was recorded on a similarly wet day at Durlston when only three visitors were approached, of which one declined. Outside these two exceptional days, the response rate per day never dropped below 70.0%.

The overall response rate for the survey is discussed in detail in section 5.4 but stands at 87.0%, thus ultimately 690 visitors were approached to gain the 600 responses required. This rate is regarded as extremely good although in their research Ham and Weiler (2007) achieved a response rate of 94.0% which is exceptionally high. The response rate as well as the number of refusals by month is shown in Table 6.21.

Month	Total number of visits to each site	Total number of surveys completed	Total number of refusals (on each site)	Response Rate (by month)
April	Durlston (3) Lulworth (2)	Durlston (36) Lulworth (25)	3 5	88.4%
May	Durlston (2) Lulworth (3)	Durlston (18) Lulworth (46)	1 6	90.1%
June	Durlston (5) Lulworth (4)	Durlston (40) Lulworth (23)	8 10	77.8%
July	Durlston (4) Lulworth (3)	Durlston (38) Lulworth (40)	5 3	90.7%
August	Durlston (5) Lulworth (4)	Durlston (89) Lulworth (53)	10 9	88.2%
September	Durlston (3) Lulworth (2)	Durlston (49) Lulworth (29)	8 5	85.7%
October	Durlston (3) Lulworth (4)	Durlston (30) Lulworth (84)	3 14	87.0%
			Average:	86.9%

Total number of refusals by location:	**Durlston:**	38	42.2%
	Lulworth:	52	57.8%

Table 6.21: Response rate and number of refusals for the main survey by month and location

Table 6.21 reveals that the overall response rate does vary by month with the highest number of refusals in what proved to be a very wet month of June (77.8%) and the lowest in May (90.1%). It might have been anticipated that during the peak summer holiday season of July, August and September the refusal rate would have increased perhaps because visitors with young families might have been more likely to decline

but it is clear that this did not happen, it is suggested that the use of a well-developed 'Introduction' helped to ensure that visitors felt interested and motivated towards participating in the survey. The recording of non-participation means that a simple profile of decliners could be created which is briefly examined below for any obvious differences to the overall profile of the respondents who completed the survey.

Visitation variable	Frequency
Local	41
Tourist	49

Table 6.22: Number of refusals for the main survey by visitation variable

The refusal rate was relatively evenly balanced between those who lived locally and those who were on holiday (see Table 6.22). These results proved to be incredibly similar to the results for those who responded to the study where 54.0% were on holiday and 45.5% were not on holiday.

Social grouping variable	Frequency
Alone	24
Partner	29
Family	37

Table 6.23: Number of refusals for the main survey by social grouping variable

The refusal rate varied depending on whether the visitor was alone, with a partner or with family and/or friends (see Table 6.23). These results also proved to be broadly similar to the results for those who responded to the study where 14.0% were alone, 37.2% were with a partner and 47.5% were with family or friends.

Of those who were alone and refused, the majority were at Durlston (66.7%) such as this visitor who said '*here to climb and meet up with some mates, no time to answer your questions*' (Decliner 36D, 2007). Whilst conversely most with family and/or friends who refused were at Lulworth (81.1%) illustrated by the comments from two visitors to Lulworth:

> '*Sorry, we are on holiday with our kids and really do not have time to answer your questions*' (Decliner 56L, 2007);
> '*We just need to get to the beach, sorry*' (Decliner 68L, 2007).

Reason for refusal	Frequency
Not enough time	42
Going for a meal	17
Poor weather conditions	15
Group constraints	12
Other reasons	4

Table 6.24: Number of refusals for the main survey: reasons for refusal

Ham and Weiler (2007) recorded that for 90.0% of their respondents 'lack of time' was identified as the primary reason for non-participation. In this study (see Table 6.24), only 46.6% cited 'lack of time' as their primary reason with 18.8% 'going for something to eat' followed by 16.6% 'due to the weather'. Some examples of the comments recorded are illustrated below:

> '*The kids are hungry*' (Decliner 4L, 2007);
> '*It is far too wet to stand here talking to you*' (Decliner 18D, 2007);
> '*Not enough time, we are on way to Lulworth Castle now*' (Decliner 81L, 2007).

Overall, there does not seem to be any evidence to suggest that the visitors who refused to take part in this study were significantly different to the sample population of visitors who agreed to take part in the questionnaire.

6.5 Summary

This chapter has presented a discussion of the demographic profile and broad characteristics of the respondents together with an overview of their Jurassic Coast experience. The chapter then presented a brief discussion of those who declined to participate in the study (n=90). Chapter Seven discusses the analysis of the data which was obtained in this study with reference to other similar research studies and specifically in relation to other studies undertaken on the Jurassic Coast World Heritage site. Chapter Eight then explores in detail the results obtained which relate to the views and experiences of respondents in connection with guided walks.

Chapter Seven

An analysis of the visitor experience

7.1 Introduction

This chapter presents a discussion of the data from the 600 groups of respondents who completed the questionnaire between 1st April and 31st October 2007. The results are discussed with reference to other studies focusing upon the Jurassic Coast World Heritage site and more generally on the recreational and interpretive experience of visitors in protected natural areas.

The chapter opens with a discussion of the interests and intentions of the respondents in terms of their choice of on-site activities this is followed by a discussion of their engagement with and interest in the interpretive facilities available on the Coast. Throughout the chapter, the discussion also compares the responses of the respondents based upon their assignment to each of three grouping variables namely; 'residency', 'visitation' and 'social grouping'. In undertaking this analysis of the data, these three grouping variables were identified for further exploration as introduced briefly here. Two of these variables had two states, namely for; 'residency' (local resident or tourist) and 'visitation' (first or repeat visitor), whilst the third variable 'social grouping' had four potential states, namely; 'alone', 'with spouse and/or partner', 'with family and/or friends' and 'other'. A summary of the number of respondents within each state of these three grouping variables is to found in Table. 7.1.

Grouping variable	Residency	Visitation	Social Grouping
	Local (n=273) 45.5%	**First-time visitor** (n=200) 33.3%	**Alone** (n=84) 14.0%
			With spouse / partner (n=223) 37.2%
	Tourist (n=324) 54.0%	**Repeat visitor** (n=400) 66.7%	**With family / friends** (n=285) 47.5%
			Other (n=8) 1.3%

Note: 'Other' consists of the eight respondents who took part who were part of a tour group visiting the Coast.

Table 7.1: The number of respondents by each grouping variable

The identification and use of these three grouping variables in this study was established in line with the research approach and recommendations made by previous academic studies. Whilst 'age' and/or 'gender' might be regarded as the usual variables to adopt (e.g. Ham and Weiler, 2002b), in this study the influence of group members and their overall interaction whilst on-site was felt to be important and warranting further investigation thus a 'social grouping' variable was established based upon the work of; Ballantyne *et al*., (1998), Munro *et al*., (2008), Pearce and Moscardo (2007), Randall and Rollins (2009) and Yamada and Knapp (2009), see Figure 7.1 for further details of this research.

A number of these studies also used 'residency' and/or 'visitation'-type grouping variables, indeed Ham and Weiler (2007) used both groupings to identify differences in response patterns between tourists and within their conclusions they specifically state that research in other natural areas following a similar research model is needed, hence the use of both grouping variables in this study.

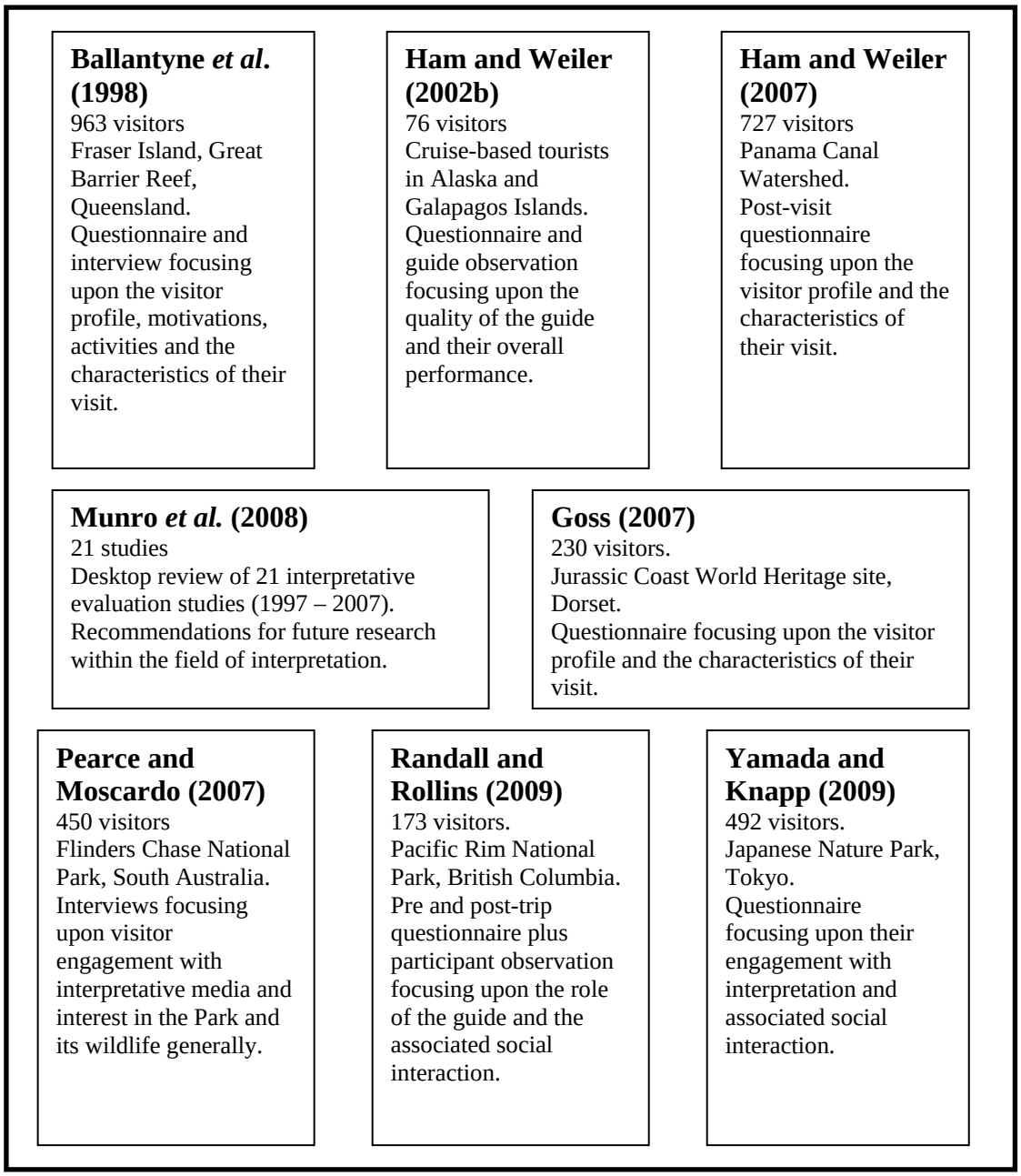


Figure 7.1: Research methodologies which have informed this study

Logistic regression modelling has also been applied to the data in order to be able to explore the principle differences in the way in which the respondents within each of the three grouping variables have responded to the questionnaire. A total of six different themed groups of variables were run for each of the dependent variables and in each case, if the model run proved to be successful a further model was run with a reduced input of only those predictor variables which had proved to be significant. In this chapter therefore it is only the second, reduced input model which are reported and discussed. For the 'social grouping' variable, the models run proved to be less successful and in some cases the results gained could not be accepted based upon the scores from the test statistics (model significance, Goodness of Fit and Nagelkerke scores). It has been assumed that the variation in the number of respondents between the cases was the principle reason for these poor test scores but when one model was re-run with a reduced and balanced numbers of respondents, the test scores were still unacceptable. This chapter will therefore only report and discuss those two models for 'social grouping' (choice of on-site activities and use of on-site interpretive facilities) whose test scores could be regarded as acceptable. In section 7.4, a final set of three regression models are presented which attempt to bring together the other models run and in so doing identify the most important predictor variables for each of the three dependent variable groupings.

The chapter concludes with an investigation of the data using factor analysis techniques to identify whether any other associations exist within the overall data set.

7.2 The Jurassic Coast experience

This section presents a discussion of the interests and intentions of the groups of respondents in terms of their choice of on-site activities and experiences including their interest in the 'Jurassic Coast', geology and wildlife of the area.

7.2.1 Arrangements for the visit

Is this your first visit to the site?	Frequency
No	400
Yes	200

Table 7.2a: Visit pattern to the site

	Residency	Visitation	Social grouping
Is this your first visit to the site?	Significant ($\chi^2 = 231.80$, $p < 0.001$)	n/a	Significant ($\chi^2 = 124.34$, $p < 0.001$)

Table 7.2b: Visit pattern to the site by grouping variable

The largest group of respondents had been to the Jurassic Coast on a previous occasion (66.7%) and of those 67.8% were local to the area (see Table 7.2a). Whilst, of those respondents who were visiting the Coast for the first time only four were local to the area and of these, three were visiting Durlston. This is illustrated by the comment from a couple at Durlston:

> '*A friend recommended that we come up here to walk our dogs and admire the view, it's wonderful is'nt it*' (Respondent 402D, 2007).

Table 7.2b reveals that both 'residency' and 'social grouping' were significant, in the latter case 'family and friends' were most likely to be on their first visit to the Coast whereas respondents travelling alone or with their partner were more likely to be repeat visitors. These results were broadly similar to Ballantyne *et al*. (1998) who

found that 67.0% of their visitors were 'repeat visitors'. Goss (2007) in studying visitors at the Jurassic Coast World Heritage Site, Dorset found that 42.6% had visited the Coast before whilst Ham and Weiler (2007) in studying visitors to the Panama Canal Watershed, Panama found that 40.0% were 'repeat' visitors.

The number of previous visits	Frequency
Often daily	35
Weekly	56
Fortnightly	97
Monthly	45
2 or 3 times a year	80
Once a year	27
Less than once a year	60
Not applicable, this is my/our first visit to the site	200

Table 7.3a: Number of previous visits to the site

	Residency	Visitation	Social grouping
The number of previous visits	Significant (U= 33001.00, z=-5.48, p < 0.001)	n/a	Significant (Kruskal-Wallis χ^2 equivalent = 85.55, p < 0.001)

Table 7.3b: Number of previous visits to the site by grouping variable

When asked how many times they had visited the Jurassic Coast before (see Table 7.3a), the largest group stated that they visited the Coast on a fortnightly basis (16.2%) followed by those who visited the Coast two or three times a year (13.3%). Many of the respondents visited the Coast at least once a week and in some cases on a daily basis (15.1%) which is illustrated by the comment from a visitor to Lulworth:

> '*We come down to the coast at least every weekend for a walk*' (Respondent 65L, 2007).

In Table 7.3b both 'residency' and 'social grouping' were significant, locals were and those travelling alone most likely to visit on a daily or weekly basis. Those travelling alone primarily visited the Coast to walk their dog(s) as illustrated by the comment from a visitor to Durlston:

> '*I am here to walk Ben* [her dog]*; I come most mornings with him*' (Respondent 34D, 2007).

The choice of on-site activity is reported more fully in Tables 7.7a and 7.8a.

How long are you planning to stay for?	Frequency
Less than 1 hour	26
1 - 2 hours	275
2 - 4 hours	238
4 - 6 hours	54
More than 6 hours	7

Table 7.4a: Proposed length of stay

	Residency	Visitation	Social grouping
How long are you planning to stay for?	Significant (χ^2 = 34540.50, $p < 0.001$)	Not significant	Significant (Kruskal-Wallis χ^2 equivalent = 40.79, $p < 0.001$)

Table 7.4b: Proposed length of stay by grouping variable

When asked how long they were planning to stay on the Coast (see Table 7.4a), the largest group of respondents stated that they were planning to stay for up to four hours (89.8%) whilst a further 9.0% were planning an even longer visit, between four-six hours. By comparison, Ham and Weiler (2007) in studying visitors to the Panama Canal Watershed found that the '*tourists' length of stay was about two hours*' (2007:9). Of the seven respondents who chose to stay for more than six hours, 42.9% stated that their main reason for visiting was 'to go for a long walk':

> '*We are planning to walk to Kimmeridge and back this afternoon*' (Respondent 358D, 2007).

Only twenty-six respondents stated that they were only planning to stay on the Coast for up to an hour. Interestingly of these respondents, two also stated their main reason as being 'to go for a long walk' whilst ten were 'walking their dog'.

In Table 7.4b 'residency' was statistically significant with tourists more likely to spend longer on the Coast, thus 61.5% of locals stayed for up to two hours whilst 88.8% of tourists stayed for up to four hours (see Table 7.16). 'Social grouping' was also significant with those travelling 'with family or friends' being most likely to stay longer on the Coast as illustrated by the comment from a family visiting Lulworth:

> '*We will be here most of the day, particularly if the boys' swim*' (Respondent 23L, 2007).

	Very important	Important	No particular view	Unimportant	Very unimportant
Importance of the World Heritage designation	135	221	164	67	13

Table 7.5a: Importance of the 'Jurassic Coast'

	Residency	Visitation	Social grouping
Was the World Heritage designation important to you?	Significant (χ^2 = 25500.50, p < 0.001)	Significant (*U*= 20778.50, z=-10.03, p < 0.001)	Significant (Kruskal-Wallis χ^2 equivalent = 85.55, p < 0.001)

Table 7.5b: Importance of the 'Jurassic Coast' by grouping variable

The respondents were also asked about the importance of the World Heritage designation (see Table 7.5a), the largest group (36.8%) felt that the designation had made an 'important' impact upon their decision to visit the Coast whilst if both the 'important' and 'very important' categories are combined then 59.3% of the respondents are included. 27.3% of the respondents however had 'no particular view' and these may well be a group of visitors who the Jurassic Coast site managers might wish to target in order to promote the importance and value of the World Heritage designation to the area as a whole. Two examples of the comments recorded in relation to World Heritage designation are illustrated below:

> '*I knew about the Coast before we came*' (Respondent 358D, 2007);
> '*It is a lovely spot, we come regularly, but it is busier sadly now than it used to be*' (Respondent 218L, 2007).

Interestingly, Ballantyne *et al*. (1998) who categorised the tourists visiting Fraser Island on the Great Barrier Reef, Australia into one of five groups namely; 'escapers' (40.0%), 'explorers' (27.0%), 'tourers' (12.0%), 'socialisers' (11.0%) and 'sight-seers' (9.0%) discovered that the 'escapers' were least likely to be interested in 'seeing a World Heritage area' whilst the 'explorers' and 'sight-seers' were most likely to rate this as an important element (26-50%). In their study, 48.0% of visitors rated 'seeing a World Heritage area' as an important part of their overall site experience by comparison to 59.3% in this study. Goss (2007) in studying visitors at the Jurassic Coast World Heritage Site, Dorset found that 74.0% were aware of the World Heritage designation before visiting the site. However, 66.0% of those he questioned reported that it had not influenced their decision to visit the area, 29.0% felt it had some influence on their decision and 5.0% reported that it had made a large influence. These latter two results (even when combined) are significantly lower than

the 59.3% of respondents in this study who felt that the designation had made an impact upon their decision to visit the Coast.

In Table 7.5b all three grouping variables proved to be significant. In terms of 'residency', tourists (18.8%) were most likely to be uninterested in World Heritage designation, ranking it as 'unimportant' or 'very unimportant' whilst only 6.9% of locals made the same choices (see Table 7.16). In terms of 'visitation', repeat visitors (73.0%) were more likely to regard the designation as 'important' or 'very important'. 'Social grouping' was also significant with those travelling alone or with a partner most likely to regard the designation as important (71.4% and 68.2% respectively) and those travelling 'with family or friends' being least likely to regard the designation as 'important' (48.4%).

In exploring these arrangements for their Jurassic Coast visit further binary logistic regression modelling was used in an attempt to explore the relative contributions of a number of these predictor variables on the dependent variables of 'visitation' and 'residency'. The model was run for 'residency', it was successful and a reduced input revealed that four predictor variables were of importance as illustrated in Table 7.6.

Dependent variable: residency	B	S.E.	Sig.	Exp(B)	95.0% C.I. for EXP(B)	
					Lower	Upper
Constant	1.89	0.67	0.001	6.35		
Visit (score 1) (repeat visitor)	-4.50	0.53	0.000	0.01	0.00	0.03
Location (score 1) (visited: Durlston)	-0.84	0.23	0.000	0.43	0.28	0.68
Timing (score 1) (less than 1 hour)	0.58	0.14	0.000	1.78	1.35	2.35
W/H site (score 4) (important)	1.06	0.30	0.000	2.89	1.61	5.18
W/H site (score 3) (no particular view)	1.27	0.34	0.000	3.56	1.82	6.96

Note: R^2= 0.80 (Hosmer and Lemeshow), 0.58 (Nagelkerke). Model χ^2 (1) = 342.05, p < 0.001

Table 7.6: Binary logistic regression modelling:

'residency' and arrangements for their visit

The model demonstrates that a statistical difference between local and tourist appears in their response to four questions, namely; those who visited Durlston Country Park and those who were repeat visitors to the Coast with the location being forty times stronger (data shows that 56.4% of visitors at Durlston were local whereas only 35.1% were local at Lulworth). However, those that were only staying on the Coast for less than an hour appear to be weighted four times more strongly than location (84.6% of locals / 15.4% of tourists). The strongest weighting by comparison to location came from the visitors response to their perceived importance of the Jurassic Coast designation to their visit, with those responding positively (76.6% of locals / 44.8% of tourists) or with 'no particular view' (16.5% of locals / 36.4% of tourists) being weighted seven or eight times more strongly. Using these four predictor variables the model was able to correctly assign 79.7% of visitors (pre-model success was 54.3%) as either local or tourist.

The same model was also run for 'visitation' but a second reduced input model was not run because no specific predictor variables could be identified in the original model as being of any more importance than any others.

7.2.2 Choice of activities whilst on-site

On-site activity	Frequency
Enjoying the view	591
Casual walking	567
Viewing wildlife	432
Photography and / or sketching	354
Walking the dog	186
Long walk	157
Games with the family	152
Swimming	107
Having a picnic	51
Rock climbing	39
To go fishing	10
Other activity	10

Table 7.7a: Choice of on-site activities

Table 7.7a reveals that the most popular on-site activities were 'enjoying the view' (98.5%) and 'casual walking' (94.5%) which reinforces the work of Gunter (1987) who in describing the leisure experience highlighted 'freedom of choice' to move around a site at will as an important element within the overall experience. Viewing wildlife was also very popular for 72.0% of respondents, two examples of the comments recorded in relation to on-site activities are illustrated below:

> '*I came down here to see the dolphin*' (Respondent 241D, 2007);
> '*We just enjoy a short walk to watch the birds and then a cup of coffee in the cafe*' (Respondent 65L, 2007).

Hughes and Morrison-Saunders (2005) found on two natural sites in Western Australia that visitors rated 'an opportunity to experience the beauty of the site' as an important part of their overall experience. An 'opportunity to recreate at the site' and an 'opportunity to experience a pristine site' were both highly rated with passive observation of the site and its wildlife also seeming to be an important feature for most visitors. Pearce and Moscardo (2007) who studied visitors in Flinders Chase National Park, South Australia found that 68.0% were interested in viewing wildlife, 56.0% wanted to 'experience wilderness', 51.0% view scenery, 27.0% wanted to spend time with their family and 17.0% wanted to 'get away from others'. Whilst, Perkins and Grace (2009) in a study of two resort locations on Australia's Gold Coast reported that 81.8% of tourists were interested in watching and photographing wildlife.

Two management issues identified on the Coast are represented here. First, the 'uncontrolled release' of dogs and it can be reported that 'walking the dog' was popular with 31.0% of respondents as illustrated by the comment from a visitor to Durlston:

> '*I am here to exercise our two terriers; it is a great place for them to run about*' (Respondent 242D, 2007).

Second, in terms of managing litter, it is interesting to note that only 8.5% of respondents planned to have a picnic on the Coast which might suggest that a half day visit to the Coast is the typical length of stay, in this survey 50.1% of respondents planned to spend up to two hours and 89.8% up to four hours on the Coast. The desire however for a picnic by some respondents was illustrated by the comment from a couple visiting Lulworth:

'*Yes, we have brought it all; we always do it in style*' (Respondent 12L, 2007).

Choice of on-site activities	Residency	Visitation	Social grouping
Long walk	Significant ($\chi^2 = 22.12$, $p < 0.001$)	Significant ($\chi^2 = 33.40$, $p < 0.001$)	Significant ($\chi^2 = 26.20$, $p < 0.001$)
Viewing wildlife	Significant ($\chi^2 = 35.09$, $p < 0.001$)	Significant ($\chi^2 = 56.59$, $p < 0.001$)	Significant ($\chi^2 = 19.02$, $p < 0.001$)
Games with the family	Significant ($\chi^2 = 83.68$, $p < 0.001$)	Significant ($\chi^2 = 100.45$, $p < 0.001$)	Significant ($\chi^2 = 178.26$, $p < 0.001$)
Swimming	Significant ($\chi^2 = 55.98$, $p < 0.001$)	Significant ($\chi^2 = 56.87$, $p < 0.001$)	Significant ($\chi^2 = 51.46$, $p < 0.001$)
Casual walking	Not significant	Significant ($\chi^2 = 9.24$, $p = 0.002$)	Significant ($\chi^2 = 14.85$, $p < 0.001$)
Walking the dog	Significant ($\chi^2 = 13.80$, $p < 0.001$)	Not significant	Significant ($\chi^2 = 16.52$, $p < 0.001$)
Rock climbing	Significant ($\chi^2 = 10.69$, $p = 0.001$)	Not significant	Significant ($\chi^2 = 40.78$, $p < 0.001$)
Having a picnic	Not significant	Not significant	Significant ($\chi^2 = 20.18$, $p < 0.001$)
Enjoying the view	Not significant	Not significant	Not significant
Photography and / or sketching	Not significant	Not significant	Not significant
To go fishing	Not significant	Not significant	Not significant
Other activity	Not significant	Not significant	Not significant

Table 7.7b: Choice of on-site activities by grouping variable

In Table 7.7b four activities were not statistically significant 'enjoying the view' received a favourable response from all respondents with an average 95.0% from each grouping variable being in agreement, the levels of interest in 'photography' (average 12%) and 'fishing' (average 2.5%) were much lower and also not significant.

'Residency' was statistically significant across a number of activities with tourists (53.9%) were more likely to play 'games with the family' then locals. They were also more likely to rock climb (9.6%), swim (28.7%) and/or have a picnic (11.4%) whilst locals were more likely to 'take a long walk' (39.4%). Tourists were also less likely to be interested in viewing wildlife (37.9%) and also 'walking the dog' (75.3%). Two examples of the comments recorded in relation to on-site activities are illustrated below:

> '*We are staying in Weymouth, but came here for the day, the kids have already been in twice*' (Respondent 17L, 2007);
> '*I just want to get away from the tourists*' (Respondent 34D, 2007).

'Visitation' was also statistically significant across a number of activities, repeat visitors (33.5%) were more likely to 'take a long walk' as opposed to first-time visitors (11.5%) and they were also more likely to view wildlife (81.2%). First-time visitors were more likely to 'play games with the family' (50.5%) and swim (34.5%). Interestingly, Ballantyne *et al*. (1998) who categorised the tourists visiting Fraser Island on the Great Barrier Reef, Australia found that first-time visitors were more likely to be 'explorers' (37.0%) or 'sight-seers' (15.0%) whilst repeat visitors were more likely to be 'escapers' (50.0%) or 'socialisers' (13.0%).

'Social grouping' was significant in six categories, this revealed that visitors on their own were most likely to undertake a long walk (40.5%) as opposed to those with a partner (33.2%) or with their family (17.2%) as illustrated by the comment from a man at Durlston:

> '*I try and come up here for a good walk at least once a week*' (Respondent 397D, 2007).

Viewing wildlife was also most likely to be undertaken by visitors on their own (82.1%) than by visitors with a partner (78.5%) or with their family (63.5%). Dog walking was also most likely to be undertaken by visitors on their own (48.8%), followed by visitors with their family (31.5%) and those with a partner (24.6%).

The respondents were also asked to rank their choice of activity (see Table 7.8a).

Priority of on-site activities	First choice	Second choice
Casual walking	288	117
Long walk	93	25
Viewing wildlife	60	135
Enjoying the view	54	186
Walking the dog	37	42
Rock climbing	14	2
Games with the family	8	36
To go fishing	8	1
Swimming	4	29
Photography and / or sketching	2	16
Having a picnic	1	5
Other activity	29	1

Table 7.8a: Priority in their choice of on-site activities

Table 7.8a reveals that the most popular on-site activity was 'casual walking' at 1st choice (48.0%) and at either 1st or 2nd choice (67.5%). The second most popular activity was 'enjoying the view' which at 1st choice was low (9.0%) but when 1st and 2nd choices are combined (40.0%) becomes an important activity for many respondents. 'Viewing wildlife' follows a similar pattern, where 1st choice was quite low (10.0%) but when 1st and 2nd choices are again combined (32.5%) becomes more important. Two examples of the comments recorded in relation to the importance of particular on-site activities are illustrated below:

> '*It's the views, they are so magnificent, I sometimes just sit down, relax and look out to sea*' (Respondent 83D, 2007);

'*I am here to walk; I cannot understand why some people just sit by their cars*' (Respondent 170D, 2007).

The importance of dog walking on the Coast again emerges here, with a 1st ranking (6.2%) and when 1st and 2nd ranking are combined (13.2%). For a location such as this, it is perhaps surprising that 'having a picnic' did not make any of the top three choices for 98.2% of the respondents suggesting that most visitors either only stay for half a day or do not plan to have a picnic in advance of coming to the Coast as illustrated by the comment from a family visiting Lulworth:

'*We were going to the pub for lunch but the Cove is so pretty, we stayed here and had fish and chips on the beach instead*' (Respondent 69L, 2007).

Choice of on-site activities	Residency	Visitation	Social grouping
Enjoying the view	Significant (U=32974.00, z=-5.69, p < 0.001)	Significant (U=29856.00, z=-5.38, p < 0.001)	Significant (Kruskal-Wallis χ^2 equivalent = 15.59, p < 0.001)
Casual walking	Significant (U=31371.00, z=-6.61, p < 0.001)	Significant (U=25244.00, z=-7.95, p < 0.001)	Significant (Kruskal-Wallis χ^2 equivalent = 55.43, p < 0.001)
Long walk	Significant (U=36802.50, z=-4.99, p < 0.001)	Significant (U=31790.00, z=-5.80, p < 0.001)	Significant (Kruskal-Wallis χ^2 equivalent = 21.49, p < 0.001)
Viewing wildlife	Significant (U=29274.50, z=-7.63, p < 0.001)	Significant (U=22568.00, z=-9.33, p < 0.001)	Significant (Kruskal-Wallis χ^2 equivalent = 43.84, p < 0.001)
Games with the family	Significant (U=36703.00, z=-6.38, p < 0.001)	Significant (U=32498.50, z=-6.68, p < 0.001)	Significant (Kruskal-Wallis χ^2 equivalent = 67.99, p < 0.001)
Walking the dog	Significant (U=36012.50, z=-5.88, p < 0.001)	Significant (U=33780.00, z=-4.68, p < 0.001)	Significant (Kruskal-Wallis χ^2 equivalent = 47.18, p < 0.001)
Swimming	Significant (U=37852.50, z=-5.66, p < 0.001)	Significant (U=33813.50, z=-5.77, p < 0.001)	Significant (Kruskal-Wallis χ^2 equivalent = 33.45, p < 0.001)

Rock climbing	Not significant	Not significant	Significant (Kruskal-Wallis χ^2 equivalent = 14.00, p = 0.001)
Photography and/or sketching	Not significant	Not significant	Not significant
Having a picnic	Not significant	Not significant	Not significant
To go fishing	Not significant	Not significant	Not significant
Other activities	Not significant	Not significant	Not significant

Table 7.8b: Priority in their choice of on-site activities by grouping variable

In Table 7.8b four activities were not statistically significant given the consistently small numbers of respondents ranking them in their first or second choice across the grouping variables. 'Residency' was statistically significant across a number of ranked activities (see Table 7.16) tourists (76.9%) were more likely to select a 'casual walk' as their first or second choice as opposed to locals (57.1%) as well as 'enjoying the view' (51.2%) as opposed to locals (26.7%). Tourists were also more likely to rank in first or second place 'playing games with the family' (11.7%) as well as 'swimming' (9.3%). Whilst, locals were more likely to rank ranked 'viewing wildlife' (46.5%) in first or second place as well as 'walking the dog' (23.1%). In terms of 'visitation', first-time visitors were more likely to rank 'taking a long walk' (26.3%), 'viewing wildlife' (42.8%) and 'walking the dog' (18.5%) as their first or second choice.

'Social grouping' was significant in eight categories. Visitors on their own were more likely to rank 'walking the dog' as their first or second choice (36.9%) as opposed to the visitors with a partner (12.6%) or with their family (7.0%). Whilst visitors with

family were more likely to rank 'enjoying the view' as their first or second choice (47.4%) as opposed to the visitors with a partner (35.0%) or on their own (29.8%). 'Viewing wildlife' was most likely to be ranked by visitors with a partner as their first or second choice (43.9%) followed by visitors alone (40.5%) and then those with a family (21.4%) and those with a partner (43.9%).

7.2.3 Interest in the wildlife of the Coast

	Strongly agree	Agree	No particular view	Disagree	Strongly disagree
Importance of wildlife, geology and scenery	375	180	43	2	0

Table 7.9a: The importance of wildlife, geology and scenery

	Residency	Visitation	Social grouping
The importance of wildlife, geology and scenery	Significant (U=32565.00, z=-6.51, p < 0.001)	Significant (U=26719.50, z=-7.77, p < 0.001)	Significant (U=26079.50, z=-3.99, p < 0.001)

Table 7.9b: The importance of wildlife, geology and scenery by grouping variable

In considering an interest in the natural environment, the largest group of respondents 'strongly agreed' on the importance of wildlife, geology and scenery as part of their visit (62.5%) whilst combining those who 'agreed' and those who 'strongly agreed', 92.5% of the respondents were included as illustrated by the comment from a couple visiting Durlston:

> '*Yes, we are interested in wildlife, though we don't know much about it down here*' (Respondent 174D, 2007).

No respondents 'strongly disagreed' and only two respondents 'disagreed' with this statement. Of these, neither were local, both came with their partner, both ranked 'enjoying the view' as their first choice of activity and neither went into the visitor centre. Ballantyne *et al*. (1998) in categorising the tourists visiting Fraser Island on the Great Barrier Reef, Australia identified two of their five groups as 'explorers' (27.0%) and 'sight-seers' (9.0%) and these both rated strongly in their survey against 'to see coastal scenery' (76-100%) and 'to see wildlife' (51-75%).

In Table 7.9b all three grouping variables proved to be statistically significant. Tourists (95.7%) felt more strongly than locals (89.0%) and repeat visitors (96.8%) more strongly than first-time visitors (84.0%) that the wildlife, geology and scenery component was important to their visit (see Table 7.16) as illustrated by the comment from a family visiting Lulworth:

> '*We like seeing the birds and Chris plays in the rock pools, but it's just a nice place to come really and we have never been to this Cove before*' (Respondent 95L, 2007).

The 'social grouping' variable was also significant even though the number of respondents agreeing or strongly agreeing was relatively consistent 95.2% of those alone, 94.6% of those with a partner and 89.8% for those with family and friends.

Tables 7.7a and 7.8a have explored the respondents' choice of on-site activities and amongst these choices was the opportunity to view the wildlife of the Coast. Table 7.10a details the results when they were asked to be more specific about the type of wildlife they were interested in viewing. 73.8% of respondents stated that they were interested in 'all types of wildlife'. However, for those who chose to be more specific; 'bird watching' proved to be of interest to 63.0% followed by marine life

(53.5%) whilst about 50.0% were interested in butterflies and wild flowers, the geology of the Coast attracted interest from 42.3% of the respondents.

Wildlife	Frequency
General	443
Birds	378
Marine life	321
Butterflies	303
Flowers	302
Geology	254

Table 7.10a: Specific interest in the wildlife of the area

Three examples of the comments recorded in relation to viewing wildlife are illustrated below:

> '*I saw some lovely orchids this morning, it was so special*' (Respondent 83D, 2007);
> '*The bird life here is extraordinary, I only wish I knew what they all were*' (Respondent 453D, 2007);
> '*Stair Hole is incredible, we are so glad we came*' (Respondent 95L, 2007).

Interestingly, Ballantyne *et al*. (1998) who categorised the tourists visiting Fraser Island on the Great Barrier Reef, Australia discovered that the 'explorers' and 'sight-seers' were most likely to rate 'bird watching' (11-25%) as an important element of their overall experience. Pearce and Moscardo (2007) who studied visitors in Flinders Chase National Park, South Australia found that when the visitors were asked about their visit, 74.0% felt they had enjoyed and learnt a lot about the wildlife, 48.0% the geology and 11.0% the social history of the area whilst those that felt that they had learned least about the flora of the area (2.0%). Cochrane (2007) in a study of the Jurassic Coast identified bird-watching, rock-climbing, kayaking, long-distance

walking, guided fossil walks and rock-pooling as the most important activities to be developed with visitors with specific emphasis being placed on geo-tourism activities.

Wildlife	Residency	Visitation	Social grouping
Birds	Significant ($\chi^2 = 53.68$, $p < 0.001$)	Significant ($\chi^2 = 77.25$, $p < 0.001$)	Significant ($\chi^2 = 34.62$, $p < 0.001$)
Butterflies	Significant ($\chi^2 = 71.21$, $p < 0.001$)	Significant ($\chi^2 = 81.13$, $p < 0.001$)	Significant ($\chi^2 = 53.10$, $p < 0.001$)
Geology	Significant ($\chi^2 = 16.97$, $p < 0.001$)	Significant ($\chi^2 = 21.85$, $p < 0.001$)	Significant ($\chi^2 = 16.06$, $p < 0.001$)
Flowers	Significant ($\chi^2 = 61.72$, $p < 0.001$)	Significant ($\chi^2 = 77.02$, $p < 0.001$)	Significant ($\chi^2 = 52.09$, $p < 0.001$)
Marine	Significant ($\chi^2 = 28.79$, $p < 0.001$)	Significant ($\chi^2 = 39.07$, $p < 0.001$)	Significant ($\chi^2 = 12.26$, $p = 0.002$)
General	Not significant	Not significant	Not significant

Table 7.10b: Specific interest in the wildlife of the area by grouping variable

Table 7.10b reveals that the variation in the response to an interest in birds, butterflies and geology proved to be statistically significant for each of the grouping variables, whilst an interest in the general wildlife of the Coast was not significant for any of the groupings. In terms of 'residency', locals proved to be more interested in each type of wildlife than tourists (see Table 7.16) and for both groups an interest in birds was the most popular, scoring 78.3% for locals and 49.7% for tourists as illustrated by the comment from a couple visiting Durlston:

> '*We are just amazed by the variety of birds*' (Respondent 409D, 2007).

For locals, butterflies were the second most popular choice (69.2%) followed by wild flowers (67.8%) whilst for tourists, marine life was second (43.2%) followed by wild flowers (35.5%) as illustrated by the comment from a local couple visiting Lulworth:

> '*We know where the Skippers usually are, the tourists don't*' (Respondent 65L, 2007).

In terms of 'visitation', repeat visitors proved to be more interested in each type of wildlife than first-time visitors and for both groups an interest in birds was again the most popular scoring 75.3% for repeat visitors and 38.5% for first-time visitors. For repeat visitors, butterflies were the second most popular choice (63.5%) followed by wild flowers (63.0%), as illustrated by the comment from a couple visiting Lulworth:

> '*Yes, we looked for the skipper on the hill up there but didn't see any*' (Respondent 64L, 2007).

Whilst for first-time visitors, marine life was second (35.5%) followed by geology (29.0%).

'Social grouping' followed the same patterns of response as described above. Birds again proved to be the most popular form of wildlife with respondents on their own (78.6%) giving it the highest score. Wildlife scores for respondents on their own were consistently higher than for the other two groups whilst birds and marine life proved to be the most popular forms of wildlife for visitors with families (51.2% and 45.9% respectively).

7.2.4 Views on the overall on-site experience

The respondents were also invited to comment generally on their overall on-site experience and in particular to identify the 'best aspect' about their visit as well as the 'aspect' they had found most interesting. Perhaps somewhat unsurprisingly for a natural site, the most popular response when asked what was the 'best aspect' of their visit was stated as 'the wonderful scenery' as illustrated by an example of a comment recorded from a couple at Lulworth:

> '*We were amazed by the scenery, the rocks are incredible*' (Respondent 105L, 2007).

The 'peace and quiet' of the area was also mentioned by many respondents, as was its 'natural beauty'. First-time visitors and those visiting with family identified the 'excellent sunny weather' as an important aspect. Whilst twenty-four locals mentioned 'a nice walk' and six visiting alone mentioned the 'wildlife of the site' as illustrated by an example of a comment recorded from a couple at Durlston:

> '*It is just nice to have a walk in such a beautiful place*' (Respondent 59D, 2007).

The opportunity for 'a swim' was mentioned by twenty tourists, first time visitors and those visiting with family and friends. Other responses made included comments on the 'fresh air', the opportunity for 'rock climbing', the opportunity to view the Jurassic Coast and the use of the area for a picnic.

The respondents were also asked to identify what they had found most interesting about the area and the most popular responses were all based upon natural features, namely the rocks and the wildlife. The rock features (specifically Stair Hole, Fossil Forest and Durdle Door) were all mentioned by tourists, first-time visitors, those visiting with a partner and those with family and friends. This is illustrated by an example of a comment recorded from a couple at Lulworth:

> '*Stair Hole is wonderful; we took loads of pictures*' (Respondent 433L, 2007).

The general wildlife of the area also proved to be a popular response as did the 'variety of bird life' which was popular with locals, repeat visitors and those visiting alone as illustrated by an example of a comment recorded from a local couple at Durlston:

> '*The birds have been singing their hearts out this morning*' (Respondent 201D, 2007).

An important wildlife feature on both sites is the wealth of butterfly species and this answer was another popular response with those visiting alone. Finally, the 'rock pools' were mentioned by twenty first-time visitors, tourists and those visiting with family and/or friends as illustrated by an example of a comment recorded from a family at Lulworth:

> '*The kids liked the rock pools; they've been playing for hours now*' (Respondent 247L, 2007).

The other responses mentioned included the 'cliffs at Durlston' and the 'variety of wild flowers' on the site.

The respondents were also invited to comment upon anything on the site which they felt could be improved encouragingly very few respondents identified anything specifically. However, twenty-six respondents stated that 'reducing the price of the car parking was the most important improvement which could be made as illustrated by two examples of the comments recorded:

> '*We were disgusted with the price of the car park, the Estate is just cashing in on the tourists*' (Respondent 116L, 2007);
> '*We were really surprised at the cost of the car park here*' (Respondent 257D, 2007).

Interestingly, thirteen respondents (mostly locals and those visiting alone) suggested that 'discouraging tourists' would be an important improvement for them as illustrated by an example of a comment recorded from a local couple at Lulworth:

> '*This area is spoilt by the tourists, they should go elsewhere*' (Respondent 250L, 2007).

The 'lack of dolphins' at Durlston was mentioned by thirteen respondents and this appears to be an important issue if visitors are being drawn to Durlston thinking that they are likely to see dolphin off Anvil Point over the summer months. This is illustrated by an example of a comment recorded from a family at Durlston:

> '*The kids were really disappointed not to see any dolphin*' (Respondent 169D, 2007).

Other responses recorded included 'cheaper places to eat' which was mentioned by fourteen tourists, first-time and repeat visitors and 'more facilities for kids' mentioned by four tourists, first-time visitors and those visiting with family. Finally and perhaps most contentiously, three respondents (two locals and one visiting alone) would like to see 'dogs banned' on both sites as illustrated by an example of a comment recorded from a regular visitor at Durlston:

> '*The dog walkers are a bxxxxy nuisance; they should all be banned tomorrow*' (Respondent 152D, 2007).

7.2.5 Regression modelling: activities and wildlife

In exploring the respondents interest in wildlife and scenery further, binary logistic regression modelling was used in an attempt to explore the relative contributions of a number of these predictor variables on the dependent variables of 'visitation' and 'residency'. Thus, a number of variables relating to the respondents interest in the wildlife, geology and scenery of the Coast were used in an attempt to identify their importance in predicting each of the dependent variables.

A reduced input model for 'residency' revealed that two predictor variables were of importance as illustrated in Table 7.11.

Dependent variable: residency	B	S.E.	Sig.	Exp(B)	95.0% C.I. for EXP(B)	
					Lower	Upper
Constant	0.28	0.21	0.186	1.32		
Location (score 1) (visited: Durlston)	-0.66	0.18	0.000	0.52	0.36	0.74
Butterflies (score 1) (not interested)	1.10	0.21	0.000	3.00	1.98	4.55

Note: R^2= 0.3 (Hosmer and Lemeshow), 0.20 (Nagelkerke). Model χ^2 (1) = 97.99, p < 0.001

Table 7.11: Binary logistic regression modelling: 'residency' and wildlife interest

The model demonstrates that a statistical difference between local and tourist appears in their response to two questions, namely; those that visited Durlston Country Park (data shows that 56.4% of locals / 43.6% of tourists) and those who were not interested in viewing butterflies (30.8% of locals / 65.4% of tourists), the negative response to butterflies appears to be six times the weighting of the positive response to location. Using these two predictor variables the model was able to correctly assign 66.8% of visitors (pre-model success was 54.3%) as either being local or tourist.

Whilst, for 'visitation', as a result of running a reduced input, three predictor variables were identified as being of importance as illustrated in Table 7.12.

Dependent variable: visitation	B	S.E.	Sig.	Exp(B)	95.0% C.I. for EXP(B)	
					Lower	Upper
Constant	-0.79	0.25	0.001	0.45		
Viewing wildlife (score = First)	-0.58	0.13	0.000	0.56	0.43	0.73
Butterflies (score 1) (not interested)	0.87	0.28	0.002	2.39	1.37	4.16
Wildlife 2 (score 2) (no part. view)	1.06	0.39	0.007	2.88	1.33	6.23

Note: R^2= 0.85 (Hosmer and Lemeshow), 0.26 (Nagelkerke). Model χ^2 (1) = 125.21, p < 0.001

Table 7.12: Binary logistic regression modelling: 'visitation' and wildlife interest

The model demonstrates that a statistical difference between first-time and repeat visitors appears in their response to three questions. Those that scored viewing wildlife as their primary reason for visiting the Jurassic Coast (data shows that 4.0% of first-time / 14.0% of repeat visitors) which although positive appears to be five times less important in terms of weighting than the two somewhat negative responses, namely; those who were not interested in viewing butterflies (data shows that 75.5% of first-time / 36.5% of repeat visitors) and those with no particular interest in wildlife, geology and scenery as an important part of their visit experience (data shows that 15.5% of first-time / 3.0% of repeat visitors). Using these three predictor variables the model was able to correctly assign 72.7% of visitors (pre-model success was 66.7%) as either first-time or repeat visitors.

Another set of regression models were run which combined this interest in wildlife with the respondents' choice of on-site activities in a further attempt to explore the relative contributions of a number of these predictor variables on the dependent variables of 'visitation' and 'residency'. The model was run for 'residency' and a

reduced input revealed that four predictor variables were of importance as illustrated in Table 7.13.

Dependent variable: residency	**B**	**S.E.**	**Sig.**	**Exp(B)**	**95.0% C.I. for EXP(B)**	
					Lower	Upper
Constant	2.57	1.12	0.022	13.01		
Visit (score 1) (not first visit)	-4.08	0.53	0.000	0.02	0.01	0.05
Climbing (score 1) (not interested)	-1.54	0.56	0.006	0.21	0.07	0.64
Location (score 1) (Durlston)	-0.95	0.25	0.000	0.39	0.24	0.64
Visitor centre (score 2) (yes, been in)	2.08	0.64	0.001	7.97	2.28	27.81
Visitor centre (score 1) (no, not been in)	2.13	0.66	0.001	8.45	2.34	30.52

Note: R^2= 0.06 (Hosmer and Lemeshow), 0.64 (Nagelkerke). Model χ^2 (1) = 388.67, p < 0.001

Table 7.13: Binary logistic regression modelling:

'residency' and interest in wildlife / choice of on-site activities

The model demonstrates that a statistical difference between local and tourist appears in their response to four questions however, the most important predictor variable appears to be in their response to viewing the visitor centre with a weighting of 8.4x if they had not viewed the centre (data shows that 16.9% of locals / 40.9% of tourists) and 7.9x if they had (26.3% of locals / 50.0% of tourists). The other three predictor variables were by comparison of very little importance in terms of their weighting although the location of Durlston again features in the model. Using principally these two main predictor variables the model was able to correctly assign 83.1% of visitors (pre-model success was 54.3%) as either local or tourist.

For 'visitation', the same model was run and after running a reduced input, four predictor variables were identified as being of importance as illustrated in Table 7.14.

Dependent variable: visitation	**B**	**S.E.**	**Sig.**	**Exp(B)**	**95.0% C.I. for EXP(B)**	
					Lower	Upper
Constant	-2.77	1.08	0.010	0.06		
Walking 1 (score 1) (not interested)	-1.91	0.65	0.003	0.15	0.04	0.53
Picnic 1 (score 1) (not interested)	-1.32	0.37	0.000	0.27	0.13	0.55
Viewing wildlife (score 1) (not interested)	0.96	0.24	0.000	2.61	1.64	4.16
Visitor centre (score 2) (yes, been in)	3.23	1.03	0.002	25.39	3.38	190.79
Visitor centre (score 1) (no, not been in)	3.50	1.04	0.001	32.99	4.29	253.52

Note: R^2= 0.88 (Hosmer and Lemeshow), 0.43 (Nagelkerke). Model χ^2 (1) = 223.68, p < 0.001

Table 7.14: Binary logistic regression modelling:

'visitation' and interest in wildlife / choice of on-site activities

The model demonstrates that a statistical difference between first-time and repeat visitors appears in their response to four questions. However, the most important predictor variable again appears to be in their response to viewing the visitor centre with a weighting of 32x if they had not viewed the centre (data shows that 48.7% of first-time / 20.8% of repeat visitors) and 25x if they had (49.2% of first-time / 35.0% of repeat visitors). The other three predictor variables were based upon lack of interest in casual walking (1.5% of first-time / 7.5% of repeat visitors), having a picnic (84.0% of first-time / 95.3% of repeat visitors) and viewing wildlife (47.5% of first-time / 18.3% of repeat visitors) of these three, no interest in viewing wildlife on site was the most important with a weighting of 2.6x. Using these three principle

predictor variables the model was able to correctly assign 76.5% of visitors (pre-model success was 66.7%) as either first-time or repeat visitors.

Logistic regression modelling was also run for the 'social grouping' variable. The model for 'on-site activities' proved successful and as a result of running a reduced input, three predictor variables were identified as potentially being of importance as illustrated in Table 7.15.

Dependent variable: social grouping (modified)	**B**	**Std. Error**	**Sig.**	**Exp(B)**	**95% C.I. for Exp(B)**	
The reference category is: Alone					Lower Bound	Upper Bound
Spouse / Partner						
Intercept	9.35	78.39	0.91			
[Dog =0] (not interested)	0.65	0.33	0.05	1.92	1.02	3.64
[Holiday=0] (not on holiday)	12.56	0.58	0.00	285892.87	91533.84	892945.51
[Holiday=1] (on holiday, but at home)	14.81	1.20	0.00	2714580.87	259226.39	28426693.64
Family and Friends						
Intercept	23.33	65.61	0.72			
[Walking 1=0] (not interested)	-1.26	0.71	0.07	0.28	0.07	1.13
[Holiday=0] (not on holiday)	12.65	0.61	0.00	312703.54	95456.38	1024378.94
[Holiday=1] (on holiday, but at home)	14.48	1.26	0.00	1949732.81	164734.94	23076209.59

Note: R^2= 0.58 (Nagelkerke). Goodness of Fit = 1.00. Model χ^2 = 406.39, p < 0.001

Table 7.15 Multinomial logistic regression modelling:

'social grouping' and interest in wildlife / choice of activities

The model demonstrates that a statistical difference between the cases of 'social grouping' appears in their response to three questions. However, the most important predictor variable appears to be in their response to whether or not they are on holiday. Here, the weightings are extremely high as a way of predicting which of the three social groupings a respondent belongs to (data shows that 94.0% of those alone, 47.1% of those with partner and only 22.1% of those with family were 'not on holiday' whilst 1.2% of those alone, 6.3% of those with partner and 3.9% of those with family were 'on holiday, but staying at home'). By comparison the only two activities which were significant to the model were both negative choices, namely; those who did not come to undertake a casual walk and those who were not walking a dog but in both cases the weighting of these two variables was of minimal importance by comparison to the principle variable identified. Using these predictor variables the model was able to correctly assign 68.4% of visitors as either alone, with partner or with family.

7.2.6 A summary of their Jurassic Coast experience

This section has presented a discussion of the interests of the respondents in terms of their choice of on-site activities and the responses have been compared with each of the three grouping variables, namely; 'residency', 'visitation' and 'social grouping'. Table 7.16 presents a summary of the responses by grouping variables.

	Grouping variable: **'Residency'**		Grouping variable: **'Visitation'**	
	Local (45.5%)	**Tourist** (54.0%)	**First-time visitor** (33.3%)	**Repeat visitor** (66.7%)
Arrangements for their visit	Been before (98.8%) Visit daily / weekly (33.5%) At least once a month (81.7%) Staying up to 2 hrs (61.5%) World Heritage designation of importance (70.0%)	Been before (60.5%) Visit daily / weekly (<1%) At least once a month (3.1%) Staying up to 2 hrs (41.0%) World Heritage designation of importance (44.8%)	n/a n/a n/a Staying up to 2 hrs (41.5%) World Heritage designation of importance (32.0%)	Been before (66.7%) Visit daily / weekly (22.8%) At least once a month (58.3%) Staying up to 2 hrs (54.5%) World Heritage designation of importance (73.0%)
Activities (in order)	Casual walk (57.1%) Viewing wildlife (46.5%) Enjoying the view (26.7%) Dog walking (23.1%)	Casual walk (76.9%) Enjoying the view (51.2%) Viewing wildlife (20.4%) Games with family (11.7%)	Casual walk (86.0%) Enjoying the view (56.0%) Games with family (14.5%) Viewing wildlife (12.0%)	Casual walk (43.0%) Viewing wildlife (42.8%) Enjoying the view (32.0%) Long walk (26.3%)
Wildlife, geology and scenery	Wildlife important (89.0%) Birds (78.3%) Butterflies (69.2%) Wild flowers (67.8%)	Wildlife important (95.7%) Birds (49.7%) Marine life (43.2%) Wild flowers (35.5%)	Wildlife important (84.0%) Birds (38.5%) Marine life (35.5%) Geology (29.0%)	Wildlife important (96.7%) Birds (75.3%) Butterflies (63.5%) Wild flowers (63.0%)

	Grouping variable: **'Social grouping'**		
	Alone (14.0%)	**With spouse / partner** (37.2%)	**With family / friends** (47.5%)
Arrangements for their visit	Been before (100.0%) Visit daily / weekly (57.1%) At least once a month (86.9%) Staying up to 2 hrs (59.5%) World Heritage designation of importance (71.4%)	Been before (76.7%) Visit daily / weekly (13.5%) At least once a month (44.8%) Staying up to 2 hrs (64.8%) World Heritage designation of importance (68.2%)	Been before (49.8%) Visit daily / weekly (4.6%) At least once a month (21.0%) Staying up to 2 hrs (36.8%) World Heritage designation of importance (48.4%)
Activities (in order)	Casual walk (40.5%) Viewing wildlife (40.5%) Dog walking (36.9%) Enjoying the view (29.8%)	Casual walk (67.8%) Viewing wildlife (43.9%) Enjoying the view (35.0%) Dog walking (12.6%)	Casual walk (75.1%) Enjoying the view (47.4%) Viewing wildlife (21.4%) Games with family (12.9%)
Wildlife, geology and scenery	Wildlife important (95.2%) Birds (78.6%) Butterflies (69.0%) Wild flowers (69.0%)	Wildlife important (94.6%) Birds (72.6%) Butterflies (63.2%) Wild flowers (62.8%)	Wildlife important (89.8%) Birds (51.2%) Marine life (45.9%) Wild flowers (35.1%)

Table 7.16: Summary of the responses in relation to the Jurassic Coast experience by grouping variables

In conclusion therefore, section 7.2 as well as Table 7.16 have revealed that those visiting with 'family and friends' were most likely to be on their first visit to the Coast and that locals and those who visited alone were most likely to visit at least once a week, many of whom came to the Coast either for a long walk or to walk their dog(s). In terms of length of stay, locals and repeat visitors tended to stay for up to two hours whilst tourists and those visiting with 'family and friends' tended to stay for up to four hours. These results have a particular relevance for those on-site managers designing interpretive materials and their activities on the Coast given that those visitors who chose to stay longest tended to know least about the Coast and may well have family (or extended family) members with them.

On average 70% of locals, repeat visitors and those visiting alone felt that the World Heritage designation was important to them. First-time visitors and those visiting with 'family and friends' were least interested in the designation. This suggests that the current marketing and promotional activities which have been designed to encourage more tourists to specifically visit the Jurassic Coast World Heritage site whilst on holiday have only been partially effective, something which Goss (2007) identified in his research, where 66.0% of his respondents stated that the designation had no impact upon their decision to visit the Coast. On-site visitor managers will need to reflect on whether the World Heritage designation is itself an important draw for tourists or whether the landscape, scenery and its associated wildlife is sufficient in bringing in the desired numbers of visitors each year. This is further reinforced by the fact that approximately 95.0% of all visitors to the Jurassic Coast World Heritage site came to 'enjoy the view' and take a 'casual walk'.

The wildlife component of the landscape was also important for most visitor groups (average score: 45%) and was ranked as an important activity by on average 40.0% of locals, repeat visitors and those visiting with a partner or family and friends. Interestingly, about 25.0% of repeat visitors also favoured the idea of a 'long walk' suggesting that for some once the 'main area' had been viewed there is sufficient interest to return and explore the surrounding landscape in more detail.

In relation to other activities, ninety-six respondents identified dog walking as an important activity on the Coast with a third of those who visited alone agreed that it was the main reason for their visit. Tourists and those visiting with family and friends also identified 'swimming', 'rock climbing', 'having a picnic' and 'playing games' as important but none of these emerged strongly as the principle reason for their visit, suggesting that the Jurassic Coast World Heritage site is not merely regarded by these visitor groups as another 'traditional' holiday location.

Viewing the wildlife, geology and scenery of the Coast was strongly favoured by approx. 92.0% of all visitor groups although first-time visitors and those visiting with family and friends were least supportive. In terms of the types of wildlife the visitors were most interested in viewing birds, butterflies and marine life emerged as the most popular responses. Marine life came out particularly strongly with tourists and those visiting with family and friends suggesting that the current practice of rock-pooling activities for visitors during the summer months is likely to be a successful one. Bird watching walks are also regularly offered on the Coast but the strong response in this research study might suggest that increasing the number of birding activities at

various levels might be worthy of consideration by on-site managers as they review their guided walk and other on-site activities.

7.3 The Jurassic Coast experience: on-site interpretation

This section presents a discussion of the respondents' interest in the on-site interpretive facilities available and again compares the results based upon each grouping variable. The results are discussed in two main sub-sections; first, the interest in and use of the visitor centre and second, their level of engagement with other interpretive materials available on the Coast.

7.3.1 On-site interpretive facilities

Facility	Strongly agree	Agree	No particular view	Disagree	Strongly disagree
The Visitor Centre itself	52	274	179	90	5
Rangers and other staff, on duty	116	265	155	60	4
Displays and exhibits, on site	105	271	140	82	2
Opportunity to purchase souvenirs, on site	38	263	247	50	3
Opportunity to take part in a guided walk	17	57	229	189	108

Table 7.17a: Interest in the on-site interpretive facilities

Table 7.17a indicates the extent to which respondents felt each interpretive facility played an important part in their overall visit to the Coast. Thus, 'staff on duty' was

the most important on-site interpretive facility with 63.5% regarding them as important as illustrated by the comment from a couple visiting Durlston:

> '*The wardens are brilliant, so knowledgeable and friendly*' (Respondent 391D, 2007).

The second most important facility was 'displays and exhibits' (62.7%) followed by the visitor centre (54.4%) and finally the opportunity to buy souvenirs (50.1%) as illustrated by the comment from a family visiting Lulworth:

> '*Yes, we wanted a souvenir to take home that is important*' (Respondent 63L, 2007).

Souvenirs received the strongest response from those respondents with 'no particular view' (41.2%), the other three facilities attracting about 25% of respondents in that way. Interestingly ninety-five respondents felt that the visitor centre was unimportant to their overall visit as illustrated by the comment from a couple visiting Lulworth:

> '*No, we never bother to go in, they are all the same anyway*' (Respondent 70L, 2007).

Guided walks are discussed in detail in Chapter Eight and so no further comment is made here.

Light (1995) in a study of four Welsh heritage sites found that the visitors' level of interest in interpretive facilities was much higher by comparison to this study where 91.0% were interested or very interested in viewing the visitor centre and its associated exhibitions and 96.0% were interested in outdoor interpretive panels. His findings are typical of other studies (Poria *et al*., 2009; Timothy and Boyd, 2003) which demonstrate that heritage sites tend to require greater levels of interpretation to support the visitor experience than natural ones. Hughes and Morrison-Saunders

(2002) found that 60.0% of visitors stopped and viewed trailside signs at two natural sites in Western Australia. Fallon and Kriwoken (2003) in their Tasmanian study found that 16.0% of visitors sought help from on-site staff and 67.0% of visitors were either satisfied or very satisfied with the assistance they received. Interestingly, in their study only 4.0% of visitors sought brochures and 2.0% souvenirs.

Facility	Residency	Visitation	Social grouping
The Visitor Centre, itself	Significant (U= 34824.50, z=-4.79, p < 0.001)	Significant (U= 29860.50, z=-5.42, p < 0.001)	Significant (Kruskal-Wallis χ^2 equivalent = 20.24, p < 0.001)
Rangers and other staff, on duty	Significant (U= 33899.50, z=-5.22, p < 0.001)	Significant (U= 28318.50, z=-6.19, p < 0.001)	Significant (Kruskal-Wallis χ^2 equivalent = 19.05, p < 0.001)
Displays and exhibits, on site	Significant (U= 36037.00, z=-4.14, p < 0.001)	Significant (U= 29791.50, z=-5.41, p < 0.001)	Significant (Kruskal-Wallis χ^2 equivalent = 24.76, p < 0.001)
Opportunity to purchase souvenirs, on site	Not significant	Not significant	Not significant

Table 7.17b: Interest in the on-site interpretive facilities by grouping variable

In Table 7.17b three of the four cases proved to be statistically significant with only the 'opportunity to buy souvenirs' proving not to be significant. In terms of 'residency', locals were more likely to regard all of the facilities as important for example 'staff on duty' was regarded as important by 74.7% of locals as opposed to only 54.0% of tourists (see Table 7.25). Conversely, tourists regarded the visitor centre as the least important interpretive facility (21.6%) whilst only 9.2% of locals viewed it in the same way. In terms of 'visitation', repeat visitors were also more likely to regard all of the interpretive facilities as important with 'staff on duty' being

the most important to them (71.5%) whilst only 47.5% of first-time visitors rated the staff as important as illustrated by the comment from a couple visiting Durlston:

> '*The rangers were so helpful last time; we thought we would ask their advice again this time*' (Respondent 379D, 2007).

First-time visitors regarded the visitor centre as the least important interpretive facility (26.5%) whilst only 10.3% of repeat visitors viewed it in the same way. 'Social grouping' was also significant and followed a similar pattern of responses to that detailed for the other two grouping variables where 'staff on duty' was the most important interpretive facility and the visitor centre the least. Those visiting with family and friends consistently responded in the least positive manner to the importance of any of the three interpretive facilities, for example 'staff on duty' was regarded as important by 71.4% of those travelling alone, 70.9% of those with a partner and by only 54.8% of those with family and friends.

7.3.2 The visitor centre

Table 7.17a has revealed that 54.4% of respondents regarded the visitor centre as an important on-site interpretive facility. All of the respondents were also asked whether they had actually been inside the visitor centre on the day of their visit, 44.2% had and 28.7% had chosen not to (see Table 7.18a).

Have you been into the centre today?	Frequency
Yes	265
No	172
No, but I/we have on a previous visit	163

Table 7.18a: Use of the visitor centre

	Residency	Visitation	Social grouping
Have you been into the centre today?	Significant ($\chi^2 = 150.06$, $p < 0.001$)	Significant ($\chi^2 = 117.05$, $p < 0.001$)	Significant ($\chi^2 = 57.18$, $p < 0.001$)

Table 7.18b: Use of the visitor centre by grouping variable

Forty-one respondents stated that they had gone in simply to view the 'Daily Diary' which is a facility detailing wildlife sightings and things of general interest at Durlston Country Park as illustrated by the comment from a local couple visiting Durlston:

> '*We always look at the diary so that we know what birds have been seen recently*' (Respondent 90D, 2007).

Of these respondents, 90.2% were local, 97.6% were repeat visitors and 68.3% of them had listed 'viewing wildlife' as their first or second choice of activity whilst on the Coast. Light (1995) found that on four Welsh heritage sites the use of the visitor centre and its associated exhibitions was much higher (87.0%) whilst Fallon and Kriwoken (2003) found that 47.0% of visitors went into the visitor centre.

In Table 7.18b 'residency' was statistically significant with tourists most likely to view the visitor centre (50%) whereas locals were most likely to have been in on a previous visit (56.8%) (see Table 7.25) as illustrated by the comment from a family visiting Lulworth:

> '*Yes, we have been in there, but we don't go in every time*' (Respondent 99L, 2007).

Tourists were also most likely to choose not to view the visitor centre at all (40.9%). Only 16.9% of locals had not viewed the centre either that day or on a previous visit

and of these 27.5% came for a casual walk and 22.5% to walk their dog. 'Visitation' was also statistically significant with repeat visitors being most likely to either view the visitor centre (35.0%) or having been in on a previous visit (44.2%) whilst 49.2% of first-time visitors chose to view the visitor centre on the day of their visit. 'Social grouping' was also significant with visitors with family or partners most likely to view the visitor centre (43.8% and 42.6% respectively). Of those travelling alone, 61.6% had viewed the centre on a previous visit and only 24.6% chose not to view the centre at all.

For those respondents who had been inside the visitor centre, their views on the quality of the displays and exhibits were sought.

Quality of the visitor centre and its displays	Strongly agree	Agree	No particular view	Disagree	Strongly disagree
Range of facilities available	94	226	90	12	0
Information about the wildlife	131	225	64	2	0
Information about the geology	165	210	46	1	0

Note: this set of questions was answered by 422 respondents, of which 224 had visited the centre that day, 163 had been in on a previous visit and the 41 at Durlston (only) had visited the centre specifically to view the 'Daily Diary'.

Table 7.19a: Quality of the visitor centre and its displays

Respondents were very positive about the information supplied within the visitor centre (see Table 7.19a). For those who responded, the geological information was the most popular with a satisfaction score of 88.9% as illustrated by the comment from a family visiting Lulworth:

'*We were amazed at how the Cove had formed*' (Respondent 328L, 2007).

Whilst the wildlife information received a score of 84.4% as illustrated by the comment from a family visiting Durlston:

'*Wow, we were really impressed by the spy cams*' (Respondent 453D, 2007).

Information on the range of facilities on the site received a slightly lower score of 75.8% as illustrated by the comment from a family visiting Lulworth:

'*We thought there might be more going on*' (Respondent 291L, 2007).

Of the 422 respondents who completed this set of questions only fifteen rated any aspect of the information supplied in the visitor centre as 'poor' and of these ten were on holiday, seven were visiting the site for the first time and ten were primarily interested in a casual walk on the Coast. Fallon and Kriwoken (2003) in their Tasmanian study found that 68.0% of visitors sought information about the site; 22.0% on site activities, 16.0% visitor services, 6.0% displays and 4.0% brochures and 2.0% souvenirs. Pearce and Moscardo (2007) who studied visitors in Flinders Chase National Park, South Australia found that 61.0% were interested in information from the visitor centre about the wildlife, 52.0% geographical features of the area whilst local culture was rated at 35.0%.

Quality of the visitor centre and its displays	**Residency**	**Visitation**	**Social grouping**
Information about the range of facilities available	Not significant	Not significant	Not significant
Information about the wildlife	Not significant	Not significant	Not significant
Information about the geology	Not significant	Not significant	Not significant

Table 7.19b: Quality of the visitor centre and its displays by grouping variable

In Table 7.19b none of the three grouping variables proved to be statistically significant with the information on geology being received most favourably by all groupings. Locals (90.0%) and repeat visitors (90.0%) gave it the highest score whilst family and friends gave it the lowest score (87.8%). The highest score for the appreciation of the wildlife information came from visitors with partners (86.4%) and the lowest from first-time visitors (81.6%). For information on the site as a whole, the highest score again came from visitors with partners (79.9%) and the lowest from first-time visitors (69.9%) as illustrated by the comment from a family visiting Lulworth:

> '*We thought there might be more children's activities over the summer, this was disappointing*' (Respondent 323L, 2007).

7.3.3 On-site interpretive materials

Interpretive materials	Frequency
Signs, panels, exhibits and displays	503
Guidebook and leaflets	276
The visitor centre and its staff	234
No sources of information used	74

Table 7.20a: Engagement with a range of interpretive materials

Interpretive materials	Residency	Visitation	Social grouping
Signs, panels, exhibits and displays	Not significant	Not significant	Not significant
Guidebook and leaflets	Not significant	Not significant	Not significant
The visitor centre and its staff	Not significant	Not significant	Not significant
No sources of information used	Not significant	Not significant	Not significant

Table 7.20b: Engagement with a range of interpretive materials by grouping variable

83.8% of the respondents had viewed at least one interpretive panel, sign, display or exhibit whilst on-site (see Table 7.20a), in contrast 12.3% had viewed no interpretive materials on-site at all. Of these seventy-four respondents, 75.7% were repeat visitors, 52.3% were locals and 27.4% were alone suggesting perhaps that a number of them may well have chosen to engage with interpretive facilities on a previous visit to the Coast. Two examples of the comments recorded in relation to on-site panels and signs are illustrated below:

> '*I saw the panel about the Cove, but had read it before*' (Respondent 298L, 2007);
> '*We read the sign about the Caves on a previous visit, the bit about the winch was quite interesting*' (Respondent 41D, 2007).

Table 7.20a reveals that 46.0% of the respondents had engaged with a guidebook and/or on-site leaflet during their visit to the Coast. Light (1995) found that on four Welsh heritage sites the use of outdoor panels (98.0% of visitors) was higher than in this study. Ballantyne *et al*. (1998) who studied tourists visiting Fraser Island on the Great Barrier Reef, Australia found that 33.0% used a map during their visit, 34.0% read brochures and leaflets, 19.0% visited the information centre and 20.0% spoke to park rangers. In Ballantyne *et al*. (1998) study 'escapers' were the group most likely to make use of a park ranger but least likely to make use of other interpretive resources. Whilst, 'sight-seers' were the group most likely to require a map. Hughes and Morrison-Saunders (2005) found that 90.0% of visitors accessed some form of interpretation at two natural sites in Western Australia with interpretive signs and touch tables being the most likely to have been encountered.

In Table 7.20b none of the grouping variables were significant with the results being consistently similar across all groups (see Table 7.25). Signs and panels were the

most viewed form of interpretation by first-time visitors (88.5%) and tourists (86.1%). Whilst, guidebooks and leaflets were most often viewed by those visiting with a partner (48.4%) as well as tourists (46.9%) as illustrated by the comment from a couple visiting Durlston:

> '*We thought that we would follow the cliff top trail this morning*' (Respondent 276D, 2007).

The visitor centre and its staff were most often viewed and/or spoken to by first-time visitors (42.0%) and tourists (42.9%).

Table 7.20a has revealed that 46.0% of the respondents had engaged with a guidebook and/or on-site leaflet during their visit to the Coast. Of these (see Table 7.21a), 70.7% had either bought a guidebook at the time of their visit or already owned a copy and of this group of respondents, 32.7% had 'glanced through it' whilst 19.3% had 'read it carefully', a further 15.7% had bought it primarily for the map(s) it contained.

Did you buy a guidebook?	**Frequency**
Yes	149
No, I already have a copy	275
No	176

Use of a guidebook	**Frequency**
Read it carefully	116
Just glanced at it	196
Just used the map	94
Plan to read it later	18

Table 7.21a: Use of a guidebook

Use of a guidebook	Residency	Visitation	Social grouping
Did you buy a guidebook?	Significant ($\chi^2 = 227.94$, $p < 0.001$)	Significant ($\chi^2 = 222.23$, $p < 0.001$)	Significant ($\chi^2 = 84.22$, $p < 0.001$)
How did you use it?	Significant ($\chi^2 = 119.21$, $p < 0.001$)	Significant ($\chi^2 = 108.54$, $p < 0.001$)	Significant ($\chi^2 = 56.97$, $p < 0.001$)

Table 7.21b: Use of a guidebook by grouping variable

Three examples of the comments recorded in relation to the use of a guide book are illustrated below:

> '*We found this leaflet in the visitor centre with a great map of the area in it, we shall keep this for our next visit*' (Respondent 255D, 2007);
> '*The guide book is too long really, we looked at the stuff about birds, we might read the rest later*' (Respondent 360L, 2007);
> '*We bought the Jurassic Coast guide and have already read the section on Stair Hole and the Lulworth Crumple*' (Respondent 290L, 2007).

In Ballantyne *et al*. (1998) study of tourists visiting Fraser Island on the Great Barrier Reef, Australia 33.0% of the tourists used a map during their visit.

In Table 7.21b all grouping variables proved to be significant. 'Residency' was statistically significant with locals being most likely to already own a copy (79.1%) as illustrated by the comment from a single man visiting Lulworth:

> '*Yes, I have a copy somewhere at home, not sure where though*' (Respondent 141L, 2007).

Tourists were almost equally divided between those who chose not to buy a guidebook at all (42.6%) and those who did (39.8%) (see Table 7.25). 'Visitation' was also statistically significant with first-time visitors again being almost equally divided between those who chose not to buy a guidebook at all (51.0%) and those who did (46.0%). Locals were most likely to read the guidebook carefully (35.5%)

than visitors (5.5%). 'Social grouping' was also significant with respondents with family again almost equally divided between those who chose not to buy a guidebook at all (36.5%) and those who did (34.4%). Those travelling alone were most likely to read the guidebook carefully (38.1%) whilst those with families (33.3%) most likely to merely glance through it as illustrated by the comment from a family visiting Lulworth:

> '*We bought it for the kids; we've looked at the map though*' (Respondent 194L, 2007).

The importance of the map was noticeable across all groupings, families were most likely to use it (18.6%) but those on holiday (16.7%) and those alone (16.7%) also made use of it, whilst those with partners made least use of the map (12.1%).

A further set of regression models were run combining on-site activities and engagement with interpretive facilities in an attempt to identify their importance in predicting each of the dependent variables. For 'residency' a reduced input model revealed that five predictor variables were of importance as illustrated in Table 7.22.

Dependent variable: residency	B	S.E.	Sig.	Exp(B)	95.0% C.I. for EXP(B)	
					Lower	Upper
Constant	3.34	2.21	0.131	28.13		
Climbing (score 1) (not interested)	-3.22	0.70	0.000	0.04	0.01	0.16
Visit (score 1) (not first visit)	-2.62	0.60	0.000	0.07	0.02	0.24
Guidebook 1 (score 2) (already had a copy)	-2.48	0.45	0.000	0.08	0.04	0.20
Location (score 1) (Durlston)	-1.19	0.35	0.001	0.31	0.16	0.60
Visitor centre 1 (score 3) (no particular view)	1.76	0.67	0.009	5.83	1.56	21.81

Note: R^2= 0.85 (Hosmer and Lemeshow), 0.69 (Nagelkerke). Model χ^2 (1) = 304.44, p < 0.001

Table 7.22 Binary logistic regression modelling: 'residency' and use of facilities

The model demonstrates that a statistical difference between local and tourist appears in their response to five questions however in terms of the weighting the most important variable is clearly that which ranks the importance of the visitor centre to their on-site experience with those who responded as having 'no particular view' being the important group (data shows that 27.1% of locals / 32.1% of tourists). The use of guidebooks (79.1% of locals / 17.6% of tourists) appears again with this dependent variable but its weighting was far less significant, as were the other three predictor variables. Thus, using one principle variable the model was able to correctly assign 85.7% of visitors (pre-model success was 54.5%) as either local or tourist.

The same model was run for 'visitation' as a result of running a reduced input, only two predictor variables were identified as being of importance as illustrated in Table 7.23.

Dependent variable: visitation	**B**	**S.E.**	**Sig.**	**Exp(B)**	**95.0% C.I. for EXP(B)**	
					Lower	Upper
Constant	-4.08	1.47	0.005	0.02		
Guidebook 1 (score 2) (already got one)	-3.40	0.56	0.000	0.03	0.01	0.10
Guidebook 2 (score 2) (just glanced at it)	1.23	0.46	0.007	3.41	1.39	8.39
Guidebook 2 (score 1) (plan to read it later)	2.22	0.74	0.003	9.16	2.14	39.27

Note: R^2= 0.92 (Hosmer and Lemeshow), 0.62 (Nagelkerke). Model χ^2 (1) = 226.39, p < 0.001

Table 7.23 Binary logistic regression modelling: 'visitation' and use of facilities

The model demonstrates that a statistical difference between first-time and repeat visitors appears in their response to two questions which both relate to the respondents interest in and use of on-site guidebooks. Those that had bought a guidebook which they planned to read later were weighted 3x more strongly (data shows that 5.5% of first-time / 1.8% of repeat visitors) than those who bought a guidebook and then glanced through it, whilst still on site (28.5% of first-time / 34.8% of repeat visitors). Both of these variables were weighted statistically more strongly than those who responded by stating that they already had a guidebook (3.0% of first-time / 67.3% of repeat visitors). Using these two principle predictor variables the model was able to correctly assign 84.6% of visitors (pre-model success was 75.6%) as either first-time or repeat visitors.

Logistic regression modelling was also run for the 'social grouping' variable. The model for 'on-site facilities' proved to be successful and as a result of running a reduced input, five predictor variables were identified as potentially being of importance as illustrated in Table 7.24.

Dependent variable: social grouping (modified)	**B**	**Std. Error**	**Sig.**	**Exp(B)**	**95% C.I. for Exp(B)**	
The reference category is: Alone					**Lower Bound**	**Upper Bound**
Spouse / Partner						
Intercept	36.24	1503.41	0.981			
[Dog=0] (not interested)	1.02	0.40	0.011	2.77	1.26	6.09
[Displays=1] (interest in displays and exhibits)	1.16	0.46	0.012	3.19	1.29	7.88
Family and Friends	72.14	1347.15	0.957			
Intercept	72.14	1347.15	0.957			
[Walking 1=0] (not interested)	-1.89	0.98	0.054	0.15	0.02	1.03
[Guidebook 1=1] (already got one)	-1.77	0.89	0.046	0.17	0.03	0.97
[Photography=0] (not interested)	1.05	0.49	0.033	2.85	1.09	7.46

Note: R^2= 0.59 (Nagelkerke). Goodness of Fit = 1.00. Model χ^2 = 295.79, p < 0.001

Table 7.24: Multinomial logistic regression modelling:

'social grouping' and use of facilities

The model demonstrates that a statistical difference between the cases of 'social grouping' appears in their response to five questions. In differentiating between respondents who were alone and those who came with their partner, two predictor variables appears to be important. The ranking of 'displays and exhibits' as an

important part of their on-site interpretive experience is weighted as 3.1x (data shows that 15.5% of those alone disagreed and 9.4% of those with partners, whilst 70.2% of hose visiting alone agreed / 70.9% of those with partners). A lack of interest in dog waking was also weighted strongly as a differentiator at 2.7x (data shows that 51.2% of those alone were not interested and 75.4% of those with partners).

By comparison, in differentiating between respondents who were alone and those who came with their family and friends, three predictor variables appears to be important, of which one stands out in terms of its weighting. The lack of interest in photography (data shows that 44.0% of those alone / 42.8% of those with family agreed) is weighted 28x more strongly than the other two predictor variables identified, which were a lack of interest in casual walking (13.1% of those alone were not interested / 2.5% of those with family) and already owning a copy of the guidebook (82.1% of those alone had a copy / 29.1% of those with family). Using these predictor variables the model was able to correctly assign 67.7% of visitors as either alone, with partner or with family.

7.3.4 A summary of the on-site interpretive experience

This section has presented a discussion of the respondents' interest in the range of on-site interpretive facilities available and Table 7.25 presents a summary of these responses by grouping variables.

	Grouping variable: **'Residency'**		Grouping variable: **'Visitation'**	
	Local (45.5%)	**Tourist** (54.0%)	**First-time visitor** (33.3%)	**Repeat visitor** (66.7%)
Interest in interpretive facilities	Importance of facilities: On-site staff (74.7%) Displays / exhibits (71.8%) Visitor Centre (63.7%)	Importance of facilities: Displays / exhibits (71.8%) On-site staff (54.0%) Visitor Centre (46.3%)	Importance of facilities: Displays / exhibits (49.5%) On-site staff (47.5%) Visitor Centre (41.0%)	Importance of facilities: On-site staff (n=286, 71.5%) Displays / exhibits (69.3%) Visitor Centre (61.0%)
Engagement with the interpretive facilities	Most likely to engage with: Signs / panels (81.3%) Guidebooks / leaflets (44.7%)	Most likely to engage with: Signs / panels (86.1%) Guidebooks / leaflets (46.9%)	Most likely to engage with: Signs / panels (88.5%) Guidebooks / leaflets (46.0%)	Most likely to engage with: Signs / panels (81.5%) Guidebooks / leaflets (46.0%)
Visitor Centre	Yes, previously (56.8%)	Yes, on this visit (50.0%)	Equally divided between those who went in (49.2%) and those who did not (48.7%)	Yes, previously (44.2%)
Use of guidebooks	Already bought one (79.1%) Likely to read it carefully (35.5%)	Equally divided between those who buy (39.8%) and those who do not (42.6%) Likely just to glance at it (30.6%)	Equally divided between those who buy (46.0%) and those who do not (51.0%) Likely just to glance at it (28.5%)	Already bought one (67.3%) Likely just to glance at it (34.8%)

	Grouping variable: **'Social grouping'**		
	Alone (14.0%)	**With spouse / partner** (37.2%)	**With family / friends** (47.5%)
Interest in interpretive facilities	Importance of facilities: On-site staff (71.4%) Displays / exhibits (70.2%) Visitor Centre (63.1%)	Importance of facilities: Displays / exhibits and/or on-site staff (70.9%) Visitor Centre (61.9%)	Importance of facilities: On-site staff (54.8%) Displays / exhibits (53.0%) Visitor Centre (44.6%)
Engagement with the interpretive facilities	Most likely to engage with: Signs / panels (67.9%) Guidebooks / leaflets (36.9%)	Most likely to engage with: Signs / panels (86.1%) Guidebooks / leaflets (48.4%)	Most likely to engage with: Signs / panels (86.3%) Guidebooks / leaflets (46.0%)
Visitor Centre	Yes, previously (61.6%)	Yes, on this visit (42.6%)	Yes, on this visit (43.8%)
Use of guidebooks	Already bought one (82.1%) Likely to read it carefully (38.1%)	Already bought one (53.4%) Likely just to glance at it (31.4%)	Equally divided between those who buy (34.4%) and those who do not (36.5%) Likely just to glance at it (33.3%)

Table 7.25 Summary of the responses in relation to on-site interpretation by grouping variables

In conclusion therefore, section 7.3 as well as Table 7.25 have revealed that approximately 71.0% of those visiting the Coast regard on-site 'displays and exhibits' as well as 'rangers on duty' as an important part of their visit, although only 51.0% (on average) of those visiting with 'family and friends' and first-time visitors felt they were important. Both locations have a significant ranger provision and certainly the results of this study reinforce the value that many visitors place on being able to access rangers easily during their visit. This facility of roving on-site rangers is particularly important given that only approximately two-thirds of visitors regard viewing the visitor centre as an important aspect of their experience and notably only 44.0% of tourists, first-time visitors and those visiting with 'family and friends' regard it as important. On the day of their visit, approximately 46.0% of the visitors new to the Coast actually went inside the visitor centre which suggests that on-site managers might wish to consider ways of encouraging greater numbers of both first-time and also repeat visitors to view the visitor centre.

For those visitors who had been into the visitor centre, the information provided on the site itself was favourable received suggesting that the quality of interpretation on the Coast is high and is currently meeting the needs of the varied visitor groups. Information on the geology of the Coast was most strongly favoured (average score of 88.0%) by all visitor groups whilst information on the wildlife of the Coast was also favourably received (average score of 84.0%). General information on the site was least favourably received with first-time visitors (69.9%) suggesting that perhaps the nature of the information displayed could be reviewed to ensure that it still provides that basic level of information that first-time visitors to the area require.

Finally, approximately 45.0% of all visitor groups expressed an interest in being able to obtain a guidebook and/or leaflets whilst on the site. Leaflets containing a map of the site were most popular with those visiting with family or friends (18.6%). Both sites on the Coast currently offer a guidebook, a series of self-guided trail leaflets as well as a map of the site, these facilities are clearly valued and whilst not within the scope of this study, given the level of use of the visitor centre, on-site managers may wish to reflect on which of these materials are available on-line to download as well as in hard copy at the site itself.

7.4 The Jurassic Coast experience: summary of regression modelling

Logistic regression modelling has also been applied to the data in order to be able to explore the principle differences in the way in which respondents within each of three grouping variables have responded to the questionnaire. A final set of regression models were run for 'visitation', 'residency' and 'social grouping' which in each case combined all of the important predictor variables from the initial models run in an attempt to identify which of them were the most important predictor variables for each of these three dependent variables.

For 'residency' fourteen predictor variables were initially included, these were reduced to nine and as a result of running this reduced input, five predictor variables were identified as being of importance as illustrated in Table 7.26.

Dependent variable: residency	B	S.E.	Sig.	Exp(B)	95.0% C.I. for EXP(B)	
					Lower	Upper
Constant	6.63	1.96	0.001	757.08		
Visit (score 1) (not first visit)	-3.19	0.59	0.000	0.04	0.01	0.13
Walks 2(score 4) (people = agree)	-2.75	0.84	0.001	0.06	0.01	0.33
Walks 2 (score 2) (people = disagree)	-2.21	0.83	0.008	0.11	0.02	0.56
Guidebook 1(score 2) (already had a copy)	-1.53	0.40	0.000	0.22	0.10	0.48
Location (score 1) (Durlston)	-0.85	0.32	0.008	0.43	0.23	0.80
Timing	0.60	0.21	0.004	1.82	1.21	2.74

Note: R^2= 0.47 (Hosmer and Lemeshow), 0.71 (Nagelkerke). Model χ^2 (1) = 355.55, p < 0.001

Table 7.26: Binary logistic regression modelling:

predictor variable of 'residency'

The model demonstrates that a statistical difference between local and tourist appears in their response to five questions. However in terms of weighting, the most important predictor variable appears to be their response when asked to confirm the length of their visit to the site which is weighted four times more strongly than any other variable (38.5% of locals / 58.9% of tourists spent more than 2 hours on site, whilst only 8.1% of locals / 1.2% of tourists remained on site for less than an hour). The location of Durlston (56.4% of visitors at Durlston were local, whereas only 35.1% were local at Lulworth) and whether they already own a guidebook (79.1% of locals / 17.6% of tourists) both again appear important and are also weighted strongly. These three principle predictor variables when used by the model were able to correctly assign 86.7% of visitors (pre-model success was 50.0%) as either local or tourist.

For 'visitation' thirteen predictor variables were initially included, these were reduced to seven and as a result of running this reduced input, five predictor variables were identified as being of importance as illustrated in Table 7.27.

Dependent variable: visitation	**B**	**S.E.**	**Sig.**	**Exp(B)**	**95.0% C.I. for EXP(B)**	
					Lower	Upper
Constant	1.06	1.45	0.464	2.89		
Guidebook 1 (score 2) (already had a copy)	-3.75	0.51	0.000	0.02	0.01	0.06
Guidebook 2 (score 4) (read it carefully)	-2.06	1.05	0.050	0.13	0.02	0.10
Walking 1 (score 1) (not interested)	-1.65	0.85	0.052	0.19	0.04	1.02
Picnic 1 (score 1) (not interested)	-1.15	0.51	0.023	0.32	0.12	0.85
Viewing wildlife (score 2) (ranking = no selection)	1.40	0.66	0.034	4.06	1.11	14.81
Viewing wildlife (score 1) (ranking = 3rd)	2.12	0.62	0.001	8.31	2.46	28.07

Note: R^2= 0.99 (Hosmer and Lemeshow), 0.62 (Nagelkerke). Model χ^2 (1) = 274.15, p < 0.001

Table 7.27: Binary logistic regression modelling:

predictor variable of 'visitation'

The model demonstrates that a statistical difference between first-time and repeat visitors appears in their response to five questions. However in terms of weighting, the most important predictor variable appears to be their response when asked to rank their on-site activities. The ranking of the importance of 'viewing wildlife' which is weighted as 8x for those who placed this 3rd (data shows that 14.0% of first-time / 22.8% of repeat visitors) and 4x for those who placed this as 'no selection' (74.0% of

first-time / 34.5% of repeat visitors) appears to be the most important predictor variable and when used the model was able to correctly assign 84.1% of visitors (pre-model success was 69.6%) as either first-time or repeat visitors.

For the 'social grouping' variable, the six predictor variables from the two regression models were run together in one final model in an attempt to identify which of them were the most important predictor variables for the dependent variable of 'social grouping'. As a result of running this model, five predictor variables were identified as being of importance, however the model only correctly assigned 58.6% of the cases which is weaker than the previous two models run (Tables 7.15 and 7.24 – 68.4% and 67.7% respectively), but the model is however illustrated in Table 7.28.

Dependent variable: social grouping (modified)	**B**	**Std. Error**	**Sig.**	**Exp(B)**	**95% C.I. for Exp(B)**	
The reference category is: Alone					Lower Bound	Upper Bound
Spouse / Partner						
Intercept	-14.35	0.86	0.000			
[Displays=2] (rank = disagree)	-1.82	0.60	0.002	0.16	0.05	0.53
[Dog=0] (not interested)	0.66	0.30	0.027	1.92	1.08	3.44
[Holiday=0] (not on holiday)	15.59	0.59	0.000	5872250.90	1834717.37	18794900.66
[Holiday=1] (on holiday at home)	18.02	1.18	0.000	67213595.37	6640008.29	680370747.05
Family and Friends						
Intercept	-13.34	0.87	0.000			
[Walking 1=0] (not interested)	-1.77	0.63	0.005	0.17	0.05	0.59
[Guidebook 1=1] (already got one)	-1.61	0.66	0.014	0.20	0.06	0.73
[Displays=3] (rank = no particular view)	1.03	0.53	0.051	2.80	0.10	7.88
[Holiday=0] (not on holiday)	14.28	0.59	0.000	1588965.34	495978.39	5090566.23
[Holiday=1] (on holiday at home)	16.78	1.18	0.000	19424767.48	1911191.60	197427401.96

Note: R^2= 0.37 (Nagelkerke). Goodness of Fit = 0.34. Model χ^2 = 224.10, p < 0.001

Table 7.28: Multinomial logistic regression modelling:

predictor variable of 'social grouping'

The model demonstrates that a statistical difference between the cases of 'social grouping' appears in their response to five questions but the reliability of the model is disappointing with weak test scores and a lower assignment of cases. In differentiating between respondents who were alone and those who came with their partner, it is interesting to note that holiday patterns comes out very strongly as a key predictor variable and when the other two potential predictor variables are compared directly, it appears that the importance of displays and exhibits (response = disagree) is significantly less important in terms of weighting than the negative response of not being interested in walking a dog.

By comparison, in differentiating between respondents who were alone and those who came with their family and friends, the original predictor variable of not being interested in photography has disappeared from this new model and has been replaced by holiday patterns, again with a very strong weighting. The importance of displays and exhibits (response = no particular view) also features in this revised model and appears to be weighted more strongly than the other two predictor variables, namely; not being interested in casual walking and already owning a guidebook.

In concluding the regression modelling undertaken therefore, Table 7.29 presents a summary of the most important predictor variables for each grouping variable.

Grouping variable: **'Residency'**	**Local** (45.5%)	**Tourist** (54.0%)
Predictor variables (**86.7%** correctly assigned when reduced input model run)	Length of time spent on site Location (site = Durlston) Guidebook (response = already had a copy)	

Grouping variable: **'Visitation'**	**First-time visitor** (33.3%)	**Repeat visitor** (66.7%)
Predictor variables (**84.1%** correctly assigned when reduced input model run)	Viewing wildlife (ranking = 3rd) Viewing wildlife (ranking = no selection) Having a picnic on site (response = not interested)	

Grouping variable: **'Social grouping'**	**Alone** 14.0%)	**With spouse / partner** (37.2%)	**With family / friends** (47.5%)
Predictor variables (**58.6%** correctly assigned when reduced input model run)	**Alone : with spouse / partner** On holiday, but staying at home Not on holiday Walking the dog (response = not interested) **Alone : with family / friends** On holiday, but staying at home Not on holiday Importance of displays and exhibits (response = no particular view)		

Table 7.29: Summary of the principle predictor variables for each grouping variable

In concluding the regression modelling undertaken and its summary in Table 7.29, it is interesting to note that approximately 85.0% of tourists, locals, first-time and repeat visitors can be correctly assigned to their state within a grouping variable through their response to three questions within this study. However, in terms of the weightings for 'residency', the length of visit appears to be the most important predictor variable and for 'visitation' a lack of interest in viewing wildlife appears to be the most important.

'Social grouping' proved to be more difficult and the final regression model was only able to correctly assign 58.6% of visitors to their correct social state. A number of predictor variables emerged although whether or not the visitor was on holiday appeared to be the most important predictor variable.

Whilst the regression models undertaken as part of this study provides some valuable results, it would clearly be desirable to run these models with a larger data set from the Jurassic Coast World Heritage site as well as data sets from other natural sites to explore whether these same predictor variables appear consistently.

7.5 The Jurassic Coast experience: factor analysis

Exploratory factor analysis was undertaken to explore whether any other underlying structures or groups existed amongst the variables within the data set. In this study, the inter-relationships amongst a set of ordered categorical variables were explored using Principle Components Analysis (PCA). The main analysis which was run included all eighteen ordered categorical variables from the questionnaire and this was undertaken to see if any groupings would emerge. Varimax factor rotation of the

emerging components was then used to assist in their interpretation as factors. The results can be found in Table 7.30, the test scores were regarded as acceptable with a KMO score of 0.86 and Bartlett's Test was significant. After extraction using PCA, four components with Eigen values <1.0 emerged cumulatively explaining 66.26% of the variation. After rotation, this variation was redistributed such that the first three components each explained about 18.00% of the variation whilst the fourth component was less important, only explaining 10.77%.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.86
Bartlett's Test of Sphericity	Approx. Chi-Square	3994.08
	df	153
	Sig.	0.00

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.32	35.13	35.13	6.32	35.13	35.13	3.51	19.47	19.47
2	3.32	18.43	53.56	3.32	18.43	53.56	3.42	18.97	38.45
3	1.19	6.62	60.18	1.19	6.62	60.18	3.07	17.05	55.50
4	1.10	6.09	66.26	1.10	6.09	66.26	1.92	10.77	66.26
5	0.86	4.80	71.06						
6	0.81	4.50	75.56						
7	0.72	4.00	79.56						
8	0.59	3.29	82.85						
9	0.59	3.26	86.12						
10	0.50	2.79	88.90						
11	0.46	2.56	91.46						
12	0.30	1.65	93.11						
13	0.29	1.63	94.75						
14	0.26	1.43	96.17						
15	0.23	1.29	97.47						
16	0.17	0.97	98.44						
17	0.15	0.81	99.24						
18	0.14	0.76	100.00						

Extraction Method: Principal Component Analysis

Rotated Component Matrix

	Component			
	1	2	3	4
Jurassic Coast				
Facilities available		0.836		
Entertain kids		0.746		
Site wildlife		0.884		
Site geology		0.849		
Visitor Centre		0.441	0.712	
Staff manning the centre			0.665	
Shop and its goods			0.701	
Displays and exhibits			0.796	
Wildlife, geology and scenery			0.558	
Guided walks on site			0.444	
Takes too long	0.825			
Too many people on walks	0.831			
Walks often too intense	0.830			
Need to know a lot about the site	0.747			
Attracts experts	0.633			
Prefer to explore the site at our own pace				0.877
Prefer to enjoy site on own				0.899

Rotation Method: Varimax with Kaiser Normalization
a. Rotation converged in 6 iterations. Low coefficients have been suppressed in running the Model.

Table 7.30: Principle Components Analysis: eighteen ordered variables

In Table 7.30 it can be seen that three components emerged very strongly and interestingly these match very closely with the sub-groups of questions within the questionnaire which would suggest a further strength in the design of the questionnaire itself. Component 1 ('guided walk experience') successfully brought together the five ordered variables in section B.5c of the questionnaire which related to the visitors' prior experience of guided walks. Three of the variables appear to be equally weighted in terms of their importance whilst 'attracting experts' which proved to be the most contentious question within this section of the questionnaire, appears to be less important.

Component 2 ('role of the visitor centre') brought together those questions from section B1b which asked visitors their opinion of the visitor centre specifically and its importance to their on-site experience. Again, three of the variables appear to be equally weighted in terms of their importance within this component whilst the visitor's view of the visitor centre itself appears to be much less important.

Whilst, Component 3 ('site facilities') brought together the six questions from section B2 which explored the importance of various on-site interpretive and other facilities as part of the visitor's overall experience. Again, three of the variables appear to be relatively equally weighted in terms of their overall importance within this component whilst the 'importance of guided walks' which proved to be the most contentious question within this section, appears to be much less important.

Component 4 brought together the two questions from section B5c which explored whether visitors would prefer to explore the site on their own rather than undertaking a guided walk, both variables appear to be equally weighted in terms of their importance within this component.

Based upon the results in Table 7.30, a further series of three analyses were run, one for each of the three main components identified in the first analysis. It was hoped that in undertaking these additional analyses further sub-groupings within each of these components might emerge. The results are outlined briefly in Table 7.31 but were disappointing in that no further sub-groupings emerged for any of the three analyses.

KMO and Bartlett's Test

Component	Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	Bartlett's Test of Sphericity (approx. Chi-Square)	Bartlett's Test of Sphericity (Sig.)
1: Guided Walk	0.84	1430.22	0.00
2: Visitor Centre	0.84	1324.86	0.00
3: Site Facilities	0.88	2435.81	0.00

Total Variance Explained

Component	Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1: Guided Walk	3.49	69.78	69.78
2: Visitor Centre	3.49	69.82	69.82
3: Site Facilities	3.96	65.94	65.94

Extraction Method: Principal Component Analysis.

Component Matrix

1: Guided Walk		2: Visitor Centre		3: Site Facilities	
	Component		Component		Component
	1		1		1
Takes too long	0.86	Facilities available	0.90	Visitor Centre	0.91
Too many people on walks	0.89	Entertain kids	0.78	Staff manning the centre	0.88
Walks often too intense	0.89	Site wildlife	0.89	Shop and its goods	0.61
Need to know a lot about the site	0.79	Site geology	0.87	Displays and exhibits	0.94
Attracts experts	0.74	Visitor Centre	0.73	Wildlife, geology and scenery	0.78
				Guided walks on site	0.69

Extraction Method: Principal Component Analysis.
a. 1 component extracted. Low coefficients have been suppressed in running the Model.
b. Only one component was extracted. The solution cannot be rotated.

Table 7.31: Principle Components Analysis: three components analysed

Component 1 ('guided walk experience') was run with just the five ordered variables from section B.5c. After extraction using PCA, only one component with an Eigen values <1.0 emerged, cumulatively explaining 69.78% of the variation, no rotation was achieved. Component 2 ('role of the visitor centre') was re-run with the relevant five variables. After extraction using PCA, only one component with an Eigen values <1.0 emerged, cumulatively explaining 69.82% of the variation, no rotation was achieved. Component 3 ('site facilities') was re-run with six variables. After extraction using PCA, again only one component with an Eigen values <1.0 emerged, cumulatively explaining 65.94% of the variation, no rotation was achieved.

7.6 Summary

This chapter has presented a detailed discussion of the data arising from the 600 groups of respondents who completed the questionnaire between 1st April and 31st October 2007. The results have been discussed with reference to other studies focusing upon the Jurassic Coast World Heritage site and more generally on the recreational and interpretive experience of visitors in protected natural areas. In Chapter Eight, a discussion of the respondents' specific interest in and attitude towards guided walks on the Jurassic Coast will be presented and the results will be used to develop a framework for the potential design of guided walks in the future.

Chapter Eight

The guided walk experience

8.1 Introduction

This chapter presents a discussion of the respondents' specific interest in and attitude towards guided walks on the Jurassic Coast, these results are again compared by the grouping variables introduced in Chapter Seven. The overall results together with the qualitative comments obtained from 110 respondents are then used to develop a framework for the potential design of guided walks.

8.2 Guided walks: the attitudes of the respondents

Facility	Strongly agree	Agree	No particular view	Disagree	Strongly disagree
The Visitor Centre itself	52	274	179	90	5
Rangers and other staff, on duty	116	265	155	60	4
Displays and exhibits, on site	105	271	140	82	2
Opportunity to purchase souvenirs, on site	38	263	247	50	3
Opportunity to take part in a guided walk	17	57	229	189	108

Table 8.1a: Demand for on-site interpretive facilities and guided walks

	Residency	Visitation	Social grouping
Guided walks	Significant (U= 36240.50, z=-4.00, p < 0.001)	Significant (U= 31349.50, z=-4.54, p < 0.001)	Not significant

Table 8.1b: Demand for guided walks by grouping variable

The extent to which the respondents felt a range of interpretive facilities played an important part in their overall visit to the Coast (see Table 8.1a) demonstrated that 'staff on duty' was the most important on-site interpretive facility with 63.5% of respondents regarding them as important this was followed by 'displays and exhibits' (62.7%), the visitor centre (54.4%) and finally the opportunity to buy souvenirs (50.1%). The opportunity to undertake a guided walk was regarded as important by only 12.3% of the respondents however a further 38.2% had 'no particular view' and could potentially therefore be targeted by on-site managers in the future whilst the largest group of respondents regarded them as fairly unimportant (49.5%) to their on-site visit. Two examples of the comments recorded in relation to an interest in guided walks are illustrated below:

> '*Never thought about doing a guided walk here*' (Respondent 143L, 2007);
> '*We are not staying long enough to do a guided walk, perhaps another time*' (Respondent 73L, 2007).

By comparison, Light (1995) in a study of four Welsh heritage sites found that the visitors' level of interest in guided walks was much higher with 99.0% stating that they were 'interested' or 'very interested' in taking part. Chen *et al*. (2006) found that 32.9% of the visitors to a nature park in Taiwan were interested in undertaking a guided walk whilst Yamada and Knapp (2009) found that 23.0% of visitors to a nature park in Tokyo, Japan were interested in participating in a guided walk.

In exploring this level of interest further in Table 8.1b both 'residency' and 'visitation' proved to be statistically significant. In terms of 'residency' (see Table 8.11), tourists (57.1%) were more likely to regard guided walks as an unimportant part of their visit than locals (40.7%). However, it emerged that first-time visitors (62.5%) were least likely to be interested in participating in guided walks. Guided

walks were also of little importance to those visiting with family and friends (58.9%) as illustrated by this comment from a family visiting Lulworth:

> '*We would only do one if it was aimed at the whole family*' (Respondent 145L, 2007).

The two groups who most strongly responded with 'no particular view' about guided walks were locals (46.5%) and people visiting with their partner (48.9%), it is suggested that both these two groups could be specifically targeted as guided walks are planned on the Coast as illustrated by this comment from a local man visiting Lulworth:

> '*I have heard they are very good, never done one myself though*' (Respondent 189L, 2007).

All groups were consistent in terms of those respondents who rated guided walks as an 'important' part of their overall experience with the highest rating coming from repeat visitors (13.5%) and the lowest from first-time visitors (10.0%).

The respondents were also asked if they planned to undertake a guided walk on the day of their visit (see Table 8.2a), a dramatically small number of only nine respondents (1.5%) intended to as illustrated by the comment from a couple visiting Lulworth:

> '*We found it on the web and came along specially*' (Respondent 584L, 2007).

In fact, the questionnaire was conducted on forty-seven separate occasions during the survey period and within this, on twenty-six of them (55.3%) at least one guided walk was also available on-site that day.

Have you been on a guided walk today?	Frequency
Yes	9
Yes, but on a previous visit	93
No	498

Table 8.2a: Use of guided walks

	Residency	Visitation	Social grouping
Have you been on a guided walk today?	Significant ($\chi^2 = 91.41$, $p < 0.001$)	Significant ($\chi^2 = 56.25$, $p < 0.001$)	Significant ($\chi^2 = 38.34$, $p < 0.001$)

Table 8.2b: Use of guided walks by grouping variable

Of the nine respondents who undertook a guided walk on the day of their visit, six were local, seven were repeat visitors, four were with their partner and five rated 'viewing wildlife' as their primary reason for visiting the Coast. All nine were interested in marine life and eight of them were also interested in birds and wild flowers. All had been in the visitor centre on the day of their visit.

In this study, a further 15.5% of the respondents had undertaken at least one guided walk on a previous visit to the area. By comparison, Chen *et al*. (2006) found that 32.9% of visitors were interested in undertaking a guided walk and of these; 20.7% had undertaken a guided walk on a previous visit, 9.2% had undertaken two previous walks, 2.3% three walks and 1.6% four or more walks on previous visits. These results may in part be reflected by the cultural differences between Eastern and Western visitor audiences.

In Table 8.2b all grouping variables were significant but this is unsurprising given the considerable variation in the number of respondents between the three states in relation to this question. Locals (30.1%) and those visiting alone (32.1%) were most

likely to have been on a guided walk on a previous visit. Whilst first-time visitors (99.0%) and tourists (96.3%) were most likely to choose not to undertake a guided walk even if one was available on the day of their visit.

In attempting to understand more broadly why the respondents might choose not to undertake a guided walk even though they were available on-site, a series of statements were posed (see Table 8.3a) which were based upon the perceived criticisms of guided walks from previous academic studies (Bryant, 2006; Diment, 1992; Ham, 1992; Ward and Wilkinson, 2006; Weiler, 1999).

Experience	Strongly agree	Agree	No particular view	Disagree	Strongly disagree
Guided walks often take too long	15	120	122	197	19
Too many people want to take part	18	122	138	168	27
Guided walks are often too intense	29	89	133	156	66
Often need to know a lot about the site to take part	8	44	86	172	163
Guided walks often attracts experts	75	170	117	81	30
Prefer to explore at our own pace	74	285	112	2	0
Prefer to enjoy site on our own	106	273	92	2	0

Note: 473 respondents completed each question.

Table 8.3a: Experiences of taking part in a guided walk

In Table 8.2a, 102 respondents (17.0%) had undertaken a guided walk on the Coast at some point. In consequence, the majority of the 473 respondents (78.8%) who chose to respond to this set of statements about guided walks (see Table 8.3a) based their response on an experience(s) they had undertaken elsewhere, these various locations were not recorded.

Table 8.3a reveals that in relation to the five statements presented which covered a range of perceived criticisms of guided walks; in four of the five statements the respondents consistently selected the 'disagree' response. For those who responded, this was most evident for 'need previous knowledge of the site' where 28.7% disagreed and 27.2% strongly disagreed whilst only 8.6% of them agreed, this general view is illustrated by the comment from a couple visiting Durlston:

> '*We have never been here before, so know little about the site, but still enjoyed the walk*' (Respondent 547D, 2007).

Ballantyne and Hughes (2001) in their study of sixty-five tour guides found that 'audience awareness' of the site scored 4.6, which was the second highest function ranking overall and 48.0% of those guides suggested that 'tailoring information [about the site] to a specific audience' was a strength they possessed.

Of those respondents who agreed with the statements posed about the criticisms of guided walks, the highest response came from 'they attract experts' where 28.3% agreed and 12.5% strongly agreed as illustrated by the comment from a local couple visiting Durlston:

> '*Never again, last time a man kept butting in with things*' (Respondent 53D, 2007).

The second highest response came from 'they attract too many people' where 23.3% of the respondents agreed as illustrated by the comment from a family visiting Durlston:

> '*We were surprised at how big the group was, it was difficult to hear at times*' (Respondent 596D, 2007).

The criticism that 'they are often too intense' only attracted an agreed response from 14.8%, however it did gain the second highest strongly agreed response with 4.8% as illustrated by the comment from a lady visiting Durlston:

> '*The identification tips were too complex and a man kept talking, so I did not hear everything that the chap said*' (Respondent 560D, 2007).

'Attracting experts' is something which will be explored further in section 8.4.5, interestingly Yamada and Knapp (2009) found that 81.0% of visitors who undertook a guided walk in a nature park in Tokyo, Japan felt it was inappropriate to talk to other visitors and share their knowledge during the walk which perhaps also illustrates a cultural difference between Eastern and Western audiences.

Ballantyne and Hughes (2001) in discussing the role of the guide and in particular weaknesses which may detract from a guided experience reported that 40.0% of guides found 'interaction with the audience' challenging and 23.0% found 'involving the visitors when answering individual questions' difficult. They also found that 6.0% of the guides found it difficult to monitor visitors when they gave them the opportunity to wander during a walk. This is relevant to Hughes and Morrison-Saunders (2005) study where they suggested that on two natural sites in Western Australia visitors preferred to roam on the site where they wished which they

suggested explained the lack of visitor interest in formal trails, hikes and guides walks.

Indeed, the second group of two statements attempted to gauge whether the respondents preferred to explore the location on their own and at their own pace, their inclusion was informed by the work of Gunter (1987). The number of respondents agreeing with both statements was high with 63.2% preferring to 'explore on their own' and 59.8% preferring to 'explore at their own pace'. In both cases only two respondents disagreed with each statement (0.3%). Two examples of the comments recorded in relation to viewing the site on their own are illustrated below:

> '*I came to relax and potter a little this morning*' (Respondent 78D, 2007);
> '*We want to explore the area; we've never been here before*' (Respondent 333L, 2007).

Hughes and Morrison-Saunders (2005) found that visitors rated 'the opportunity to experience a pristine site' as being an important component within their overall experience. They suggested that this might imply a desire by visitors to '*get back to nature*' (2005:173) and highlighted the importance of the 'experiential' context of the visitors' on-site experience. Whilst, Ballantyne and Hughes (2001) found in their study of sixty-five tour guides that 52.0% of the guides undertook specific actions to ensure that the visitors enjoyed the tours, these actions typically included allowing visitors to wander in a managed way during the tour at certain times in order that they might discover things for themselves.

Experience of taking part in a guided walk	Residency	Visitation	Social grouping
Guided walks often take too long	Significant (*U*=22497.00, z=-3.82, p < 0.001)	Significant (*U*=18899.00, z=-3.70, p < 0.001)	Not significant
Too many people want to take part	Significant (*U*=22637.00, z=-3.68, p < 0.001)	Not significant	Not significant
Guided walks are often too intense	Significant (*U*=20083.00, z=-5.43, p < 0.001)	Significant (*U*=19188.00, z=-3.41, p < 0.001)	Not significant
Often need to know a lot about the site to take part	Significant (*U*=21034.00, z=-4.84, p < 0.001)	Significant (*U*=19405.00, z=-3.29, p < 0.001)	Significant (Kruskal-Wallis χ^2 equivalent = 12.62, p=0.002)
Guided walks often attracts experts	Significant (*U*=22398.00, z=-3.82, p < 0.001)	Not significant	Not significant
Prefer to explore at our own pace	Significant (*U*=22935.00, z=-3.80, p < 0.001)	Not significant	Not significant
Prefer to enjoy site on our own	Significant (*U*=22336.00, z=-4.19, p < 0.001)	Not significant	Not significant

Table 8.3b: Experiences of taking part in a guided walk by grouping variable

In exploring the variation of response between each of the grouping variables (see Tables 8.3b and 8.11), 'residency' was statistically significant across all of the statements with tourists consistently responding more strongly in agreement to each of the five main criticisms than locals; so for instance, 60.2% of tourists were more likely to agree with 'attract experts' than locals (43.6%). Tourists (34.7%) also more strongly responded in agreement with guided walks being 'too intense' as opposed to locals (15.3%). Locals disagreed consistently more strongly with the statements than tourists so for instance, the largest variation was for they are 'often too long' where 55.6% of locals disagreed as opposed to only 35.6% of tourists. Ham and Weiler

(2002b) found that 6.4% of the visitors in a study on the Galapagos Islands, Ecuador suggested that these walks could take too long. Finally, both 'residency' groups agreed that they preferred to explore the site on their own and at their own pace as illustrated by the comment from a couple visiting Durlston:

> '*We are going to walk to the lighthouse and back, probably via the cliffs*' (Respondent 487D, 2007).

'Visitation' (see Table 8.11) was only statistically significant across three of the statements however first-time visitors consistently responded more strongly in agreement to each of the five main criticisms than repeat visitors. This variation was greatest for 'too intense' with 34.0% of first-time visitors agreeing as opposed to only 21.0% of repeat visitors whilst the smallest variation was for 'knowledge of the area' where 15.3% of first-time visitors agreed but only 9.4% of repeat visitors. Repeat visitors disagreed consistently more strongly with the statements than first-time visitors so for instance, the largest variation was for 'too long' where 51.4% of repeat visitors disagreed as opposed to only 31.9% of first-time visitors.

There was no significant difference between the ranges of responses for 'too many people take part' and 'attract experts' whilst the smallest variation between the groups was recorded for 'attract experts' where 24.7% of repeat visitors and 20.8% of first-time visitors disagreed. Both groups consistently agreed that they preferred to explore the site on their own and at their own pace, the variation in response between the two groups was not statistically significant so for instance, first-time visitors (85.4%) were more strongly in agreement with exploring on their own than repeat visitors (77.8%).

'Social grouping' was only significant against one statement namely 'prior knowledge of the area' and specifically it was only significant between those visiting with their partner who disagreed (75.1%) more strongly than those visiting with family and friends (64.8%). Beyond this, the responses to the range of statements were largely consistent with those on their own more likely to disagree with the statements than those with a partner or family, but the overall variation recorded between the groups was very slight. Interestingly, for those respondents who agreed with the statements, the results were split as follows, where the first two statements, 'too long' and 'too many people' were most likely to be agreed with by those visiting on their own whilst the last three statements were most likely to be agreed with by families. All three groups responded fairly consistently in agreeing that they preferred to explore the site on their own and at their own pace, the variation in response between the three groups was not statistically significant but families (83.8%) were the most strongly in agreement on exploring on their own with visitors who came alone least strongly agreeing (70.6%).

All three grouping variables consistently responded in agreement that they preferred to explore the site on their own and at their own pace, the variation in response between the three groups was not dramatic. Tourists were most likely to agree that they preferred to 'walk at their own pace' whilst those visiting on their own recorded the lowest response in agreement. Similarly for 'exploring on their own', first-time visitors recorded the highest response in agreement and those visiting on their own again recorded the lowest response.

In exploring these views of the criticisms of guided walks further, binary logistic regression modelling was used in an attempt to explore the relative contributions of a number of these predictor variables on the dependent variables of 'visitation' and 'residency'. Thus a number of variables relating to the respondents attitude towards guided walks were used in tandem with other questions in an attempt to identify their importance in predicting each of the dependent variables.

For 'visitation', as a result of running a reduced input, two predictor variables were identified as being of importance as illustrated in Table 8.4.

Dependent variable: Visitation	**B**	**S.E.**	**Sig.**	**Exp(B)**	**95.0% C.I. for EXP(B)**	
					Lower	Upper
Constant	-0.99	1.83	0.587	0.37		
Walks 4 (score 4) (knowledge – agree)	-3.57	1.58	0.024	0.03	0.00	0.62
Walks 4 (score 1) (knowledge – str. disagree)	-3.19	1.60	0.047	0.04	0.00	0.95
Walks 4 (score 2) (knowledge – disagree)	-3.17	1.58	0.045	0.04	0.00	0.97
Visitor Centre (score 2) (yes, been in)	3.49	1.04	0.001	32.83	4.32	249.41
Visitor Centre (score 1) (no, not been in)	3.94	1.06	0.000	51.23	6.44	407.88

Note: R^2= 0.92 (Hosmer and Lemeshow), 0.39 (Nagelkerke). Model χ^2 (1) = 154.41, p < 0.001

Table 8.4: Binary logistic regression modelling:

'visitation' and guided walk experience

The model demonstrates that there is a statistical difference between first-time and repeat visitors appears in their response to two questions which interestingly again relates to their use of the visitor centre rather than what was principally being tested in this model, namely their attitude towards guided walks. So here, the most important predictor variable again appears to be their response to viewing the visitor centre with a weighting of 51x if they had not viewed the centre (the data reveals that 48.7% of first-time / 20.8% of repeat visitors responded in that way) and 32x if they had (49.2% of first-time / 35.0% of repeat visitors). The only other predictor variable to appear in the reduced model was based upon their 'perceived level of knowledge of the site' as required to undertake a guided walk but overall it was clearly far less important by comparison to the weighting associated with the respondent's use of the visitor centre. Thus, using these two predictor variables the model was able to correctly assign 74.8% of respondents (pre-model success was 69.6%) as either first-time or repeat respondents.

The same modelling was used for 'residency' and a reduced input revealed that four predictor variables were of importance as illustrated in Table 8.5.

Dependent variable: residency	B	S.E.	Sig.	Exp(B)	95.0% C.I. for EXP(B)	
					Lower	Upper
Constant	3.76	1.58	0.018	42.89		
Visit (score 1) (not first visit)	-3.97	0.56	0.000	0.02	0.01	0.06
Walks 2 (score 4) (people = agree)	-2.92	0.84	0.000	0.05	0.01	0.28
Walks 2 (score 2) (people = disagree)	-2.22	0.83	0.007	0.11	0.02	0.55
Walks 2 (score 3) (people = no part. view)	-2.08	0.71	0.009	0.13	0.03	0.59
Location (score 1) (Durlston)	-0.91	0.33	0.003	0.40	0.22	0.73
Timing	0.69	0.20	0.001	1.99	1.35	2.93

Note: R^2= 0.58 (Hosmer and Lemeshow), 0.68 (Nagelkerke). Model χ^2 (1) = 333.02, p < 0.001

Table 8.5: Binary logistic regression modelling:

'residency' and guided walk experience

The model demonstrates that there is a statistical difference between local and tourist appears in their response to four questions. However, the most important predictor variable appears to be the length of time spent on-site with a weighting four times as strong as any other variable, as with previous models, the location of Durlston also appears to be an important predictor variable. The only attitudinal variable on guided walks to appear in the reduced model was based upon their perceived view that 'too many people' took part in a guided walk but its overall weighting was clearly less important by comparison to the weighting associated with the length of visit. Using the two principle predictor variables the model was able to correctly assign 83.7% of respondents (pre-model success was 50.0%) as either local or tourist.

8.3 Guided walks: encouraging participation

Having explored some of the reasons why the respondents in this study might not wish to undertake a guided walk, the study was also keen to investigate the nature and format of guided walks which would encourage more visitors to take part.

8.3.1 Length of guided walk

What is your preferred length for a guided walk	Frequency
Less than 30 minutes	7
30 - 60 minutes	273
Less than 120 minutes	239
Any length	5
No response	76

Table 8.6a: Preferred length of a guided walk

	Residency	Visitation	Social grouping
Preferred length for a guided walk	Significant (U=29406.50, z=-3.13, p=0.002)	Significant (U=24499.00, z=-3.64, p < 0.001)	Not significant

Table 8.6b: Preferred length of a guided walk by grouping variable

In exploring this (see Table 8.6a), the respondents were asked how long a guided walk should typically last, 86.5% of them suggested that it should last no more than two hours and of those 46.7% preferred it to only last up to one hour. Only seven respondents suggested that a guided walk should last no longer than thirty minutes as illustrated by the comment from a couple visiting Lulworth:

> '*All we want is a quick ten minutes introduction to the area*' (Respondent 27L, 2007).

Davidson and Black (2007) found that most guided tours took between forty-five and ninety minutes. Whilst Yamada and Knapp (2009) found that up to sixty minutes was the most popular (72.0%) length of time for a walk in a nature park in Tokyo, Japan with only 17.0% of visitors favouring 60-120 minutes. 43.0% of their visitors favoured up to thirty minutes and only 6.0% favoured a half day walk.

In Table 8.6b 'residency' and 'visitation' were both statistically significant whilst 'social grouping' was not. In terms of 'residency' (see Table 8.11), tourists were more strongly in favour of walks lasting up to one hour (57.9%) whilst locals favoured walks lasting up to two hours (53.2%) as illustrated by the comment from a couple visiting Durlston:

> '*They are usually an hour and a half, which is about right for us*' (Respondent 544D, 2007).

In terms of 'visitation', first-time visitors were also more strongly in favour of walks lasting up to one hour (64.2%) whilst repeat visitors favoured walks lasting up to two hours (51.0%,). In terms of 'social grouping' family and friends (55.6%) were most in favour of walks lasting up to one hour and visitors on their own (60.3%) of walks lasting up to two hours. Finally, tourists (85.7%) were the group who most favoured walks lasting half an hour or less.

8.3.2 Choice of subject

The respondents were also asked about the type of subject they were interested in potentially learning more about whilst on a guided walk (see Table 8.7a).

Choice of subject	Frequency
Birds	226
Marine life	153
Butterflies	110
Wild flowers	108
Geology	94
General wildlife	76
Local history	59

Note: 826 individual responses were received for this question.

Table 8.7a: Choice of subject for a guided walk

Bird watching proved to be the most popular subject (27.4%), second in popularity was the marine life typically associated with 'rock-pooling' activities which attracted 18.5% of respondents as illustrated by the comment from a family visiting Lulworth:

> '*We came for the rock pooling activity, the girls are really keen*' (Respondent 332L, 2007).

Butterflies, wild flowers and geology all attracted approximately 12.5% of those responding and perhaps surprisingly a walk looking at the general wildlife of the area was the least popular with only 9.2% of respondents interested in taking part. A potential new subject area of 'local history' was also offered and although no walks are currently delivered, the historic smuggling associations along the Coast, the quarrying activities, fishing industry and the long tradition of local crafts means that potential might exist for this type of walk, 7.1% of respondents expressed an interest as illustrated by the comment from a family visiting Durlston:

> '*We would like to hear more about the quarrying*' (Respondent 421D, 2007).

Ham and Weiler (2002b) in their study suggested that a guided tour identifying and describing the range of wildlife in the area would be attractive for most visitors. Yamada and Knapp (2009) also found that general wildlife (90.0%) was the most popular topic with tourists visiting a nature park in Tokyo, Japan but local culture and history (38.0%) was also of interest. Randall and Rollins (2009) also found that local history was of interest to the participants whilst the use of field guides to help identify the wildlife seen was welcomed with participants rating this 2.81 on a scale of importance in terms of the role of the guide.

Choice of topics	Residency	Visitation	Social grouping
Birds	Significant ($\chi^2 = 30.59$, $p < 0.001$)	Significant ($\chi^2 = 31.36$, $p < 0.001$)	Significant ($\chi^2 = 15.44$, $p < 0.001$)
Wild flowers	Significant ($\chi^2 = 34.73$, $p < 0.001$)	Significant ($\chi^2 = 31.76$,$p < 0.001$)	Significant ($\chi^2 = 13.10$, $p < 0.001$)
Butterflies	Significant ($\chi^2 = 23.14$, $p < 0.001$)	Significant ($\chi^2 = 15.64$, $p < 0.001$)	Not significant
Local history	Significant ($\chi^2 = 10.95$, $p < 0.001$)	Not significant	Significant ($\chi^2 = 15.04$, $p < 0.001$)
Geology	Not significant	Not significant	Significant ($\chi^2 = 16.72$, $p < 0.001$)
General wildlife	Not significant	Not significant	Not significant
Marine life	Not significant	Not significant	Not significant

Table 8.7b: Choice of subject for a guided walk by grouping variable

In Table 8.7b the variation in the response to birds and wild flowers proved to be statistically significant for each of the grouping variables whilst butterflies, geology and local history were only significant for one or more of the grouping variables. Both general wildlife and marine life received a consistently favourable response from all grouping variables (no statistical significance was revealed) and it would

seem therefore that they are both subjects which need to be offered on a regular basis as part of the guided walk package on the Jurassic Coast.

In terms of 'residency' (see Table 8.11), locals proved to be more interested in each subject than tourists with the exception of marine life (26.2% for tourists and 24.9% for locals). For both groups an interest in birds was the most popular subject scoring 49.8% for locals and 27.8% for tourists as illustrated by the comment from a single man visiting Durlston:

> '*I came along, because I want to know what some of these birds are*' (Respondent 529D, 2007).

For locals, wild flowers were the second most popular subject (28.2%) followed by butterflies (26.7%) whilst for tourists, marine life was second (26.2%) followed by geology (15.1%).

In terms of 'visitation', repeat visitors proved to be more interested in each subject than first-time visitors. Birds was the most popular subject with repeat visitors (45.5%) whilst marine life was the most popular subject with first-time visitors (24.5%). For repeat visitors, marine life was the second most popular subject (26.0%) followed by wild flowers (24.3%) whilst for first-time visitors, birds were second (22.0%) followed by geology (11.0%).

'Social grouping' followed a similar pattern of responses with birds again proving to be the most popular subject, with respondents visiting with a partner (47.1%) giving it the highest score. The choices for those visiting with a partner were consistently higher than for the other two groups. Wild flowers was the second most popular

subject for those visiting alone (23.8%) whilst for those visiting with either a partner or family and friends, marine life was the second most popular subject (25.6% and 28.4% respectively).

In exploring the results across the various grouping variables, birds was the most popular subject with locals and repeat visitors and least popular with those visiting alone. Marine life was most popular with tourists, those with family and repeat visitors and least popular with those visiting alone. Butterflies was the third choice for most groups and was most popular with locals and those visiting alone and least popular with first-time visitors and tourists. Geology was most popular with those visiting with a partner, locals and repeat visitors and least popular with those visiting with family as illustrated by the comment from a family visiting Lulworth:

> '*Rock pooling would be better for us, but the cliffs are interesting, can they climb up at all*?' (Respondent 326L, 2007).

Wild flowers was the most popular with locals and repeat visitors and least popular with first-time visitors and tourists. Whilst a general walk proved of most interest to those visiting with a partner, first-time visitors were least interested. Local history proved to be of most interest to those visiting with a partner and locals whilst perhaps surprisingly those visiting with family were least interested.

Binary logistic regression modelling was also used in an attempt to explore the relative contribution of a number of predictor variables (namely, the choice of guided walk subject) in relation to the dependent variables of 'visitation', 'residency' and 'social grouping'. For 'visitation', as a result of running a reduced input, three predictor variables were identified as being of importance, as illustrated in Table 8.8.

Dependent variable: visitation	B	S.E.	Sig.	Exp(B)	95.0% C.I. for EXP(B)	
	Lower	Upper	Lower	Upper	Lower	Upper
Constant	-2.26	0.35	0.000	0.10		
Geology (score 1) (not interested)	0.42	0.20	0.040	1.52	1.02	2.25
Bird watching (score 1) (not interested)	1.06	0.21	0.000	2.88	1.92	4.31
Flowers 1 (score 1) (not interested)	1.27	0.34	0.000	3.58	1.83	6.99

Note: R^2= 0.95 (Hosmer and Lemeshow), 0.18 (Nagelkerke). Model χ^2 (1) = 82.80, p < 0.001

Table 8.8 Binary logistic regression modelling: 'visitation' and guided walk subjects

The model demonstrates that a statistical difference between first-time and repeat visitors appears in their response to three questions and specifically where a negative response was recorded. Such that those who were not interested in a 'wild flower' guided walk (data reveals that 94.5% of first-time / 75.8% of repeat visitors) were weighted most high along with those who had no interest in viewing wildlife whilst on the Coast (47.5% of first-time / 18.3% of repeat visitors) both groups were weighted as twice more important than those who responded that they were not interested in the geology of the site (71.0% of first-time / 51.0% of repeat visitors). Using these three predictor variables the model was able to correctly assign 71.3% of respondents (pre-model success was 66.7%) as either first-time or repeat visitors.

The same modelling was used for 'residency' and a reduced input revealed that four predictor variables were of importance as illustrated in Table 8.9.

Dependent variable: residency	**B**	**S.E.**	**Sig.**	**Exp(B)**	**95.0% C.I. for EXP(B)**	
					Lower	Upper
Constant	2.12	0.73	0.004	8.35		
Visit (score 1) (not first visit)	-4.68	0.52	0.000	0.01	0.00	0.03
Location (score 1) (Durlston)	-0.83	0.23	0.000	0.44	0.28	0.68
Timing (length of time on site)	0.59	0.14	0.000	1.80	1.37	2.35
History 1 (score 1) (not interested)	1.37	0.51	0.007	3.92	1.45	10.63

Note: R^2= 0.59 (Hosmer and Lemeshow), 0.58 (Nagelkerke). Model χ^2 (1) = 337.78, p < 0.001

Table 8.9 Binary logistic regression modelling: 'residency' and guided walk subjects

The model demonstrates that a statistical difference between local and tourist appears in their response to four questions of which two appear to be the more important. Whilst for the 'visitation' dependent variable it appeared to be a lack of interest in geology, bird watching and wild flowers which seemed to be the most important predictor variables, for 'residency it appears that a lack of interest in local history (data reveals that 85.7% of locals / 93.8% of tourists) is the most important variable with a weighting twice as strong as the next most important variable which was length of time spent on site (38.5% of locals / 58.9% of tourists spent more than 2 hours on site). As with previous models run, the location of Durlston again appears as an important predictor variable but again as previously seen the weighting contribution is relatively small. Such that using the two principle predictor variables revealed here,

the model was able to correctly assign 80.1% of visitors (pre-model success was 54.3%) as either local or tourist.

8.3.3 General comments on guided walks

Finally, the respondents were also asked to comment on anything else which might encourage them to take part in a guided walk on the site in the future and/or any other views they generally wished to express on guided walks.

General comments on guided walk	Frequency
Not interested, no thanks	95
No reason stated	80
Prefer to plan own route / own discovery	63
Only if designed for children / families	61
Not keen at all	31
Guided walks are organised by our tour group	12
Not enough time	10
Only if a very specific and focused topic e.g. beetles	7
Would like other mammals, e.g. bats	7
More interested, if designed for older people	6
Walks need to better tailored by age and subject, please	5
Only if designed for those with disabilities	3
The pace is always too slow!	1

Note: 381 respondents completed this question.

Table 8.10: General comments on guided walks

For some of the respondents, Table 8.10 reveals that they are simply 'not interested' (15.8%) in guided walks at all or that they 'prefer to explore on their own' (10.5%). However 10.2% of the respondents would undertake a guided walk if it was specifically designed for children and/or families and this is therefore a potential avenue for development by on-site managers. In terms of the profile of these sixty-one respondents; 27.3% were families, 22.1% were first-time visitors and interestingly 26.9% were visiting on their own suggesting perhaps that these

individuals might return to the Coast with their children or grandchildren if guided walks specifically catered for them as illustrated by the comment from a local lady visiting Lulworth:

> '*I will mention the rock-pooling activity to my family, they may come along*' (Respondent 144L, 2007).

In many other studies (Diment, 1992; Ham, 1992; Ham and Weiler, 2002b; Ward and Wilkinson, 2006) a reason for not taking part in guided walks is stated as 'lack of time' but this was only expressed by ten respondents in this study. Finally, it is interesting to observe that a further fourteen respondents would only undertake a guided walk if it was offering a topic of very personal interest to them; beetles, bats, grasses and small mammals were all mentioned as specific examples here, this response was most popular with those visiting alone, repeat visitors and locals. Likewise, five visitors were concerned that guided walks should be better tailored to the needs of their audience; three of these were repeat visitors, who were visiting with their partners. Ham and Weiler (2002b) reinforce the importance of relevance to the audience with 65.0% of their visitors citing this as a key factor in determining their enjoyment of the walk.

The Jurassic coastline is a rolling landscape and inevitably quite steep in places making most guided walks potentially quite arduous, it was not surprising therefore to find that six visitors specifically mentioned that a guided walk would need to be designed and paced to suit an elderly audience if they were to take part and of these, five were repeat visitors with their partner on holiday, this view was illustrated by the comment from a local lady visiting Lulworth:

> '*It is too steep for me across there, otherwise I might go*' (Respondent 183L, 2007).

Light (1995) in a study of four Welsh heritage found that reasons for not taking part included; a dislike of guided walks (21.0%), insufficient time (14.0%) and needing it to be more child orientated (9.0%).

In attempting to summarise the findings of the survey in relation to the respondents' interest in, and attitudes towards guided walks, Table 8.11 has been developed which reveals a summary of the responses by grouping variables.

	Grouping variable: **'Residency'**		Grouping variable: **'Visitation'**	
	Local (45.5%)	**Tourist** (54.0%)	**First-time visitor** (33.3%)	**Repeat visitor** (66.7%)
Importance of guided walks:	Agree (12.8%) Disagree (40.7%)	Agree (12.0%) Disagree (57.1%)	Agree (10.0%) Disagree (62.5%)	Agree (13.5%) Disagree (43.0%)
Preferred subjects:	Birds (49.8%) Wild flowers (28.2%) Butterflies (26.7%) Marine life (24.9%)	Birds (27.8%) Marine life (26.2%) Geology (15.1%) Butterflies (11.4%)	Marine life (24.5%) Birds (22.0%) Geology (11.0%) Butterflies (9.5%)	Birds (45.5%) Marine life (26.0%) Wild flowers (24.3%) Butterflies (22.8%)
Preferred length:	Up to 1 hr (46.4%) Up to 2 hrs (53.2%)	Up to 1 hr (57.9%) Up to 2 hrs (38.5%)	Up to 1 hr (64.2%) Up to 2 hrs (33.9%)	Up to 1 hr (46.5%) Up to 2 hrs (51.0%)
Attitude towards guided walks:	Agree: View site on own (75.8%) Walk at own pace (71.2%) Attract experts (43.6%) Disagree: Need knowledge (79.7%) Too intense (56.8%) Too long (55.6%) Too many people (49.2%)	Agree: Walk at own pace (84.7%) View site on own (75.8%) Attract experts (60.2%) Too many people (34.3%) Disagree: Need knowledge (61.9%) Too intense (36.9%) Too long (35.6%)	Agree: View site on own (85.4%) Walk at own pace (79.2%) Attract experts (60.4%) Too long (36.8%) Too many people (34.0%) Disagree: Need knowledge (62.5%) Too intense (37.5%)	Agree: View site on own (97.8%) Walk at own pace (74.5%) Attract experts (48.0%) Disagree: Need knowledge (74.5%) Too long (51.4%) Too intense (51.1%) Too many people (44.7%)

	Grouping variable: **'Social grouping'**		
	Alone (14.0%)	**With spouse / partner** (37.2%)	**With family / friends** (47.5%)
Importance of guided walks:	Agree (13.1%) Disagree (46.4%)	Agree (12.5%) Disagree (38.6%)	Agree (11.9%) Disagree (58.9%)
Preferred subjects:	Birds (40.5%) Butterflies / Wild flowers (23.8%) Marine life (14.3%)	Birds (47.1%) Marine life (25.6%) Geology / Wild flowers (23.8%)	Birds (30.2%) Marine life (28.4%) Butterflies (14.4%)
Preferred length:	Up to 1 hr (38.4%) Up to 2 hrs (60.3%)	Up to 1 hr (52.9%) Up to 2 hrs (45.1%)	Up to 1 hr (55.6%) Up to 2 hrs (41.4%)
Attitude towards guided walks:	Agree: View site on own (70.6%) Walk at own pace (69.1%) Attract experts (50.0%) Disagree: Need knowledge (75.0%) Too long (52.9%) Too intense (50.0%) Too many people (45.6%)	Agree: View site on own (79.9%) Walk at own pace (74.6%) Attract experts (50.3%) Disagree: Need knowledge (75.1%) Too intense (51.3%) Too long (48.1%) Too many people (44.4%)	Agree: View site on own (83.8%) Walk at own pace (79.0%) Attract experts (54.8%) Disagree: Need knowledge (64.8%) Too intense (41.0%) Too long (40.5%) Too many people (35.7%)

Table 8.11 Summary of the responses in relation to guided walks by grouping variables

In conclusion, the previous sections as well as Table 8.11 have revealed that approximately two-thirds of first-time visitors, those visiting with 'family and friends' and tourists regard guided walks as of little importance to their on-site experience. Locals, those visiting alone and/or with a partner were more positive (about 10.0%) or had 'no particular view' (about 30.0%), it is therefore suggested that these three groups could be specifically targeted, as future guided walks are planned.

In terms of the length of a guided walk, approximately 60.0% of all respondents favoured a walk lasting up to one hour whilst approximately 50.0% of locals, repeat visitors and those visiting on their own would be happy if the walk lasted up to two hours. Tourists most strongly favoured a walk lasting half an hour or less.

Birds and marine life were the most popular subjects with most of the respondents. Repeat visitors and those visiting alone or with a partner were also interested in walks covering wild flowers, butterflies and geology. Local history also emerged as a topic of interest. General wildlife walks proved less popular than might perhaps be imagined.

In managing walks on the Coast, tourists and first-time visitors were most likely to be concerned about the number of people taking part on the walk, the intensity of the walk itself and the amount of knowledge required in advance. These groups of visitors were also concerned that walks in their opinion often 'attract experts' whose contribution and/or interruptions during the walk need to be managed effectively. Locals, repeat visitors and those visiting with their partner were most likely to disagree with these views.

Finally, about 10.0% of the respondents would undertake a guided walk if it was specifically designed for children and/or families and this is therefore a potential area for development by on-site managers. Also perhaps is the relatively small number of fourteen respondents who would undertake a guided walk if it was offering a topic of very personal interest to them; beetles, bats, grasses and small mammals were all mentioned as specific examples here. Guided walks being carefully tailored to their audience was specifically mentioned by a number of respondents; examples being the topic of study, the intensity of the walk and specifically meeting the needs of elderly or physically disabled participants. All of these aspects are again worthy of consideration as guided walks are developed and publicised for future visitors to the Coast.

8.4 The potential components of a framework for the design of guided walks

This section presents the potential components of a framework and whilst this is based upon the academic literature it is also informed by the responses presented in the previous sections which record the respondents' interest in and attitude towards guided walks.

Guided walks are what most visitors would typically regard as 'interpretive experiences' (Ham, 1992) and occur where visitors join the interpreter guide for a walk from a specific starting location before moving along a pre-selected route via several points of interest. During the walk, the natural environment viewed can be interpreted, questions can be asked and the visitors can be encouraged to enter into a discussion about the area (Ward and Wilkinson, 2006). Diment (1992) suggests that the three factors most critical in ensuring the success of a guided walk are: a knowledgeable, well-trained guide; interesting subject matter

and opportunities for interaction both socially within the group and with the guide. But, guided walks have also faced a degree of criticism over the years including that they are: 'old fashioned'; 'boring'; costly to run; often designed for 'expert' visitors and may well be 'preaching to the converted' visitor anyway (Diment, 1992; Ham, 1992).

In relation to this study, the four qualities (Quality 1 – Quality 4 below) through which successful interpretation can be measured as reported by Ham (1992) were accepted as worthy of further exploration. However, based upon the evaluative work of Ballantyne and Hughes (2001), Chen *et al*. (2006) and Davidson and Black (2007) a further two qualities were added (Quality 5 and Quality 6 below). Thus in this section of the chapter, this study will be exploring the following qualities with reference to visitors at the Jurassic Coast World Heritage site, as a means towards developing a framework for future guided walks:

Quality 1: **Enjoyment:** guided walks should be designed to entertain visitors;

Quality 2: **Relevance:** guided walks should offer information which is relevant both to the visitors and the site being interpreted;

Quality 3: **Organised:** guided walks should be well organised so that the visitors feel comfortable and are able to concentrate on what is being presented;

Quality 4: **Themed:** guided walks should deliver a key theme / message that has the capacity to link all of the information given together;

Quality 5: **Two-way communication:** guided walks should encourage participation from the visitors;

Quality 6: **Emotion:** guided walks should facilitate and stimulate an emotional connection to the experience itself and the site as a whole.

8.4.1 Quality 1 – Enjoyment

Diment (1992) has reported that a criticism of guided walks is that they may well be 'preaching to the converted' however he also suggests that a well-organised programme of events which includes a range of walks is likely to bring in new visitors. Three examples of the comments recorded in relation to the demand for guided walks are illustrated below:

> '*We have done walks before, so we knew how good they were*' (Respondent 591D, 2007);
> '*Always enjoyed walks in the past, so we came along*' (Respondent 564D, 2007);
> '*Never done one before, but I wanted to learn more about the park*' (Respondent 550L, 2007).

He further suggests that professional guides in the local area could be brought in to cater for the specialist needs of some visitors thus enabling the on-site rangers to offer 'basic' guided walks for those who have never been on a walk before. He emphasises the importance of this duality of approach, keeping regular visitors happy with new opportunities whilst encouraging new visitors at the same time as illustrated by this comment from a man visiting Durlston:

> '*I want to learn more about butterfly and moth identification*' (Respondent 600D, 2007),

He also suggests that to support this approach, a well-publicised programme of regular short walks at peak visitor times is critical to attract the casual 'unconverted' visitor as illustrated by this comment from a couple of tourists visiting Lulworth:

> '*A very pleasant walk, in such beautiful surroundings*' (Respondent 578L, 2007).

In his survey of guided walks for East and West Sussex County Council, Diment (1992) reports that 78% of the visitors enjoyed their walk and that the two main

reasons for their enjoyment were either the quality of the guide and the nature of the walk itself. Interestingly, nearly one-third of the visitors also mentioned their pleasure being associated with the '*company of others in the group*' (1992:14). Two examples of the comments recorded in relation to the quality of the guide are illustrated below:

> '*The guide was excellent, I'll come back*' (Respondent 593D, 2007);
> '*Incredible, xxx is a very good guide*' (Respondent 535D, 2007).

In exploring why visitors chose to undertake a guided walk on the Jurassic Coast, 'an enjoyable activity' was the most popular response followed by; 'to view wildlife', 'to learn more about the area', 'I wanted to ask questions' and 'it was something different to do'. Three examples of the comments recorded in relation to the reasons for undertaking a guided walk are illustrated below:

> '*I wanted to learn how the Cove was formed*' (Respondent 585L, 2007);
> '*We wanted to increase our field knowledge of moths and butterflies*' (Respondent 598D, 2007);
> '*I wanted exercise and stimulation as well*' (Respondent 515L, 2007).

The respondents were also asked to identify what aspect of the guided walk they had most enjoyed, the 'enthusiasm of the guide' was the most popular response, followed by; 'a knowledgeable guide', 'the information was explained well' and 'all of my questions were answered'. Ham and Weiler (2002b) found that a 'knowledgeable guide' and an 'enjoyable experience' both scored highly (76.0% and 52.0% respectively) as the necessary qualities of a good guide by tourists visiting the Galapagos Islands, Ecuador. Three examples of the comments recorded in relation to the visitors' enjoyment of the walk are illustrated below:

> '*I have had a really enjoyable, informative morning*' (Respondent 499D, 2007);
> '*xxx was friendly and relaxed*' (Respondent 586L, 2007);

'*Enthusiastic and knowledgeable, a very pleasant guide*' (Respondent 574L, 2007).

8.4.2 Quality 2 – Relevance

Brochu and Merriman (2002) remind the interpreter that guided walks should be meaningful and personal thus ideally making a personal connection with each member of the group as illustrated by the comment from a man visiting Durlston:

'*I was fascinated to learn more about skylarks*' (Respondent 529L, 2007).

With Diment (1992) suggesting that some visitors find guided walks 'boring' and even 'old hat', relevance to the individual is critical and is also about good planning, where Ward and Wilkinson (2006) suggest that the interpreter should take the time to get to know their on-site visitors, their interests in the site, their level of current knowledge and their potential commitment to discover new things as illustrated by the comment from a couple visiting Lulworth:

'*We want to explore the area and thought that this was a good way to do it*' (Respondent 584L, 2007).

Ham and Weiler (2002b) found that the visitors in a study on the Galapagos Islands, Ecuador favoured walks where the guide provided information which was '*relevant to what they know and care about*' (2002b:40). Only 4.7% of the visitors they surveyed found one or more of the walks 'boring' and only 8.1% found 'too little information' offered whilst by comparison 58.9% found the information relevant and 60.7% the walk insightful. This is nicely illustrated by the comment from a couple visiting Durlston:

'*This was special; we have a much greater understanding of the wildlife of Durlston now, thank you*' (Respondent 525D, 2007).

Relevance should be applied throughout the duration of the walk with an effective guide always assessing the needs of the group and modifying the experience and storyline as deemed necessary (Ham, 1992) as illustrated by the comment from a couple visiting Durlston:

> '*We were interested in the story of flax, we're glad he stopped and talked about it*' (Respondent 557D, 2007).

Diment (1992) suggests that the ability of a guide to respond instantly to visitors' reactions and questions during a walk helps to ensure that the curiosity and interest of the visitors is stimulated and maintained as illustrated by the comment from a man visiting Durlston:

> '*xxx stopped and picked up a rock to show us, it made everything so much clearer*' (Respondent 553D, 2007).

Relevance to the visitors is critical, however in this study, five respondents (see Table 8.10) were concerned that guided walks should be 'better tailored to the needs of their audience'; three of these were repeat visitors, who were visiting with their partners. Two examples of the comments recorded in relation to relevance are illustrated below:

> '*A bit too much assumed knowledge sadly*' (Respondent 547D, 2007);
> '*We felt that the basics of identification needed to be explained first*' (Respondent 516L, 2007).

In this study, the respondents were also asked about the type of wildlife they were interested to learn more about during a guided walk (see Table 8.7a). Bird watching was the most preferred subject with 27.4% of respondents interested whilst marine life typically associated with 'rock-pooling' activities attracted 18.5% of them. Butterflies, wild flowers and geology all attracted approximately 12.5% whilst a walk looking at the general wildlife of the area was the least popular with only 9.2%

interested in taking part. Two examples of the comments recorded in relation to the choice of subject are illustrated below:

> '*I wanted to learn more about these incredible rock structures*' (Respondent 513D, 2007);
> '*I especially wanted to learn more about wild flowers*' (Respondent 535D, 2007).

This choice of subject was also important for the fourteen visitors (see Table 8.10) who would only undertake a guided walk if it was offering a topic of very personal interest to them, this response was most popular with approximately 20% of those visiting alone, repeat visitors and locals. Two examples of the comments recorded in relation to specific wildlife coverage are illustrated below:

> '*I want to learn more about small mammal identification; mice, shrew and voles really*' (Respondent 454D, 2007);
> '*There are so many pretty beetles about at the moment, I would like to know what a few of them are*' (Respondent 217D, 2007).

However, Bryant (2006) suggests that walks led by an authoritative guide covering only a single subject (e.g. specific group of birds, butterflies, geological period etc.) where little visitor participation and maximum visitor knowledge are required should well be an 'experience of the past' suggesting that visitor attitudes and expectations have changed as illustrated by the comment from a man visiting Durlston:

> '*It was certainly a pleasant walk, but the comments made about the rocks were just far too detailed, I am afraid I got rather bored with them*' (Respondent 546D, 2007).

Ward and Wilkinson (2006) suggest that most sites are now anxious to attract a much wider demographic of visitor and have therefore tended to adopt a more 'populist approach' to their guided offerings to reach the casual tourist and passer-by as illustrated by the comment from a family visiting Lulworth:

> '*An interesting walk, in a beautiful spot, we shall come again*' (Respondent 514L, 2007).

This survey (see Table 8.10) also revealed that there is a demand for guided walks catering for children and their families, 10.2% of the respondents said that they would only undertake one if it was specifically designed for children and of these respondents, families and first-time visitors were the most dominant groupings. However of those who undertook a guided walk on the day of their visit, only seven respondents specifically identified 'entertaining their children' as the main reason for undertaking the guided walk. Two examples of the comments recorded in relation to children are illustrated below:

> '*We wanted the kids to learn more about the rocks and the Cove itself*' (Respondent 572L, 2007);
> '*The kids have just built a wildlife area, so we now want to learn more about attracting birds to our garden*' (Respondent 566D, 2007).

8.4.3 Quality 3 – Organisation

Randall and Rollins (2009) in reporting on the work of Cohen (1985) and Ham and Weiler (2002b) identify the principle roles of a guide including the 'outer-directed' roles involving the organisation and management of the experience and the 'inner-directed' roles which focus upon the leadership of the group and its social interaction. Davidson and Black (2007) suggest that the management of a guided experience should also include the emotional management of the group which in some situations would include both physical and emotional safety as well as the way in which the guide establishes a relationship and a rapport with the group as a whole as illustrated by the comment from a couple visiting Lulworth:

> '*We felt immediately comfortable; xxx was a very pleasant guide*' (Respondent 574L, 2007).

In leading a guided walk, the guide should establish a 'staging area' where the visitors can meet before it commences (Brochu and Merriman, 2002). The guide should be there in advance ready to greet the visitors and respond to any initial queries. It is then that details of the walk; its length, physical demands and the type of terrain to be covered should be discussed and visitors who are inappropriately clothed or shod should be informed and given the opportunity to change (Ham, 1992) as illustrated by the comment from a woman visiting Durlston alone:

> '*With hip arthritis, the walk was obviously going to be too long, so they sorted out the Tramper for me*' (Respondent 552D, 2007).

The staging area and potentially the first stop should also be clearly visible from the visitor centre and/or car park to allow 'latecomers' to join the walk (Ward and Wilkinson, 2006) thus most importantly those who arrive on time are not penalised by waiting for 'latecomers'. A finishing point should be identified and the number of 'comfort stops' during the walk explained, all of which as a briefing, will put the visitors at their ease and ensure they are comfortable and confident in the hands and experience of their guide (Ham, 1992).

When asked to comment on their guided walk experience on the Jurassic Coast, one visitor suggested that the 'scene setting' at the outset of the walk could have been improved saying that:

> '*We thought there might have been a bit more of an introduction to the park*' (Respondent 541D, 2007).

Whilst six visitors commented that they found it irritating to have to wait for 'latecomers' to arrive and settle down. One specifically commented that she was:

> '*Really irritated when the initial briefing was re-done for the benefit of one group of latecomers*' (Respondent 552D, 2007).

In terms of the size of the group taking part in the walk, in this study, twenty-six of the respondents agreed that 'too many people' had been involved in their walk as illustrated by the comment from a man visiting Durlston:

> '*There are far too many people on this bird walk, half the number would be better*' (Respondent 512D, 2007).

However, at the end of the walk he said:

> '*We did see a lot of birds, I thought this many people might have frightened them away, so it was ok*' (Respondent 512D, 2007).

In Table 8.11, tourists (34.3%) and first-time visitors (34.0%) were most likely to agree about too many people taking part whilst locals (49.2%) and those visiting on their own (45.6%) were most likely to disagree. In terms of the actual guided walks run on the Jurassic Coast, the target group size was typically fifteen but in reality during the survey period; 25.0% ran with less than 10 visitors, 37.5% of walks ran with 10-15 visitors, 37.5% ran with over 15 visitors and no walks ran with more than 25 visitors. Of those visitors who took part in a guided walk, eighty-four thought that the size of group had been 'about right'. However, three visitors specifically commented that the group size had been too large for the subject matter being delivered and interestingly on all three occasions the walk had been themed around wild flower identification as illustrated by the comment from a couple visiting Durlston:

> '*We were all strung out in a line, so we did not always get to the place in time to hear the full talk about each flower, it was really frustrating*' (Respondent 562D, 2007).

In conducting the walk, an appropriate pace should be set to ensure that there are no visitors lagging behind at the back and 'comfort stops' should be taken as necessary without causing the pace of the walk itself to become too slow (Brochu and Merriman, 2002). Randall and

Rollins (2009) report that 'setting a pace for the trip that was comfortable for you' was one of the most important factors (mean importance, n=4.05) for 168 visitors on their guided experience in the Pacific Rim National Park, British Columbia. The guide should always lead from the front, keeping the pace and observing the response from the whole group. Only one respondent on the Coast commented that the pace of the walk had been 'too fast'. Whilst, sixty-five suggested that the pace had been 'just right'. Two examples of the comments recorded in relation to the pace of the walk are illustrated below:

> '*The time involved and the pace was about right or us*' (Respondent 544D, 2007);
> '*The pace was ok for the kids, but it was quite a long walk*' (Respondent 572L, 2007).

Randall and Rollins (2009) also report that 'keeping the group organised and on schedule' was also an important factor for visitors (mean importance, n=4.10). Ham and Weiler (2002b) found that whilst 'time management' and 'adaptability' were scored in overall terms quite low (14.0% and 10.0% respectively) both were still identified as part of the necessary qualities of a good guide by tourists visiting the Galapagos Islands, Ecuador. When asked about the length of guided walks on the Jurassic Coast, 36.0% of the respondents disagreed that walks generally 'take too long'. In Table 8.11, locals (24.6%) and repeat visitors (24.9%) were most likely to disagree whilst first-time visitors (36.8%) and tourists (32.6%) were most likely to agree. Two examples of the comments recorded in relation to the time taken are illustrated below:

> '*I am happy to take part, but half an hour is quite enough for me really*' (Respondent 141L, 2007);
> '*With young children, the walks need to be much shorter if we were to take part*' (Respondent 383D, 2007).

Of those respondents who had actually undertaken a guided walk most thought that the length of the walk had been 'about right'. Ward and Wilkinson (2006) suggest

that walks typically should last forty-five to ninety minutes depending on group size, layout of the site and complexity of the theme involved. Extended walks can however be considered which go beyond 120 minutes (Ham, 1992) as illustrated by the comment from a couple visiting Durlston:

> '*We would take part if the walk went along the Coast, perhaps to Kimmeridge and back*' (Respondent 358D, 2007).

A couple at Lulworth also agreed and said:

> '*We came for a good walk, those guided walks can be so slow, we've not got time for them*' (Respondent 243L, 2007).

In terms of actual timings for walks (see Table 8.6a), 86.5% suggested that a guided walk should last no more than two hours whilst 46.7% preferred up to one hour. Only seven respondents of which six were tourists suggested that a walk should last half an hour or less. In Table 8.11, tourists, first-time visitors and those visiting with family and friends were most strongly in favour of walks lasting up to one hour (57.9%, 64.2% and 55.6% respectively) whilst locals, repeat visitors and those visiting alone favoured walks lasting up to two hours (53.2%, 51.0% and 60.3% respectively).

The walk should finish at a clear dismissal point and the guide should always close with a summary of the main theme, any on-site messages and a strong, concluding statement about the site and its conservation (Diment, 1992; Ham, 1992). Ward and Wilkinson (2006) suggest concluding the walk at an impressive spectacle where possible to stimulate a longer lasting memory of the site, however they also suggest that in this case the guide might wish to make their concluding remarks before reaching the spectacle to avoid competing for the visitor's attention. These concluding remarks are also vital and as Brochu and Merriman

(2002:76) suggest '*this is you last and best chance to make a good impression and to leave them smiling*' as illustrated by the comment from a man visiting Durlston:

> '*I shall always remember the sound of that skylark at the end of the walk, it was a magical moment*' (Respondent 529D, 2007).

8.4.4 Quality 4 – Theming

A central theme is the '*guiding principle behind any form of interpretation*' (Brochu, 2003: 100). The theme should define the approach taken and the numbers of visitors which can be accommodated. Brochu (2003) also suggests that it is this theme which is at the heart of what visitors should remember from their guided experience as illustrated by the comment from a couple visiting Durlston:

> '*Yes, it was a wild flower walk and boy did we see some wild flowers*' (Respondent 533D, 2007).

Ham (1992) in introducing the idea of a themed guided walk uses the analogy of a 'string of pearls' where each pearl represents a stop during the walk, he suggests that a theme is far more memorable for the visitors than merely supplying them with a series of disjointed and possibly even unconnected ideas and facts as illustrated by a further comment from the same couple visiting Durlston:

> '*We liked the way at each stop he did a different group of wild flowers, it was clever*' (Respondent 533D, 2007).

Ballantyne and Hughes (2001) in their study of sixty-five tour guides found that 'linking the presentation to a central theme' scored 3.9 within their table of function rankings. Ham and Weiler (2002b) found that the visitors in a study on the Galapagos Islands, Ecuador favoured a theme which presented the various items in a logical order. Ward and Wilkinson (2006) suggest that the theme developed should be attractive and relevant to the anticipated visitors, easily understood by them and relevant to the

management goals for the site. Davidson and Black (2007) in talking about a theme argue that a 'holistic approach' is a helpful way of thinking about it, which in turn reminds the guide of Tilden's (1977) fifth principle where interpretation should present a whole rather than a part. Two examples of the comments recorded in relation to the 'whole' are illustrated below:

> '*The whole life cycle of that crab was revealed to us*' (Respondent 586L, 2007);
> '*We started with rabbit droppings and ended up with a Peregrine*' (Respondent 555D, 2007).

Guided walks have often been criticised in the literature as 'not being aimed at the right level', in this study the respondents were asked if they felt the guided walk had been 'too intense' (see Table 8.3a), 14.8% agreed and 4.8% strongly agreed. In Table 8.11, tourists (34.7%) and first-time visitors (34.0%) were most likely to agree whilst locals (56.8%) and repeat visitors (51.1%) were most likely to disagree. Three examples of the comments recorded in relation to the intensity of the walk are illustrated below:

> '*A great deal of interesting facts, but perhaps covered rather too quickly*' (Respondent 514D, 2007);
> '*The information was not at a suitable level for our children and this was billed as a family walk*' (Respondent 572L, 2007);
> '*Too much background knowledge of the area was assumed, we have not been here before, but xxx was a really good guide*' (Respondent 545D, 2007).

Of those respondents who had undertaken a guided walk most thought that the level of content throughout the walk had been 'about right'. However, four respondents did suggest that the content had started from too high a level for them and six others suggested that an illustrated leaflet or check list to walk around with and aid identification would be helpful on future walks, as illustrated by two comments from a family visiting Lulworth:

'*We thought activity sheets for the kids would have helped'*

and,

'Can any of this talk be downloaded to our phone?' (Respondent 572L, 2007).

One respondent commented that tips on the identification of difficult and easily confused species (in her specific case, grasses) had been a real benefit of the walk. A further five respondents praised the guide saying that the opportunity to discover something new had been wonderful as illustrated by the comment from a couple visiting Durlston:

> '*It was just a lovely morning and the park is so beautiful, we have learnt so much*' (Respondent 525D, 2007).

In the literature, lack of 'prior knowledge of the site' is often suggested as a reason why visitors might not take part in a guided walk (Ham, 1992; Sharpe, 1976). In this study (see Table 8.3a), 28.7% disagreed and 27.2% strongly disagreed with only 8.6% agreeing. The need to have a 'knowledge of the area' before undertaking a guided walk was most likely to be agreed with by tourists (14.4%) and first-time visitors (15.3%) whilst locals (79.7%) and those visiting with a partner (75.1%) were most likely to disagree (see Table 8.11). Three examples of the comments recorded in relation to the background knowledge are illustrated below:

> '*The last walk I did, I felt really uncomfortable knowing so little, it really put me off*' (Respondent 54D, 2007);
> '*The bird watchers are the worst, you feel so foolish with some of them*' (Respondent 469L, 2007);
> '*It was fine, but then I know the area quite well, I use to come down with my wife occasionally*' (Respondent 34D, 2007).

Of those who undertook a guided walk only four respondents suggested that a greater level of prior knowledge would have been helpful during the walk as illustrated by a couple visiting Durlston:

> '*Too much background knowledge of the area was assumed, I have not been here before, we did not know the places xxx was referring to*' (Respondent 545D, 2007).

Whilst, six specifically praised the guide and commented that the information had been really interesting and pitched just at the right level.

8.4.5 Quality 5 – Communication and Participation

Davidson and Black (2007) argue that a guided walk should include two-way communication where knowledge is shared and where visitors listen to one another and to the guide, moments of silence can also they suggest be an important element. Two examples of the comments recorded in relation to communication are illustrated below:

> '*A question and answer approach in a relaxed way followed the whole walk*' (Respondent 520D, 2007);
> '*We all shared our knowledge and experiences, it was wonderful*' (Respondent 510D, 2007).

However, the over-active participation of / interruption by visitors has also been a further criticism of guided walks in the literature focusing upon the ability of a guided walk to attract 'expert visitors' who are keen to share their knowledge with others in the group. In this study, 28.3% of the respondents agreed that 'expert visitors' do sometimes take part (see Table 8.3a) and that this can be detrimental to the enjoyment of the walk, 12.5% strongly agreed and only 13.5% disagreed. In detail, 60.4% of first-time visitors and 60.2% of tourists agreed whilst 28.8% of locals and 24.7% of repeat visitors disagreed (see Table 8.11). Two examples of the comments recorded in relation to other people on a guided walk are illustrated below:

> '*I did a walk many years ago, and one of the people thought he knew more than the guide and so he kept interrupting*' (Respondent 54D, 2007);
> '*Amateur experts are a bxxxxy pain on these walks, there are too many of them about sadly*' (Respondent 53D, 2007).

Interestingly, this was mentioned in a number of different contexts by respondents who took part in guided walks on the Coast, for example one respondent who complained that a keen 'wild flower' lady continually monopolised the guide on one walk:

> '*She would not leave him alone*' (Respondent 519D, 2007).

Whilst two respondents complained that a keen 'birdwatcher' constantly talked when the guide was talking and meant they had struggled to hear the guide at times, during their walk. However, the main criticism came from seven respondents across three different guided walks (wild flowers, birds and geology) who complained that the guide was interrupted on more than one occasion by someone in the group who wanted to share their knowledge with everyone as illustrated by this comment from a man visiting Durlston:

> '*I was all ready to complain if he interrupted xxx once more, but xxx handled it beautifully*' (Respondent 506D, 2007).

Ultimately however, participation by the visitors is typically a very important part of a guided walk and will include handling objects, spotting wildlife, expressing opinions about the site as well as developing personal skills, such as tracking, identification, painting or photography as illustrated by the comment from a lady visiting Durlston:

> '*We picked some flowers so that as a group we could look at them more closely*' (Respondent 519D, 2007).

Bryant states that a guided walk should be in the 'do' category, warning that those which are merely '*an outdoor lecture, belong in the low retention 'hear' category*' (2006:184). Davidson and Black (2007) argue that visitors as part of the guided experience should also be able to wander and discover things for themselves, at various times during the walk as illustrated by the comment from a family visiting Lulworth:

> '*We enjoyed the walk, but especially liked wandering about on the beach looking for finds*' (Respondent 589L, 2007).

Of those respondents who had undertaken a guided walk on the Coast, the majority said that being able to 'take part' and 'get involved' had made the walk really special for them. Identification tips were mentioned by nine and handling specimens (plant material and rock samples) by five of them as illustrated by another comment from the family visiting Lulworth:

> '*During the walk, we collected some empty shells and laid them on a rock, xxx then identified them for us*' (Respondent 589L, 2007).

However, the most popular response came from those who went on bird watching walks and were invited to listen to bird song and then identify each bird singing (repeated throughout the walk), ten respondents specifically commented on the benefit of this type of participation as illustrated by the comment from a man visiting Durlston:

> '*I shall always remember the sound of that skylark ….. we learnt so many birds songs that morning*' (Respondent 529D, 2007).

In terms of communication, Ham and Weiler (2002b) found that an articulate and a 'personable guide' (48.0%) scored highly as part of the necessary qualities of a good guide by tourists visiting the Galapagos Islands, Ecuador. Indeed, the relationship which should be established between the guide and the visitors is important and as Davidson and Black (2007:27) comment '*the rapport between the visitor and the guide is one of the key visitor satisfaction variables*'. Three examples of the comments recorded in relation to the rapport are illustrated below:

> '*xxx was clearly an expert, it was a complete joy to listen to him*' (Respondent 506D, 2007);
> '*xxx quickly spotted that some of use were beginners, he made us feel at ease straight away*' (Respondent 548D, 2007);
> '*We were not sure about the walk, but the guide was so good, we would certainly do one again with him*' (Respondent 543D, 2007).

Diment (1992) suggests that one of the three factors which is most critical in ensuring the success of a guided walk is the opportunity for interaction both socially within the group and with the guide. He suggests that a group should be given time to sit and chat, take a break and reflect on what they have seen as part of the guided experience as illustrated by the comment from a family visiting Lulworth:

> '*We liked sitting on the beach at the end of the walk looking at the shells and stones we had collected*' (Respondent 580L, 2007).

Davidson and Black (2007) also discuss the management and participation of children on guided walks; they suggest that a good guide should harness the children's energy, enthusiasm and curiosity as illustrated by the comment from a man visiting Durlston:

> '*Too many children on the last walk I went on, they were running around everywhere, the guide did not seem to be able to cope*' (Respondent 61D, 2007).

Whereas, another man visiting Durlston commented:

> '*The family walks are good, particularly when a child finds something, xxx runs good family walks, he knows what to do with the children*' (Respondent 392D, 2007).

This management can be delivered in the way in which children are used to locate the next stop or perhaps collect objects for the whole group to discuss which can be fun for them as well as freeing up their parents or friends. Ham (1992) suggests that this type of approach is often also greatly appreciated by those undertaking the walk without children.

8.4.6 Quality 6 – Emotion

Diment (1992) in commenting on the notion of guided walks being 'boring and old hat' advocates the use of the guide's passion and 'imagination' to inspire and re-vitalise the experience as illustrated by the comment from a family visiting Lulworth:

> '*Her infectious enthusiasm and interactive style made it a memorable morning*' (Respondent 514L, 2007).

Ham (1992) suggests that a guide should never be afraid of trying new things, whilst theories of effective communication and the principles of good guiding also help to enhance and improve the quality of the guided experience. Diment (1992) and Brochu (2003) both suggest that walks offering this quality of experience may well 'pay for themselves' in terms of visitor response and subsequent attitude towards other on-site services as well as to the fragile resource of the site itself as illustrated by the comment from a family visiting Lulworth:

> '*Today's walk has made us re-think our view of guided walks; we shall certainly try more in the future*' (Respondent 580L, 2007).

Ham and Weiler (2002b) found that passion and 'enthusiasm' (38.0%) scored highly as part of the necessary qualities of a good guide by tourists visiting the Galapagos Islands, Ecuador as illustrated by the comment from a couple visiting Durlston:

> '*xxx was so enthusiastic – we are really glad we did this walk with him*' (Respondent 564D, 2007).

Whilst another visitor to Durlston said:

> '*His passion for the birds of Durlston was overwhelming*' (Respondent 506D, 2007).

Ham and Weiler (2002b) also report that 76.4% of the visitors in their study on the Galapagos Islands, Ecuador rated the strongest characteristic of the guides as the 'passion' for their subject as illustrated by the comment from a family visiting Lulworth:

> '*We were glad our children met xxx today*' (Respondent 580L, 2007).

A lady on her own visiting Durlston said:

> '*Thank you for helping me discover a whole new world today, it was magical*' (Respondent 554D, 2007).

An emotional connection with the site should be stimulated and encouraged by the guide throughout the walk, for instance by ensuring that at each stop all of the visitors have gathered around the guide and can clearly see the object or view, before a commentary commences, that passion and emotion are used within the commentary, that participation by the visitors is encouraged at all times and that the guide is always on the look-out for 'teachable moments' which make a direct connection with the visitors irrespective of the theme of the walk (Brochu and Merriman, 2002; Ham, 1992) as illustrated by the comment from a couple visiting Durlston:

> '*He spotted the Green Woodpecker in flight and we all followed it to get a closer look, what a beautiful bird it was*' (Respondent 509D, 2007).

'Teachable moments' provide the opportunity for the guide to engage with the group individually and 'moments of reflection' allow for the potential development of a stronger 'personal experience' (Ward and Wilkinson, 2006) as illustrated by the comment from a family visiting Lulworth:

> '*We were looking at the rockpools when a small crab appeared, the guide picked it up for us and talked about the life of a crab in the Cove, it was great*' (Respondent 586L, 2007).

Wherever possible these moments should enable personal connections to be established and should allow the visitors at an individual level to reflect on prior experiences and thus make a stronger connection with the site (Ham, 1992). The use of 'spirit of place' is often also effective in encouraging an association and connection with the site; with the use of sights and sounds both potentially enhancing the visitors guided experience. Davidson and Black (2007) suggest that an emotional experience

can be deliberately stimulated through the use of the visitor's senses: sight, smell, sound and touch and even on occasion, taste. Two examples of the comments recorded in relation to sensory stimulation are illustrated below:

> '*We sat there in the sunshine and I heard the earth breathing*' (Respondent 549D, 2007);
> '*We sat there and felt the cool water and imagined what it was like to be a crab*' (Respondent 586L, 2007).

In relation to this study, most of the respondents who had undertaken a guided walk on the Coast agreed that as a result of undertaking the walk they now had a 'stronger association' with the site and most of them suggested that this was in part due to the enthusiasm and passion of the guide as illustrated by the comment from a couple visiting Durlston:

> '*His genial style made everything he said interesting; we shall certainly be coming again*' (Respondent 591D, 2007).

Twenty-nine respondents specifically stated that 'sharing the knowledge of an experienced guide' was the principle reason why they would return to the site for another guided walk as illustrated by the comment from a family visiting Durlston:

> '*Thanks to xxx we saw a lizard for the first time, the kids could not stop talking about how quickly it moved, they are hooked*' (Respondent 596D, 2007).

Randall and Rollins (2009) report that 'developing a keener awareness and appreciation of the area' and 'understanding the natural environment of the area' were the two most important factors (mean importance, n=4.34 and 4.44 respectively) for 168 visitors on their guided experience in the Pacific Rim National Park, British Columbia. This was illustrated by the comment from a family visiting Durlston:

> '*We had not realised the full impact of Buster* [their dog] *until we went on the bird walk*' (Respondent 599D, 2007).

8.5 A framework for future guided walks

Diment (1992) reminds site managers that guided walk programmes are '*costly to run*' (1992:3) but suggests that their power is based upon 'getting a message across' to a group of visitors and that guided walks are about the quality of the experience and the emotional connectivity with a site rather than merely a numbers exercise. Thus, based upon the discussion in the previous sub-sections, it seems appropriate that a framework for the design of guided walks is presented below which it is hoped captures the 'good practice' from the academic literature with the specific responses of visitors to questions relating to their on-site experience of guided walks and their views generally on guided walks, at natural sites.

1. Promotion and preparation of the walk

1.1 identify a topic and theme considering site, likely visitors and goals give the walk a snappy title, which reflects the theme clearly

1.2 plan the route carefully considering; length, access, difficulty, numbers, staging / end area, loop, number of stops etc.

2. Welcome and introduction (start on time)

2.1 welcome be visible, greet everyone (read your visitors)

2.2 opening remarks - introduction + comments on the walk (route, time, physical demands, 'ground rules')

2.3 move to the first stop (selected to accommodate 'latecomers', don't wait!)

3. During the walk – lead from the front!

3.1 lead from the front - watch your pace, keep to schedule but, watch out for 'teachable moments', give the audience something to think about between stops and modify the route of the walk, if conditions dictate

3.2 be a good host and involve everyone - keep monitoring the response of your audience, can they look for things, use their senses, get involved at stops?
and, don't leave children out, particularly if it is a family walk,
but manage carefully what you ask them to do, to avoid a stampede

3.3 answer Qs as you walk – but, don't let individuals monopolise you!
repeat the Q and A at a relevant stop

3.4 managing each stop - position group half each side, use of arc / elevation?
face group, use friendly and relaxed style,
use pauses and silence to emphasize points

4. Closure – (don't finish with a whimper!)

4.1 finish on time, you can always leave them wanting more!

4.2 make any final announcements, suggest future activities and thank them for coming, finish with a spectacle?

4.3 close with a clear, strong conclusion – the theme: the site: the experience and, complete the closure before reaching the staging area!

5. Reflect and review

5.1 review the walk, what worked well and what less well, make notes on potential changes for future walks

5.2 consider the use of feedback from the visitors or even other rangers and, is an informal discussion worth leading?

5.3 and finally, consider potential ideas for new walks based upon the feedback received.

Table 8.12: Framework for guided walks

The guided walk is an important component of a site's interpretive programme providing it is delivered by knowledgeable, enthusiastic and well-trained guides and constructed within a regular and carefully crafted programme of on-site events and activities. Two comments recorded in relation to the expertise of the guide nicely conclude this section, they are:

> '*xxx opened our eyes to what was about us, it's been an amazing morning*' (Respondent 574L, 2007);
> '*We are passionate about wildlife and so was the guide, the weather has been lovely, the park beautiful, we will certainly be back*' (Respondent 525D, 2007).

8.6 Summary

This chapter has presented a framework for the potential design of guided walks which has been informed by the academic literature as well as the responses of those visitors who took part in the survey to questions specifically relating to their on-site experience of guided walks as well as their views more generally on their experience(s) of guided walks at other natural and even cultural sites.

Chapter Nine

Conclusion

9.1 Introduction

This final chapter presents a conclusion to the study including a summary of the main findings and on the research methodology. It also makes recommendations based upon the data and comments upon the ways in which it has so far been used within the interpretive strategies on the Jurassic Coast World Heritage site, it also suggests findings which may be potentially applicable to other natural and possibly cultural sites. The chapter will conclude with recommendations for areas of further research.

9.2 A commentary on the main research findings and on the research methodology

This study has analysed the characteristics of the population of visitors who visited two locations on the Jurassic Coast World Heritage site, it has explored their choice of on-site activities as well as their interest in and engagement with a range of interpretive media including most specifically guided walks. The study has been able to develop a framework for the design of guided walks which could be applied at other natural sites to support the successful enhancement of the visitor experience.

9.2.1 Summary of the main research findings

In briefly commenting on the main research findings, the five objectives will be considered in turn.

Objective 1: Review the variety of hard and soft approaches recommended for the management of visitors at designated natural areas and notably natural World Heritage sites

Chapter Two explored why visitor management should be integrated into any site planning strategy and provided a review of the varied approaches of hard and soft visitor management techniques. In summary, it has suggested that effective communication with visitors is essential in order to raise their understanding of the importance and potential fragility of a natural site as well as their awareness of the ways in which the management techniques have been applied so that they are then less likely to make ill-informed actions and/or undertake activities which are undesirable on the site.

Objective 2: Review the theoretical basis which underpins the provision of the visitor interpretive experience as it relates to site management objectives

Chapter Three explored the benefits of using interpretation in order to achieve the goals of sustainable visitor management through enhancing the quality of the visitor experience and by influencing the visitors' on-site behaviour. In exploring the principles which underpin effective interpretation; the importance of a thorough and integrated understanding of the visitor, the use of clear, thematic messages and techniques and the stimulation of a 'mindful' mental state through the careful selection and design of the interpretive 'message' and 'media' were identified as being of significant importance.

The chapter introduced a range of interpretive media before presenting a more detailed and critical review of the role and operation of guided walks. Finally, in supporting the focus for this study, the chapter explored the importance of the evaluation of interpretation before reviewing the ways in which guided walks have traditionally been evaluated. This led to the

identification of the work of Ballantyne *et al*. (1998), Ham and Weiler (2002b and 2007), Pearce and Moscardo (2007) and Randall and Rollins (2009) as being of particular relevance to the design and execution of this study.

Objective 3: Analyse the choices of on-site activity made by visitors at the Jurassic Coast World Heritage site

In Chapter Seven the results were discussed with reference to other studies focusing upon the Jurassic Coast World Heritage site as well as a range of global studies focusing upon the recreational and interpretive experience of visitors in protected natural areas. In informing and guiding aspects of future research some of the key findings are summarised below which it is hoped will be tested to explore their validity at other natural sites.

The majority of all visitors to the Jurassic Coast World Heritage site came to 'enjoy the view' and take a 'casual walk'. The wildlife component of the landscape was appreciated by most visitor groups but was ranked as a particularly important component by locals, repeat visitors and those visiting with a partner or 'family and friends'. Repeat visitors also strongly favoured the idea of a 'long walk'.

In terms of the types of wildlife the visitors were most interested in viewing; birds, butterflies and marine life were the most popular responses. Marine life emerged particularly strongly with tourists and those visiting with 'family and friends' suggesting that the current practice of rock-pooling activities for visitors during the summer months on one of the study sites is likely to remain a successful one. Bird watching walks are also regularly offered on the Coast and the strong response in this

study might suggest that increasing the number of birding activities at various proficiency levels is certainly worthy of consideration by on-site managers.

In terms of designation; locals, repeat visitors and those visiting alone were the groups who were most likely to suggest that the World Heritage designation was important to them. First-time visitors and those visiting with 'family and friends' were least interested in the designation thereby identifying a potential area for further investigation.

Objective 4: Explore the importance of, and the visitors response to, on-site interpretation notably guided walks at the Jurassic Coast World Heritage site

Chapter Seven presented a discussion of the visitors' interest in and engagement with a range of on-site interpretive experiences whilst Chapter Eight concentrated upon their interest in and attitude towards guided walks.

All of the visitor groups regarded on-site 'displays and exhibits' as well as 'rangers on duty' as an important part of their visit although this response was weakest from first-time visitors and those visiting with 'family and friends'. The practice of using roving on-site rangers is particularly important given that only two-thirds of visitors regarded viewing the visitor centre as an important aspect of their experience; tourists, first-time visitors and those visiting with 'family and friends' being least interested.

On the day of their visit, about half of all first-time visitors actually went inside the visitor centre which suggests that on-site mangers might wish to consider ways of encouraging greater numbers of both them as well as repeat visitors to view the

centre. For those visitors who had been into the centre, the information provided on the site itself was favourable received. Information on the geology and wildlife of the Coast was most strongly favoured whilst 'general information' was least favourably received suggesting that perhaps the nature of the information displayed might need to be reviewed.

Tourists, first-time visitors and those visiting with family were most likely to engage with on-site signs and panels on the day of their visit whilst those visiting alone were least likely too. Most visitor groups expressed an interest in being able to obtain a guidebook and/or leaflets whilst on the site.

In relation to guided walks; locals, those visiting alone and/or with a partner were most positive. In terms of its length; a walk lasting up to one hour was the most popular response however about half of locals, repeat visitors and those visiting on their own would be happy if the walk lasted up to two hours. Birds and marine life were the most popular subjects however local history also emerged as a topic of interest whilst general wildlife walks proved less popular than might perhaps have been expected.

In managing guided walks, tourists and first-time visitors were most likely to be concerned about the number of people taking part, the intensity of the walk itself and the amount of knowledge required in advance. Tailored walks were specifically mentioned by a number of visitors with examples being the intensity of the walk and it specifically meeting the needs of children, elderly and/or physically disabled

participants. It is suggested that all of these aspects are worthy of consideration as guided walks are developed for future visitors to the Coast.

Objective 5: Develop a framework for the potential design of guided walks which could support the successful enhancement of the visitor experience

Chapter Eight presented a detailed discussion of the visitors' interest in and attitude towards guided walks, the results of which were used to construct a framework for their design. The development of this framework was also informed by the academic literature through the critical exploration of six qualities through which the success of a guided walk could be measured (Ham, 1992).

The successful promotion of and preparation for the walk was particularly important for visitors with a clear theme being presented together with the walk's nature and duration, the level of knowledge required and the physical challenge associated with undertaking it. The welcome and introduction emerged strongly with visitors who generally felt that on-site wardens were very welcoming but were often too accommodating for 'latecomers', it was felt strongly by visitors that the walk should start on time.

In relation to the structure of the walk, the need to ensure the successful management of interruptions by 'expert' visitors was critical to the enjoyment of the walk for many other visitors. The use of 'teachable moments' by rangers was widely welcomed as a way of engaging the visitor and 'magical' and 'memorable experiences' were phrases used by a number of visitors afterwards to describe particularly valued parts of their guided walk experience.

Time appears to be an issue for some visitors with a number commenting that their walk over-ran, however most also commented that their walk had ended on a very positive note and that it had been thoroughly enjoyable. They also reported that they had learned more about the area and in some cases that they now felt a stronger association with the site as a result of undertaking the walk.

Following completion of the walk, a brief review is important reflecting on what went well, what less so and on the comments received from visitors. Visitors reported that they had generally found the rangers very receptive to suggestions about guided walks more broadly on the site, as well as comments made on specific walks.

9.2.2 An evaluation of the research methodology

In section 5.6 several potential limitations were discussed which might have affected the quality of the data collected in this study; a brief summary of these is presented here.

The study in principally employing a quantitative research method could be criticised on its lack of richness of data. In order to try and overcome this, visitors were encouraged to discuss their responses as they completed the questionnaire and carefully phrased open ended questions were also incorporated. Visitors were also invited to talk freely about their experience of guided walks whilst completing the questionnaire.

In terms of the design of the survey; the size of the sample could have been increased and the length of the questionnaire proved to be of concern in that the groups of

visitors took varying lengths of time to complete it. The questionnaire was also completed by visitors who were on their own as well as by those in a social group, with those in a group tending to support each other with the responses. The weather conditions during the course of the survey period also caused some problems with the months of May, June and July 2007 being wetter than perhaps might have been expected resulting in an uneven sample being collected in these months. The researcher attempted to mitigate the impact of each of these limitations but recognises that each might in part compromise the 'generalisability' of the resulting data set.

Finally, in terms of sampling and in order to gain a cross-section of the visitors, a non-probability, purposive approach of 'quota' sampling was employed. Whilst this approach ensured that a broad cross-section of visitors was sampled on each visit it could not easily create data that could be generalised across the overall population of visitors.

9.3 Visitor management and the interpretive experience: recommendations and the impact of this research to date

The data for this study was collected in 2007 and analysed in 2008 as a result in presenting this conclusion the researcher is able to comment upon the ways in which on-site managers along the Jurassic Coast World Heritage site have applied it to date.

1. A segmentation analysis of visitors by grouping variable, visit intentions and on-site activities

In autumn 2007, a preliminary analysis of the data meant that a presentation of the broad results of this study could be delivered to on-site managers and rangers. This

presentation resulted in them deciding to undertake a review of aspects of their existing data sets based upon the data obtained through this study. In particular, the identification of sub-groups within the overall visitor population was considered to be of value and the further testing of the identified relationships and experiences was identified as being a priority for them. In consequence, the visitor surveys used at both locations were proposed to be updated to reflect the possible characteristics of these newly identified sub-groups.

A whole range of themes have emerged within this study which are potentially worthy of further exploration. Those which have been undertaken to date by site managers include; the importance of viewing particular types of wildlife, the requirements and needs of dog walkers as well as the link between repeat visitors and those undertaking a longer walk on the site. The opportunity for children to become engaged and more strongly involved with the natural landscape has been a theme which has also been explored more recently.

2. An analysis of the visitors' interest in and engagement with on-site interpretive media including guided walks

At the heart of this study was the desire to identify the visitors' interest in and engagement with on-site interpretive media and most specifically guided walks. For on-site managers a particular value of the data has been the opportunity to review current provision against the requirements of these various visitor sub-groupings and therefore to gain a stronger insight into the way in which the existing provision aligns with them.

On-site managers at both locations have welcomed the visitor appreciation for their roving team of rangers which has emerged as a strong theme within this study. At both locations the visitor engagement with rangers is seen as being of paramount importance in delivering the strategic objectives associated with the management of each site.

This study has generated a significant amount of data relating to visitor interest in and attitudes towards guided walks. Anecdotal and written evidence from visitors who participated regularly was strongly in favour of the current provision but on-site managers had weaker data relating to potential 'new' participants. The data resulting from this study has highlighted for them a number of areas for consideration including; walks associated with social history, birds walks delivered at varying levels of proficiency, marine life tailored for children, walks designed specifically for families and short introductory walks tailored for those with little knowledge of the area. The data also reveals that a divide exists between regular participants who want more of the same and potential new participants who want walks tailored to suit their lack of knowledge of the area. The structure of existing walks was predominantly regarded as being favourable; however there was evidence that group management could be improved notably in terms of start times, organisation of stops, numbers on the walk and the management of 'expert' participants.

A recent development on both sites has been the introduction of short family walks at weekends and 'wildlife' themed summer events in the hope that these might attract those visitors who do not regard a traditional 'guided walk' as a welcome part of their

on-site experience. The comments received to date suggest that these activities have proved successful in attracting and engaging new participants.

3. A framework for the design of guided walks

In developing a framework for the design of guided walks it was hoped that it would provide a valuable tool for both on-site managers and individual rangers at natural and even cultural sites when they reflected and reviewed the nature of their existing guided walk provision.

Rangers at both locations on the Jurassic Coast World Heritage site were introduced to the components of the framework in 2008 and have since begun to make use of it in two separate ways. First, the framework has been used as the basis for the development of a simple questionnaire which has been issued to participants at the end of their guided walk. Second, it has been employed by rangers as a useful guide to 'good practice' when undertaking a peer observation of each other's walks.

The framework has also been presented to a wider audience and it is now hoped that following the publication of some of the results of this study, the framework will become more greatly embedded as a guide to 'good practice' at both natural and cultural sites where guided walks form an integral part of the visitor experience.

In conclusion, it is suggested that in broad terms the results of this study are worthy of consideration by on-site managers at any natural site. The visitor grouping profiles obtained here are sufficiently detailed to enable reasonable comparison to take place with similar profiles of visitors at other natural sites. Likewise, the broad choice of

on-site activities, the reaction of visitors to on-site interpretive media and their attitudes generally towards guided walks are all potentially worthy of further exploration and critique at any natural site. Finally, it is suggested that the qualitative comments obtained in this study provide a further richness to the data which afford a useful insight for any natural location where on-site managers are reviewing their existing interpretive provision or where new media are being proposed.

9.4 Recommendations for further research

In summary, the recommendations for further research both on the Jurassic Coast World Heritage site and at other natural areas would include:

a) Using this data set and a broadly similar survey tool to initiate a similar study of visitors to the Jurassic Coast World Heritage site but with a more random sampling technique, a stratified or cluster random sampling method is suggested. The resulting data set could then be tested more widely at other natural locations;

b) Using this data set and a modified survey tool to initiate a similar study of visitors to the Jurassic Coast World Heritage site but with a more detailed focus upon the experience and engagement of children and young people with the natural setting;

c) The use of an explorative and predominantly qualitative study targeted at those visitors who choose not to engage with on-site interpretive media (notably the visitor centre) and through a short but detailed interview establish the barriers associated with their lack of engagement and therefore potential mechanisms through which they might become more engaged with the site and its interpretive offerings in the future;

d) A fuller evaluation of current guided walk provision through the participant observation of selected guided walks and the subsequent detailed interview of randomly selected participants as well as the guide who led the walk;

e) The testing of the guided walk framework in other locations and with other visitor groupings to see whether the conceptual elements hold firm in other natural settings;

f) A piece of qualitative research associated with the use of PDAs and other hand-held devices to identify if these might provide additional interpretive opportunities for those visitors who feel that participation in a guided walk is not appropriate in relation to their choice of activity whilst on the Coast.

9.5 Conclusion

This study has demonstrated that the visitors' choice of on-site activities as well as their attitudes towards and engagement with on-site interpretive media can be categorised into discrete sub-groups and that whilst interpretation should always focus upon the needs of the individual, broad themes of engagement have emerged from this data which should enable the on-site visitor manager to be able to identify a range of interpretive activities and events which could broadly meet the needs of a varied audience as well as the strategic aim and objectives of the site.

Chapter Ten

List of references

Aiello, R. 1998. Interpretation and the marine tourism industry, who needs it?: a case study of Great Adventures, Australia. *Journal of Tourism Studies,* 9(1), pp 51-61.

Alderson, W.T. and Low, S.P. 1985. *Interpretation of historic sites.* (2nd ed.). Nashville, TN: American Association for State and Local History.

Aldridge, D. 1975. *Guide to countryside interpretation, part one: principles of countryside interpretation and interpretive planning*. London: HMSO.

Andereck, K.L. and Caldwell, L.L. 1994. Motive-based segmentation of a public zoological park market. *Journal of Park & Recreation Administration,* 12(2), pp. 19-31.

Anon A. 2008. Double win for Durlston. *Your Dorset.* Summer 2008, p. 10.

Anon B. 2008. Durlston Country Park. *The Purbeck Gazette.* June 2008, p. 25.

Ap, J. 1992. Residents' perceptions on tourism impacts. *Annals of Tourism Research,* 19(2), pp.665-690.

Association for Heritage Interpretation. 2009. Definition of interpretation. *Interpretation Journal,* 14(1), pp.2.

Armstrong, E.K. and Weiler, B. 2002. Getting the message across: an analysis of messages delivered by tour operators in protected areas. *Journal of Ecotourism,* l(2&3), pp. 104-121.

Ballantyne, R. and Hughes, K. 2001. Interpretation in ecotourism settings: investigating tour guides' perceptions of their role, responsibilities and training needs. *The Journal of Tourism Studies,* 12(2), pp. 2-9.

Ballantyne, R.R. and Packer, J.M. 1996. Teaching and learning in environmental education: developing environmental conceptions. *Journal of Environmental Education,* 27(2), pp. 25-33.

Ballantyne, R., Packer, J. and Beckmann, E. 1998. Targeted interpretation: exploring relationships amongst visitors' motivations, activities, attitudes, information needs and preferences. *The Journal of Tourism Studies,* 9(2), pp. 14-25.

Ballantyne, R. and Uzzell, D.L. 1995. A checklist for the critical evaluation of information environmental learning experiences IN: Leal Fiho, W.D.S., Murphy, Z. and O'Loan, K (eds.). *A sourcebook for environmental education: a practical review based on the Belgrade Charter*. Carnforth: Parthenon / ERTCEE, University of Bradford.

Barrow, G. 1994. Interpretive planning: more to it than meets the eye. *Environmental Interpretation,* 9(2), pp. 5-7.

Bauchop, D. and Parkin, D. 2000. Minimal impact education: a new approach to walking softly. *Environmental Education and Information,* 19(2), pp. 139-150.

Beaumont, N.K. 2001. Ecotourism and the conservation ethic: recruiting the uninitiated or preaching to the converted?. *Journal of Sustainable Tourism,* 9(4), pp. 317-341.

Becken, S. and Patterson, M. 2006. Measuring national carbon dioxide emissions from tourism as a key step towards achieving sustainable tourism. *Journal of Sustainable Tourism,* 14(4), pp. 323-338.

Beck, L. and Cable, T.T. 1998. *Interpretation for the 21st century: fifteen guiding principles of interpreting nature and culture.* Champaign, IL: Sagamore Publishing.

Beckmann, E.A. 1999. Evaluating visitors' reactions to interpretation in Australian national parks. *Journal of Interpretation Research,* 4(1), pp. 5-20.

Benton, G.M. 2009. From principle to practice: four conceptions of interpretation. *Journal of Interpretation Research,* 14(1), pp. 7-31.

Bestard, A.B. and Nadal, J.R. 2007. Modelling environmental attitudes towards tourism. *Tourism Management,* 28(3), pp. 688-695.

Beunen, R., Regnerus, H.D. and Jaarsma, C.F. 2008. Gateways as a means of visitor management in national parks and protected areas. *Tourism Management,* 29(1), pp. 138-145.

Black, T.R. 1999. *Doing quantitative research in the social sciences: an integrated approach to research design, measurement and statistics.* London: Sage Publications.

Boyd, S.W. and Timothy, D.J. 2001. Developing partnerships: tools for interpretation and management of World Heritage sites. *Tourism, Recreation Research,* 26(1), pp. 44-53.

Boyd, S.W. and Timothy, D.J. 2006. Marketing issues and World Heritage sites. IN: Leask, A. and Fyall, A. (eds.) 2006. *Managing World Heritage sites*. Oxford: Elsevier Butterworth-Heinemann.

Brace, N., Kemp, R. and Snelgar, R. 2000. *SPSS for psychologists: a guide to data analysis using SPSS for windows.* London: Palgrave.

Bradley, G.A., 1976. The interpretive plan. IN: Sharpe, G.W., (ed.). *Interpreting the environment.* New York: John Wiley & Sons, pp. 23-42.

Bramwell, B. 1991. Interpretation and sustainable urban tourism. *Interpretation Journal,* 49, pp. 4-5.

Bramwell, B. and Lane, B. 1993a. Sustainable tourism: an evolving global approach. *Journal of Sustainable Tourism,* 1(1), pp. 1-5.

Bramwell, B. and Lane, B. 1993b. Interpretation and sustainable tourism: the potential and the pitfalls. *Journal of Sustainable Tourism,* 1(2), pp. 71-80.

Bramwell, B, Van der Straaten, J. and Prat, A.G. (eds.). 1996. *Sustainable tourism management: principles and practice.* Tilburg, The Netherlands: Tilburg University Press.

Broadhurst, R. 2001. *Managing* e*nvironments for leisure and recreation.* London: Routledge.

Brochu, L. 2003. *Interpretive planning: the 5-M model for successful planning projects.* NAI, CO: Interp Press.

Brochu, L. and Merriman, T. 2002. *Personal interpretation: connecting your audience to heritage resources*. NAI, CO: Interp Press.

Brunsden, D. (ed.). 2003. *A walk through time – the official guide to the Jurassic Coast*. Wareham, Dorset: Coastal Publishing.

Brunt, P. and Courtney, P. 1999. Hosts perceptions of socio-cultural impacts. *Annals of Tourism Research,* 26(3), pp. 493-515.

Bryant, M. 2006. Tilden's children: interpretation in Britain's National Parks IN: Hems, A. and Blockley, M. (eds). 2006. *Heritage interpretation*. London: Routledge.

Bryman, A. 2008. *Social research methods* (3rd ed.). Oxon: Oxford University Press.

Bryman, A. and Cramer, D. 2008. Quantitative data analysis with SPSS 14, 15 and 16: a guide for social scientists. London: Routledge.

Buckley, R. 2000. Tourism in the most fragile environments. *Tourism Recreation Research,* 25(1), pp. 31-40.

Buckley, R. 2004. The effects of World Heritage listing on tourism to Australia's national parks. *Journal of Sustainable Tourism,* 12(1), pp. 70-84.

Buckley, R. 2009. *Ecotourism: principles and practice.* Wallingford, Oxon: CAB International.

Buckley, R. 2009. Evaluating the net effects of ecotourism on the environment: a framework, first assessment and future research. *Journal of Sustainable Tourism,* 17(6), pp. 643-672.

Buhalis, D., Owen, R. and Pletinckx, D. 2006. Information communication technology applications for World Heritage site management. IN: Leask, A. and Fyall, A. (eds.) 2006. *Managing world heritage sites*. Oxford: Elsevier Butterworth-Heinemann. pp.126-144.

Butler, R.W. 1999. Tourism – an evolutionary perspective. IN: Nelson, J.G., Butler, R.W., and Wall, G. (eds.). *Tourism and sustainable development: monitoring, planning, managing, decision making: a civic approach* (2nd ed.). Waterloo, ON: University of Waterloo. pp. 27-43.

Cable, T.T. and Cadden, L. 2006. The common roots of environmental education and interpretation. *Journal of Interpretation Research*, 11(2), pp. 39-46.

Ceballos-Lascurain, H., 1996. *Tourism, ecotourism, and protected areas.* Gland, Switzerland: IUCN.

Ceballos-Lascurain, H. 1997. Introduction. IN: Lindberg, K., Wood, M.E. and Engeldrum, D, (eds). *Ecotourism: a guide for planners and managers, Vol. 2.* North Bennington: The Ecotourism Society. pp. 7-10.

Chen, H-J., Hwang, S-N., and Lee, C. 2006. Visitors' characteristics of guided interpretation tours. *Journal of Business Research*, 59(10/11), pp. 1167-1181.

Cochrane, J. 2007. Tourism, partnership and a bunch of old fossils: management for tourism at the Jurassic Coast World Heritage site. *Journal of Heritage Tourism*, 2(3), pp. 156-167.

Cochrane, J. and Tapper, R. 2006. Tourism's contribution to World Heritage site management. IN: Leask, A. and Fyall, A. (eds.) 2006. *Managing world heritage sites*. Oxford: Elsevier Butterworth-Heinemann. pp.97-109.

Cohen, E. 1985. The tourist guide: the origins, structure and dynamics of a role. *Annals of Tourism Research*, 12(1), pp. 5-29.

Cohen, L., Manion, L., and Morrison, K. 2007. *Research methods in education* (6th ed.). London: Routledge Falmer.

Cole, D.N., Hammond, T.P. and McCool, S.F. 1997. Information quantity and communication effectiveness: low-impact messages on wilderness trail-side bulletin boards. *Leisure Science*, 19, pp. 59-72.

Cole, S. 2006. Information and empowerment: the keys to achieving sustainable tourism. *Journal of Sustainable Tourism*, 14(6), pp. 629-644.

Cole, S. 2007. Implementing and evaluating a code of conduct for visitors. *Tourism Management*, 28(2), pp. 443-51.

Cooke, M. 2008. Durlston: a marketing approach to project development. *Countryside Recreation Network*, 16(1), pp. 26-29.

Cooper, C. 1991. The technique of interpretation. IN: Medlik, S. (ed.). *Managing tourism.* Oxford: Butterworth-Heinemann. Pp. 224-230.

Cooper, C., Fletcher, J., Fyall, A., Gilbert, D. and Wanhill, S. (eds.). 2008. *Tourism: principles and practice* (4th ed.). Harlow: Financial Times / Prentice Hall.

Cramer, D. 2003. *Advanced quantitative data analysis*. Maidenhead, Berks: McGraw-Hill Education.

Creswell, J.W. 1998. *Qualitative inquiry and research design: choosing among five traditions*. London: Sage Publications Ltd.

Davey, A. 2007. £5.85 million to give castle new purpose. *The Swanage and Wareham Advertiser*. 21st June 2007, p. 8.

Davidson, P. and Black, R. 2007. Voices from the profession: principles of successful guided cave interpretation. *Journal of Interpretation Research,* 12(2), pp. 25-43.

Davie, F. 1993. Regional interpretive planning: from chaos to creative connective. IN: *Open to interpretation 1993, Proceedings from the 1993 National Congress of the Interpretation Australia Association.* Newcastle: University of Newcastle. Pp. 76-83.

Davies, G.M. 1956. *The Dorset coast: a geological guide* (2nd ed.). London: A. and C. Black Ltd.

Deng, J., King, B., and Bauer, T., 2002. Evaluating natural attractions for tourism. *Annals for Tourism Research,* 29(2), pp. 422-438.

Denscombe, M. 2007. *The good research guide for small-scale social research projects* (3nd ed.). Maidenhead: Open University Press.

Diamond, J., Luke, J.J. and Uttal, D.H. 2009. *Practical evaluation guide.* (2nd ed.). Lanham, Maryland: AltaMira Press.

Diment, N. 1992. Show, tell and move on. *Interpretation*, 7(3), pp. 2.

Dorset Coast Forum. 2011. *The Forum*. Available at (www.dorsetforyou.com/dcf), last accessed August 2011.

Dorset Coastlink. 2008. *Centres*. Available at (www.coastlink.org/centres.html), last accessed August 2008.

Dorset County Council (DCC). 2000. *World heritage site proposal: the Dorset and East Devon Coast. A statement of intent by Dorset and Devon County Councils and the Dorset Coast Forum*. Dorchester: Dorset County Council.

Dorset County Council (DCC). 2006. Appendix 6. Jurassic Coast World Heritage site visitor survey 2004. IN: Durlston World Heritage Gateway Project. Dorchester: Dorset County Council. pp. 1-2.

Dorset For You. 2011a. *Dorset tourism facts 1993-2007.* Available at; (www.dorsetforyou.com/390319), last accessed August 2011.

Dorset For You. 2011b. *Dorset tourism facts 2002.* Available at; (www.dorsetforyou.com/332863), last accessed August 2011.

Dorset For You. 2011c. *The Dorset databook 2008. Available at* (www.dorsetforyou.com/media/pdf/4/0/Dorset_Databook_2008.pdf), last accessed August 2011.

Douglas, N., Douglas, N. and Derrett, R. 2001. *Special interest tourism: context and cases.* Chichester: Wiley. pp. 284-298.

Drost, A. 1996. Developing sustainable tourism for World Heritage sites. *Annals of Tourism Research*, 23(2), pp. 479-484.

von Droste, B., Silk, D. and Rossler, M. 1992. Tourism, world heritage and sustainable development. *UNEP Industry and Environment*, 15(3-4), pp. 6-9.

Durlston Country Park. 2009. *Virtual Tours*. Available at (www.durlston.co.uk/index.php?nid=90&id=154), last accessed August 2011.

Durlston Country Park. 2010a. *Facilities at Durlston.* Available at (www.durlston.co.uk/index.php?nid=49&id=33), last accessed August 2011.

Durlston Country Park. 2010b. *Learning*. Available at (www.durlston.co.uk/index.php?nid=61&id=38), last accessed August 2011.

Durlston Country Park. 2010c. *Welcome to Durlston – Photo Gallery*. Available at (www.durlston.co.uk/index.php?nid=89&id=79), last accessed August 2011.

Durlston Country Park. 2010d. *Wildlife at Durlston.* Available at (www.durlston.co.uk/index.php?nid=26&id=52, last accessed August 2011.

Durlston Country Park. 2011. *Durlston project update – July 2011*. Available at (www.durlston.co.uk/index.php?nid=104&id=123), last accessed August 2011.

Dytham, C. 2003. *Choosing and using statistics: a biologists' guide* (2nd ed.). Oxford: Blackwell Publishing.

Eagles, P.F.J., and McCool, S.F. 2004. *Tourism in national parks and protected areas: planning and management.* Wallingford, OXON: CABI Publishing.

Eagles, P.F.J., McCool, S.F. and Haynes, C.D. 2002. *Sustainable tourism in protected areas: guidelines for planning and management*. World Commission on Protected Areas (WCPA) Best Practice Protected Area Guideline Series No.8. Cambridge: IUCN Publications Unit.

European Federation of Tour Guides Associations. 1998. Definition of a guided walk. European Federation of Tour Guides Associations (brochure). Vienna, Austria: European Federation of Tour Guides Associations.

Fallon, L.D. and Kriwoken, L.K. 2003. Community involvement in tourism infrastructure – the case of the Strachan Visitor Centre, Tasmania. *Tourism Management*, 24(3), pp. 289-308.

Fennell, D.A. and Smale, B.J.A., 1992. Ecotourism and natural resource protection: implications of an alternative form of tourism for host nations. *Tourism Recreation Research*, 17(1), pp. 21-32.

Fennell, D.A. 2008. *Ecotourism* (3rd ed.). Abingdon, Oxon: Routledge.

Field, A. 2009. *Discovering statistics using SPSS* (3rd ed.). London: Sage Publications.

Field, D.R. and Wagar, J.A. 1976. People and interpretation. IN: Sharpe, G.W., (ed.). *Interpreting the environment.* New York: John Wiley & Sons, pp. 43-56

Finn, M., Elliott-White, M., and Walton, M. 2000. *Tourism and leisure research methods: data collection, analysis and interpretation.* Harlow: Pearson Education Ltd.

Fishbein, M. and Manfredo, M.J. 1992. A theory of behaviour change. IN: Manfredo, M.J. (ed.). *Influencing human behaviour: theory and applications in recreation, tourism and natural resources management.* Champaign,IL: Sagamore Publishing. pp. 29-50.

Forrester, S.A. and Singh, S. 2005. Contrived landscapes: simulated environments as an emerging medium of tourism destinations. *Tourism Recreation Research*, 30(3), pp. 69-76.

Fowler, P. 2004. *Landscapes for the world: conserving a global heritage*. Cheshire: Windgather Press Ltd.

Fyall, A., Garrod, B., Leask, A. and Wanhill, S. (eds.). 2008. *Managing visitor attractions: new directions* (2nd ed.). Oxford: Elsevier Butterworth-Heinemann.

Garfield, D. (ed.). 1993. *Tourism at World Heritage cultural sites: the site manager's handbook.* Madrid, Spain: World Tourism Organization.

Garrod, B. 2008. Managing visitor impacts IN: Fyall, A., Garrod, B., Leask, A., and Wanhill, S. (eds.). *Managing visitor attractions: new directions* (2nd ed.). Oxford: Elsevier Butterworth-Heinemann. pp.165-181.

Garrod, B., Wornell, R. and Youell, R. Re-conceptualising rural resources as countryside capital: the case of rural tourism. *Journal of Rural Studies*, 22(1), pp. 117-128.

Garrison, I.L. 1976. Living interpretation. IN: Sharpe, G.W., (ed.). *Interpreting the environment.* New York: John Wiley & Sons, pp. 177-194.

Geva, A. and Goldman, A. 1991. Satisfaction measurement in guided tours. *Annals of Tourism Research*, 18(2), pp. 177-185.

Goodey, B. 1979. The interpretation boom. *Area.* 11(4), pp. 285-288.

Goodey, B. 1994. Interpretive planning. IN: Harrison, R. (ed.). *Manual of heritage management.* Oxford: Butterworth-Heinemann, pp. 302-315.

Goodwin, H. 1996. In pursuit of ecotourism. *Biodiversity and conservation*, 7, pp. 277-291.

Goss, T. 2007. What's in a name – the impact of WHS status on tourism along the Jurassic Coast. *Countryside Recreation*, 15(2). pp. 17-23.

Gossling, S., Borgstrom Hansson, C., Horstmeier, O. and Saggel, S. 2002. Ecological footprint analysis as a tool to assess tourism sustainability. *Ecological Economics*, 43(2-3), pp. 199-211.

Goudie, A. 2006. *The human impact on the natural environment: past, present and future* (6th ed.). Oxford: Blackwell Publishing.

Graefe, A.A.R., Kus, F.R. and Vaske, J.J. 1990. *Visitor impact management.* Washington: National Parks and Conservation Association.

Graham, R., Nilsen, P. and Payne, R.J. 1988. Visitor management in Canadian national parks. *Tourism Management*, 9(1), pp. 44-62.

Grant, M. 1994. Visitor management. *Insights.* (September), pp. A41-A46.

Gunter, B. 1987. The leisure experience: selected properties. *Journal of Leisure Research*. 19(2), pp.115-130.

Hadwen, W.L., Hill, W. and Pickering, C.M. 2008. Linking visitor impact research to visitor impact monitoring in protected areas. *Journal of Ecotourism*, 7(1), pp. 87-93.

Hair, F.H., Anderson, R.E., Tatham, R.L. and Blac, W.C. 1998. *Multivariate data analysis* (5th ed.). London: Prentice Hall Inc.

Hall, C.M. and McArthur, S. 1996a. The Human dimension of heritage management: different values, different interests, different issues. IN: Hall, C.M., and McArthur, S., (eds.). *Heritage management in Australia and New Zealand: the Human dimension* (2nd ed.). Oxon: Oxford University Press, pp. 2-21.

Hall, C.M. and McArthur, S. 1996b. Strategic planning: integrating people and places through participation. IN: Hall, C.M., and McArthur, S. (eds.). *Heritage management in Australia and New Zealand: the Human dimension* (2nd ed.). Oxon: Oxford University Press, pp. 22-36.

Hall, C.M. and McArthur, S. 1996c. The marketing of heritage. IN: Hall, C.M., and McArthur, S. (eds.). *Heritage management in Australia and New Zealand: the human dimension* (2nd ed.). Oxon: Oxford University Press, pp. 74-87.

Hall, C.M. and McArthur, S. 1996d. Natural places: an introduction. IN: Hall, C.M., and McArthur, S. (eds.). *Heritage management in Australia and New Zealand: the human dimension* (2nd ed.). Oxon: Oxford University Press, pp. 128-134.

Hall, C.M. and McArthur, S. 1998. *Integrated heritage management: principles and practice.* London: The Stationery Office.

Hall, C.M. and Page, S.J. 1999. *The geography of tourism and recreation: environment, place and space.* London: Routledge.

Hall, C.M. and Piggin, R. 2002. Tourism business knowledge of World Heritage sites: a New Zealand case study. *International Journal of Tourism Research,* 4(5), pp. 401-411.

Hall, T.E., Ham, S.H. and Lackey, B.K. 2010. Comparative evaluation of the attention capture and holding power of novel signs aimed at park visitors. *Journal of Interpretation Research,* 15(1), pp. 15-36.

Ham, S.H. 1992. *Environmental interpretation: a practical guide for people with big ideas and small budgets.* Golden, Colorado: North American Press.

Ham, S.H. 2009. From interpretation to protection: is there a theoretical basis? *Journal of Interpretation Research,* 14(2), pp. 49-57.

Ham, S.H. and Weiler, B. 2002a. Interpretation as the centrepiece of sustainable wildlife tourism. IN: Harris, R., Griffin, T. and Williams, P. (eds.). *Sustainable tourism: a global perspective.* Oxford: Butterworth-Heinemann. pp. 35-44.

Ham, S.H. and Weiler, B. 2002b. Towards a theory of quality in cruise-based interpretive guiding. *Journal of Interpretation Research,* 7(2), pp. 29-49.

Ham, S.H. and Weiler, B. 2007. Isolating the role of on-site interpretation in a satisfying experience. *Journal of Interpretation Research,* 12(2), pp. 5-24.

Hammitt, W.E., 1981. A theoretical foundation for Tilden's interpretive principles. *Journal of Environmental Education,* 12(3), pp. 13-16.

Hammitt, W.E., 1984. Cognitive process involved in environmental interpretation. *Journal of Environmental Education,* 15, pp. 11-15.

Hammitt, W.E., and Cole, D.N. 1987. *Wildland recreation: ecology and management.* Toronto: John Wiley & Sons.

Hems, A. and Blockley, M. (eds). 2006. *Heritage interpretation*. London: Routledge.

Hendee, J.C., Stankey, G.H. and Lucas, R.C. 1990. *Wilderness management* (2nd ed.). Golden, Colorado: North American Press.

Herbert, D.T. 1989. Does interpretation help? IN: Herbert, D.T., Prentice, R.C., and Thomas, C.J., (eds.). *Heritage sites: strategies for marketing and development.* Aldershot: Avebury. pp. 191-230.

Hicks, M. 1995. Visitor management in action: Stratford-upon-Avon's national pilot, 1992-1995. *Insights*, pp C25-C37.

Holden, A. 2000. *Environment and tourism*. London: Routledge.

Holden, A. 2008. *Environment and tourism* (2nd ed.). London: Routledge.

Holloway, J.C. 1981. The guided tour: a sociological approach. *Annals of Tourism Research*. 8(3), pp.377-401.

Honey, M. 1999. *Ecotourism and sustainable development: who owns paradise?* Washington DC: Island Press.

House, M.R. 1993. *Geology of the Dorset coast* (2nd ed.). London: The Geologists' Association.

Howard, J. 2000. Research in progress: does environmental interpretation influence behaviour through knowledge or affect? *Australian Journal of Environmental Education*, 15/16, pp. 153-6.

Howard, P. 2003. *Heritage: management, interpretation and identity*. London: Continuum.

Huang, Y., Deng, J., Li, J. and Zheng, Y. 2008. Visitor's attitudes towards China's national forest park policy, roles and functions, and appropriate use. *Journal of Sustainable Tourism*, 16(1), pp. 63-84.

Huffmann, M.G. and Williams, D.R. 1987. The use of microcomputers for park trail information dissemination. *Journal of Park and Recreation Administration*, 5(1), pp. 34-46.

Hughes, M. and Morrison-Saunders, A. 2002. Impact of trail-side interpretive signs on visitor knowledge. *Journal of Ecotourism*, 1(2&3), pp. 122-132.

Hughes, M. and Morrison-Saunders, A. 2005. Influence of on-site interpretation intensity on visitors to natural areas. *Journal of Ecotourism*, 4(3), pp. 161-177.

Hungerford, H.R. and Volk, T.L. 1990. Changing learner behaviour through environmental education. *Journal of Environmental Education,* 21(3), pp. 8-21.

Hunter, C.J. 1995. On the road to re-conceptualise sustainable tourism development. *Journal of Sustainable Tourism,* 3(3). pp.155-165.

Hunter, C. and Shaw, J. 2007. The ecological footprint as a key indicator of sustainable tourism. *Tourism Management, 2*8(1), pp. 47-57.

Hwang, Y., Kim, S. and Jeng, J. 2000. Examining the causal relationship amongst selected antecedents of responsible environmental behaviour. *Journal of Environmental Education,* 31(4), pp. 19-25.

Inskeep, E. 1991. *Tourism planning: an integrated and sustainable development approach.* New York: Van Nostrand Reinhold.

Interpretation Australia Association, (2008). *About IAA.* Available at (www.interpretationaustralia.asn.au), last accessed August 2008.

Jansen-Verbeke, M. 1997. Urban tourism: Managing resources and visitors. IN: Wahab, S. and Pigram, J.J. (eds.). *Tourism development and growth.* London: Routledge. pp. 237-256.

Jansen-Verbeke, M. and Lievois, E. 1999. Analysing heritage resources for urban tourism in European cities. IN: Pearce, D.G. and Butler, R.W. (eds.). *Contemporary issues in tourism development.* London: Routledge. pp. 81-107.

Jeffries, M.J. 1997. *Biodiversity and conservation.* London: Routledge.

Jennings, G. 2001. *Tourism research.* Milton, Qld, Australia: John Wiley & Sons.

Jha, S. 2005. Can natural World Heritage sites promote development a social harmony? *Biodiversity & Conservation,* 14(4), pp. 981-999.

Johnson, D. (2002). Towards sustainability: examples from the UK coast. In: Harris, R., Griffin, T., and Williams, P., (eds.). *Sustainable tourism: a global perspective.* Oxford: Butterworth-Heinemann, pp. 166-179.

Jones, M. 1993. The elusive reality of landscape. IN: Fladmark, J.M. (ed.). *Heritage: conservation, interpretation and enterprise.* London: Donhead Publishing. pp. 17-41.

Jurassic Coast Team, (2011a). *Conserving the Coast*. Available at (www.jurassiccoast.com/309/section/conserving-the-coast-35.html), last accessed August 2011.

Jurassic Coast Team. (2006b). *Jurassic Coast Trust.* Available at (www.jurassiccoast.com/302/category/jurassic-coast-trust-169.html), last accessed August 2008.

Jurassic Coast Team. (2011c). *The coast uncovered – image gallery: Purbeck.* Available at www.jurassiccoast.com/component/zoom/316/purbeck-8/index.html, last accessed August 2011.

Jurassic Coast Team, (2011d). *Visiting the Jurassic Coast.* Available at (www.jurassiccoast.com), last accessed August 2011.

Jurassic Coast Team, (2011e). *West Dorset: Charmouth.* Available at (www.jurassiccoast.com/323/visiting-the-coast-31/maps-189/general-information-map-for-west-dorset-399.html), last accessed August 2011.

Jurassic Coast Team. (2011f). *World Heritage site management.* Available at (www.jurassiccoast.com/299/category/whs-management-167.html), last accessed August 2011.

Jurassic Coast Trust. 2011. *Welcome to the Jurassic Coast Trust*. Available at (www.whct.org.uk/index.html), last accessed August 2011.

Jurassic Coast World Heritage Steering Group, (2009). *Jurassic Coast World Heritage site management plan 2009-2014.* Available at (www.jurassiccoast.com/media/pdf/World%20Heritage%20Site%20Management%20Plan.pdf), last accessed August 2011.

Jurassic Coast World Heritage Steering Group, (2005). *Jurassic Coast interpretation action plan*. Available at (www.jurassiccoast.com/media/pdf/a/2/JCWHSInterpretationActionPlanMarch2005_1.pdf), last accessed August 2011.

Keirle, I. 2002. *Countryside recreation site management: a marketing approach.* London: Routledge.

Keirle, I. and Stephens, M. 2004. Do walkers stay on footpaths? an observational study of Cwm Idwal in the Snowdonia National Park. *Countryside Recreation*, 12(2), pp. 7-9.

Kinnear, P.R. and Gray, C.D. 2006. *SPSS 14 made simple*. Hove, East Sussex: Psychology Press.

Klenosky, D.B., Frauman, E., Norman, W.C. and Gengler, C.E. 1998. Nature-based tourists' use of interpretive services: a means-end investigation. *Journal of Tourism Studies*, 9(2), pp. 26-36.

Knapp, D. 1995. Moving beyond Tilden: producing behaviour change goals for environmental interpretation. *Legacy*, January/February 1995, pp. 20-23.

Knapp, D. 2006. My relationship with interpretation and environmental education. *Journal of Interpretation Research*, 11(2), pp. 54-56.

Knudson, D.M., Cable, T.T., and Beck, L. 1995. *Interpretation of cultural and natural resources.* State College, PA: Venture Publishing Inc.

Kotler, P., Bowen, J. and Makens, J. 1996. *Marketing for hospitality and tourism.* Upper Saddle River: Prentice Hall Inc.

Krejcie, R.V. and Morgan, D.W. 1970. Determining sample size for research activities. *Educational and Psychological Measurement,* 30(3), pp. 607-610.

Kuo, I-Ling. 2002. The effectiveness of environmental interpretation at resource-sensitive tourism destinations. *International Journal of Tourism Research,* 4(2), pp. 87-101.

Lane, B. 1991. Sustainable tourism: a new concept for the interpreter. *Interpretation Journal,* 49, pp. 1-4.

Larsen, D.L. 2008. Certification and the National Park Service. *Journal of Interpretation Research,* 13(1), pp. 47-50.

Larwood, J. 2002. A wonder of the world. *Earth Heritage,* 18. pp.16-17.

Lawton, L. and Weaver, D. 2000. Nature-based tourism and ecotourism. IN Faulkner, B., Moscardo, G. and Laws, E. (ed.). *Tourism in the 21st century: lessons from experience.* London: Continuum. pp. 34-48.

Leask, A. 2006. World Heritage site designation. IN: Leask, A. and Fyall, A. (eds.) 2006. *Managing world heritage sites.* Oxford: Elsevier Butterworth-Heinemann. pp.5-19.

Leask, A. and Fyall, A. (eds.) 2006. *Managing World Heritage sites.* Oxford: Elsevier Butterworth-Heinemann.

Lewis, W.J. 1980. *Interpreting for park visitors.* Conshohocken, PA: Eastern Acorn Press.

Light, D. 1995. Visitors' use of interpretive media at heritage sites. *Leisure Studies,* 14(2), pp. 132-149.

Lindberg, K., Epler Wood, M. and Engeldrum, D. 1998. *Ecotourism: a guide for planners and managers. Volume 2.* Vermont, USA: The Ecotourism Society.

Lindberg, K., McCool, S. and Stankey, G.H. 1997. Rethinking carrying capacity. *Annals of Tourism Research,* 24, pp. 461-465.

Lulworth Cove Online. (2011). *Lulworth Online: about Lulworth Cove and the surrounding areas.* Available at (www.lulworthonline.co.uk/page/beaches/lulworth_cove), last accessed August 2011.

Lulworth Estate, (2009a). *Lulworth Cove heritage centre.* Available at (www.lulworth.com/education/heritage_centre.htm), last accessed August 2011.

Lulworth Estate, (2009b). *Lulworth Cove World Heritage site.* Available at (www.lulworth.com/education/world_heritage.htm), last accessed August 2011.

Lulworth Estate, (2009c). *Management strategy.* Available at (www.lulworth.com/education/management_statement.htm), last accessed August 2011.

Lulworth Estate, (2009d). *The fossil forest.* Available at (www.lulworth.com/education/fossil_forest.htm), last accessed August 2011.

Lulworth Estate, (2009e). *The Lulworth coastline.* Available at (www.lulworth.com/education/coast.htm), last accessed August 2011.

MacFarlane, J. 1994. Some definitions of interpretation. *HII News.* (July).

Machlis, G.E. and Field, D.R. (eds.). 1984. *On interpretation: sociology for interpreters of natural and cultural history.* Corvallis, Oregon: Oregon State University Press.

Madin, E.M.P and Fenton, D.M. 2004. Environmental interpretation in the Great Barrier Reef Marine Park: an assessment of programme effectiveness. *Journal of Sustainable Tourism,* 12(2), pp. 121-137.

Malloy, D.C. and Fennell, D.A. 1998. Codes of ethics and tourism: an explanatory content analysis. IN: Fennell, D.A. 1999. *Ecotourism: an introduction.* London: Routledge.

Marsh, J.S. 1986. *Natural and cultural heritage interpretation evaluation.* Ottawa: Interpretation Canada.

Mason, J. 1996. *Qualitative research.* London: Sage.

Mason, P. 1994. A visitor code for the Arctic. *Tourism Management,* 15(2), pp. 93-97.

Mason, P. 1997. Tourism codes of conduct in the Arctic and Sub-Arctic region. *Journal of Sustainable Tourism,* 5(2), pp. 151-165.

Mason, P. 2005. Visitor management in protected areas: from hard to soft approaches? *Current Issues in Tourism,* 8(2-3), pp. 181-194.

Mason, P. and Kuo, I-Ling. 2006. Visitor management at Stonehenge, UK. IN: Leask, A. and Fyall, A. (eds.) 2006. *Managing world heritage sites*. Oxford: Elsevier Butterworth-Heinemann. pp.181-194.

Mason, P. and Mowforth, M. 1996. Codes of conduct in tourism. *Progress in Tourism and Hospitality Research,* 2, pp. 151-167.

Mathieson, A. and Wall, G., 1982. *Tourism: economic, physical and social impacts.* Harlow: Longman.

Mayer, C.C. and Wallace, G.N. 2008. The interpretive power of setting. *Journal of Interpretation Research,* 13(2), pp. 7-29.

McArthur, S. 1994a. Evaluating interpretation – what's been done and where to from here? IN *Interpretation attached to heritage*. A paper presented at the Third Annual Conference of the Interpretation Australia Association. Collingwood, Victoria: Interpretation Australia Association. pp.116-125.

McArthur, S. 1994b. Acknowledging a symbiotic relationship: better heritage management via better visitor management. *Australian Parks and Recreation,* (Spring), pp. 12-17.

McArthur, S. 1998. Introducing the undercapitalized world of interpretation. IN: Lindberg, K., Epler Wood, M. and Engeldrum, D. (eds.). Ecotourism: a guide for planners and managers, Vol. 2. North Bennington, Vermont: The Ecotourism Society.

McArthur, S. and Hall, C.M. 1996a. Visitor management: principles and practice. IN: Hall, C.M. and McArthur, S. (eds.). *Heritage management in Australia and New Zealand: the human dimension.* (2nd ed.). Oxon: Oxford University Press. pp. 37-51.

McArthur, S. and Hall, C.M. 1996b. Visitor research and monitoring. IN: Hall, C.M. and McArthur, S. (eds.). *Heritage management in Australia and New Zealand: the human dimension*. (2nd ed.). Oxon: Oxford University Press. pp. 52-73.

McArthur, S. and Hall, C.M., 1996c. Interpretation: principles and practice. IN: Hall, C.M., and McArthur, S. (eds). *Heritage management in Australia and New Zealand: the human dimension.* (2nd ed.). Oxon: Oxford University Press, pp. 88-106.

McAvoy, L.H. and Hamborg, R. 1984. Wilderness visitor knowledge of regulations: a comparison of visitor contact methods. *Journal of Interpretation,* 9(1), pp. 31-10.

Mclntosh, P.A. 1976. Signs and labels. IN: Sharpe, G.W., (ed.). *Interpreting the environment.* New York: John Wiley & Sons, pp. 215-232.

McKercher, R. 1993. Some fundamental truths about tourism: understanding tourism's social and environmental impacts. *Journal of Sustainable Tourism,* 1(1), pp. 6-16.

McKercher, R. and Wong, D.Y.Y. 2004. Understanding tourism behaviour: examining the combined effects of prior visitation history and destination status. *Journal of Travel Research,* 43(2), pp. 171-179.

Meredith, J.E. 2000. Creating positive interpretive experiences for visitors: give 'em what they want – and more. *Legacy,* July-August 2000, pp. 34-38.

Merriman, T. and Brochu, L. 2005. *Management of interpretive sites: developing sustainable operations through effective leadership*. NAI, CO: Interp Press.

Merriman, T. and Brochu, L. 2006. *The history of heritage interpretation in the United States*. NAI, CO: Interp Press.

Millar, S. 1989. Heritage management for heritage tourism. *Tourism Management,* 10(1), pp. 9-14.

Millar, S. 2006. Stakeholders and community participation. IN: Leask, A. and Fyall, A. (eds.) 2006. *Managing world heritage sites*. Oxford: Elsevier Butterworth-Heinemann. pp.37-54.

Miller, L.R., Dickinson, J.E. and Pearlman-Houghie, D.J. 2001. Quiet enjoyment in the National Parks of England and Wales: public understanding of the term and its influence on attitudes towards recreational activities. *Leisure Studies, 20(1),* pp. 19-40.

Mills, E.A. 1920. *The adventures of a nature guide.* Garden City, NY: Doubleday Page.

Morgan, M. and Dong, X. 2008. Measuring passenger satisfaction on interpretive programming on two Amtrak trains in the Midwest. *Journal of Interpretation Research,* 13(2), pp. 43-58.

Morgan, M.J. and Hodgkinson, M. 1999. The motivation and social orientation of visitors attending a contemporary zoological park. *Environment & Behavior*, 31(2), pp. 227-239.

Moscardo, G. 1996. Mindful visitors: heritage and tourism. *Annals of Tourism Research,* 23(2), pp. 376-397.

Moscardo, G. 1998. Interpretation and sustainable tourism: functions, examples and principles. *Journal of Tourism Studies,* 9(1), pp. 2-13.

Moscardo, G. 1999. *Making visitors mindful: principles for creating quality sustainable visitor experiences through effective communication.* Champaign, IL: Sagamore Publishing.

Moscardo, G. 2000. Cultural and heritage tourism. IN: Faulkner, B., Moscardo, G. and Laws, E. (eds). *Tourism in the 21st century.* London: Continnum. pp. 3-17.

Moscardo, G. 2000a. Interpretation. IN: Jafari, J. (ed.). *Encyclopedia of tourism*. London: Routledge. pp.327-328.

Moscardo, G. and Ballantyne, R. 2008. Interpretation and attractions. IN: Fyall, A., Garrod, B., Leask, A., and Wanhill, S. (eds.). *Managing visitor attractions: new directions* (2nd ed.). Oxford: Elsevier Butterworth-Heinemann.

Moscardo, G., Ballantyne, R. and Hughes, K. 2007. *Designing interpretive signs: principles in practice*. Golden, CO: Fulcrum Publishing.

Moscardo, G. and Pearce, P.L. 1986. Visitor centres and environmental interpretation: an exploration of the relationships among visitor enjoyment, understanding and mindfulness. *Journal of Environmental Psychology,* 6, pp. 89-108.

Moscardo, G. and Woods, B. 1998. Managing tourism and the experiences of visitors on Skyrail. IN: Laws, E., Faulkner, B. and Moscardo, G. (eds.). *Embracing and managing change in tourism*. London: Routledge. pp. 307-323

Munro, J.K. Morrison-Saunders, A., and Hughes, M. 2008. Environmental interpretation evaluation in natural areas. *Journal of Ecotourism*, 7(1), pp. 1-14.

Murray, H. and Cooke, M. 2006. *Durlston management plan 2005-2010*. Dorchester: Dorset County Council.

Musgrave, R.A. and Musgrave, P.B. 1989. *Public finance in theory and practice* (5th ed.). Singapore: McGraw-Hill Book Co.

Natural History Museum. (2003). *The Natural History Museum scoping study on interpretation facilities.* Available at (www.jurassiccoast.com/media/pdf/1/1/JCWHSifiFinalreport.pdf), last accessed August 2011.

Negra, C. and Manning, R.E. 1997. Incorporating environmental behavior, ethics, and values into non-formal environmental education programs. *Journal of Environmental Education*, 28(2), pp. 10-21.

Neuman, W.L. 2010. *Social research methods: qualitative and quantitative approaches* (7th ed.). Needham Heights, MASS: Pearson Education.

Newsome, D., Moore, S.A. and Dowling, R.K. 2002. *Natural area tourism: ecology, impacts and management*. Clevedon: Channel View Publications.

Nixon, L., Smith, L. and Upcher, C. 1994. Absence makes the heart grow fonder IN *Interpretation attached to heritage*. A paper presented at the Third Annual Conference of the Interpretation Australia Association. Collingwood, Victoria: Interpretation Australia Association. pp.137-141.

Norusis, M.J. 2006. *SPSS 15.0 guide to data analysis*. Upper Saddle River, NJ: Prentice Hall.

Novey, L. 2008. Why we should communicate rather than interpret: a call to arms. *Journal of Interpretation Research*, 13(1), pp. 51-58.

Olson, E.C., Bowman, M.L. and Roth, R.E. 1984. Interpretation and non-formal environmental education in natural resource management. *Journal of Environmental Education*, 15(4), pp. 6-10.

Oppenheim, A.N. 2000. *Questionnaire design, interviewing and attitude measurement.* London: Continuum.

Orams, M. 1994. Creating effective interpretation for managing interaction between tourists and wildlife. *Australian Journal of Environmental Education*, 10, pp. 21-34.

Orams, M.B. 1996a. A conceptual model of tourist - wildlife Interaction: the case for education as a management strategy. *Australian Geographer,* 27(1), pp. 39-51.

Orams, M.B. 1996b. Using interpretation to manage nature-based tourism. *Journal of Sustainable Tourism,* 4(2), pp. 81-94.

Orams, M.B. 1997. The effectiveness of environmental education: can we turn tourists into "greenies"? *Progress in Tourism and Hospitality and Research,* 3, pp. 295-306.

Orams, M.B. and Hill, G.J.E. 1998. Controlling the ecotourist in a wild dolphin feeding program: is education the answer?. *Journal of Environmental Education,* 29(3). pp. 33-39.

Orams, M.B. 1999. *Marine tourism: development, impacts and management*. London: Routledge.

Page, S.J., and Dowling, R.K. 2002. *Ecotourism.* Harlow: Pearson Education Limited.

Page, S.J. 2011. *Tourism management: an introduction* (4th ed.). Oxford: Butterworth-Heinemann.

Pallant, J. 2010. *SPSS survival manual: a step by step guide to data analysis using SPSS.* (4th ed.). Maidenhead: Open University Press / McGraw-Hill Education.

Pearce, P.L. and Moscardo, G. 2007. An action research appraisal of visitor centre interpretation and change. *Journal of Interpretation Research,* 12(1), pp. 29-50.

Pearson, M. and Sullivan, S. 1995. *Looking after heritage places: the basics of heritage planning for managers, landowners and administrators.* Carlton: Melbourne University Press.

Perkins, J.W. 1977. *Geology explained in Dorset.* Newton Abbot, Devon: David & Charles.

Perkins, H. and Grace, D.A. 2009. Ecotourism: supply of nature or tourist demand? *Journal of Ecotourism,* 8(3), pp. 223-236.

Philip, L.J. 1998. Combining quantitative and qualitative approaches to social research in human geography - an impossible mixture? *Environment and Planning,* 30, pp. 261-276.

Pierssene, A. 1999. *Explaining our world: an approach to the art of environmental interpretation.* London: E & FN Spon.

Pigram, J. 1983. *Outdoor recreation and resource management.* Beckenham: Croom Helm.

Pine II, J. and Gilmore, J.H. 1999. *The experience economy: work is theatre and every business a stage*. Boston: Harvard Business School Press.

Plimmer, W.N. 1992. Managing for growth: regulation versus the market. IN: *Proceedings of Conference: ecotourism business of the Pacific.* Auckland: University of Auckland. pp. 122-125.

Pond, K.L. 1993. *The professional guide: dynamics of tour guiding*. New York: John Wiley & Sons.

Poon, A. 1993. *Tourism, technology and competitive strategies*. Wallingford, OXON: CABI.

Poria, Y., Biran, A. and Reichel, A. 2009. Visitors' preferences for interpretation at heritage sites. *Journal of Travel Research,* 48(1), pp. 92-105.

Poria, Y., Butler, R. and Airey, D. 2004. Links between tourism, heritage and reasons for visiting heritage sites. *Journal of Travel Research,* 43(1), pp. 19-28.

Poria, Y., Reichel, A. and Biran, A. 2006. Heritage site perceptions and motivations to visit. *Journal of Travel Research,* 44(3), pp. 318-326.

Prentice, R., Guerin, S. and McGugan, S. 1998. Visitor learning at a heritage attraction: a case study *of Discovery* as a media product. *Tourism Management*, 19(1), pp. 5-23.

Prior, M. 1992. Responding to threat, psychology and environmental issues. *Habitat Australia,* April, pp. 12-14.

Puri, B.K. 2002. *SPSS in practice: an illustrated guide.* (2nd ed.). London: Hodder Arnold.

Putney, A.D. and Wagar, J.A. 1973. Objectives and evaluation in interpretive planning. *Journal of Environmental Education*, 5(1), pp. 43-44.

Quinn, G.P. and Keough, M.J. 2002. *Experimental design and data analysis for biologist.* Cambs: Cambridge University Press.

Regnier, K., Gross, M. and Zimmerman, R. 1994. *The interpreter's guidebook: techniques for programs and presentation*. (3rd ed.). Stevens Point, WI: UW-SP Foundation Press Inc.

Reisinger, Y. and Steiner, C. 2006. Reconceptualising interpretation: the role of tour guides in authentic tourism. *Current Issues in Tourism*, 9(6), pp. 481-498.

Risk, P.H. 1976. The interpretive talk. IN: Sharpe, G.W., (ed.). *Interpreting the environment.* New York: John Wiley & Sons, pp. 159-176.

Roberts, L. and Hall, D. 2001. *Rural tourism and recreation: principles to practice*. Oxon: CABI Publishing.

Robson, C. 2002. *Real world research.* (2nd ed.). Oxford: Blackwell Publishers.

Roggenbuck, J.W. 1992. Use of persuasion to reduce resource impacts and visitor conflicts. IN: Manfredo, M.J. (ed.). *Influence human behaviour: theory and applications in recreation, tourism and natural resource management.* Champaign, IL: Sagamore Publishing. pp. 149-208.

Roggenbuck, J.W. and Berrier, B.L., 1982. A comparison of the effectiveness of two communication strategies in dispersing wilderness campers. *Journal of Leisure Research,* 14(1), pp. 77-89.

Rollins, R. and Robinson, D. 2002. Social science, conservation and protected areas. IN: Dearden, P. and Rollins, R. (eds). *Parks and protected areas in Canada: planning and management (2nd ed.).* Oxon: Oxford University Press. pp. 117-147.

Rose, S. 2005. *Jurassic Coast: Dorset and East Devon World Heritage site – interpretation action plan.* Dorchester: Dorset and East Devon World Heritage site Steering Group.

Sandford Report. 1974. *Report of the National Park Policies Review Committee*. London: HMSO.

Sapsford, R. 2006. *Survey research* (2nd ed.). London: Sage.

Sarantakos, S. 2005. *Social research* (3rd ed.). Basingstoke, Hants: Palgrave Macmillan.

Saunders, M., Lewis, P. and Thornhill, A. 2009. *Research methods for business students* (5th ed.). Harlow: Financial Times / Prentice Hall.

Saunders, R. 1992. Voices in the wilderness: interpreting Tasmania's World Heritage area. *Australian Parks and Recreation,* 28(1), pp. 16-19.

Saxe, D.W. 2009. Living history: an experimental model mixing heritage and entertainment. *Journal of Interpretation Research,* 14(1), pp. 33-46.

Schanzel, H.A. and Mclntosh, A. 2000. An insight into the personal and emotive context of wildlife viewing at the Penguin Place, Otago Peninsula, New Zealand. *Journal of Sustainable Tourism,* 8(1), pp. 36-52.

Sekaran, U. and Bougie, R. 2009. *Research methods for business: a skill building approach* (5th ed.). New York: John Wiley and Sons.

Shackley, M. 1996. *Wildlife tourism*. London: International Thomson Business Press.

Shackley, M. (ed.). 1998. *Visitor management: case studies from World Heritage sites.* Oxford: Butterworth-Heinemann.

Shackley, M. 1998a. The cultural landscape of Rapa Nui (Easter Island, Chile). IN: Shackley, M. (ed.). *Visitor management: case studies from World Heritage sites.* Oxford: Butterworth-Heinemann. pp. 66-81.

Shackley, M. 2006. Visitor management at World Heritage sites. IN: Leask, A. and Fyall, A. (eds.) 2006. *Managing world heritage sites.* Oxford: Elsevier Butterworth-Heinemann. pp.83-93.

Sharpe, G.W. (ed.). 1976. *Interpreting the environment.* New York: John Wiley & Sons.

Sheail, J. 1998. Nature conservation in Britain: the formative years. London: The Stationery Office.

Shultis, J.D. and Way, P.A. 2006. Changing conceptions of protected areas and conservation: linking conservation, ecological integrity and tourism management. *Journal of Sustainable Tourism,* 14(3), pp. 223-237.

Slee, R.W. 1980. Interpretation at water-based sites in the Dartmoor National Park. *Bulletin of Environmental Education,* nos. 112-133, pp. 11-16.

Smith, M.K. 2003. *Issues in cultural tourism studies.* London: Routledge.

Smith-White, S.J. 1976. The use of audio devices. IN: Sharpe, G.W., (ed.). *Interpreting the environment.* New York: John Wiley & Sons, pp. 195-214.

Sonak, S. 2004. Ecological footprint of production: a tool to assess environmental impacts of tourism activity. *Journal of Tourism Studies,* 15(2), pp. 2-12.

Splertstoesser, J. and Folks, M.C. 1994. Environmental guidelines for tourism in Antarctica. *Annals of Tourism Research,* 21(2), pp. 231-244.

Stewart, E.J., Hayward, B.M., Devlin, P.J. and Kirby, V.G. 1998. The 'place' of interpretation: a new approach to the evaluation of interpretation. *Tourism Management,* 19(3), pp. 257-266.

Stewart, E.J., Glen, M.H., Daly, K. and O'Sullivan, D. 2001. To centralise or disperse - a question for interpretation: a case study of interpretive planning in the Brecks. *Journal of Sustainable Tourism,* 9(4), pp. 342-355.

Tabachnick, E.G. and Fidell, L.S. 2005. *Using multivariate statistics* (5th ed.). Harlow: Pearson Education.

Terborgh, J. van Schaik, C., Davenport, L., and Rao, M. 2002. *Making parks work: strategies for preserving tropical nature.* London: Island Press.

Therkelsen, A. and Sorensen, A. 2005. Reading the tourist guidebook: tourists' ways of reading and relating to guidebooks. *Journal of Tourism Studies,* 16(1), pp. 48-60.

Thom, V.M. 1980. Evaluating countryside interpretation: a critical look at the current situation. *Museums Journal,* 79(4), pp. 179-185.

Thorsell, J. and Sigaty, T. 2001. Human use in World Heritage natural sites: a global inventory. *Tourism, Recreation Research,* 26(1), pp. 85-101.

Tilden, F. 1977. *Interpreting our heritage* (3rd ed.). Chapel Hill: The University of North Carolina Press.

Timothy, D.J. and Boyd, S.W. 2003. *Heritage tourism.* Harlow: Pearson Education Ltd.

Tribe, J., Font, X., Griffiths, N., Vickery, R. and Yale, K. 2000. *Environmental management for rural tourism and recreation.* London: Cassell.

Tubb, K.N. 2003. An evaluation of the effectiveness of interpretation within Dartmoor national park in reaching the goals of sustainable tourism development. *Journal of Sustainable Tourism,* 11(6), pp. 476-498.

Tull, D.S. and Hawkins, D.I. 1990. *Marketing research: measurement and method* (5th ed.). New York: John Wiley & Sons Inc.

Turley, S. 1998. Hadrian's Wall (UK): managing the visitor experience at the Roman frontier. IN: Shackley, M. (ed.). *Visitor management: case studies from World Heritage sites.* Oxford: Butterworth-Heinemann. pp. 100-120.

Turner, A. 1994. Managing impacts: measurement and judgement in natural resource management. IN: Mercer, D. (ed.). *New viewpoints in Australian outdoor recreation research and planning.* Melbourne: Hepper, Marriot & Associates Publishers. pp. 129-140.

UNESCO. 2002. *Operating guidelines for the implementation of the World Heritage convention.* Paris: UNESCO.

UNESCO-UNEP. 1978. The Tbilisi Declaration. *Connect,* 3(1), pp. 1-8.

Urry, J. 2002. *The tourist gaze* (2nd ed.). London: Sage.

Uzzell, D.L. 1989. Introduction: the visitor experience IN: Uzzell, D.L. (ed.). *Heritage interpretation, vol. 2: the visitor experience*. London: Belhaven Press. pp. 1-15.

Uzzell, D. 1998. Strategic considerations and practical approaches to the evaluation of heritage and environmental interpretation. IN: Uzzell, D. & Ballantyne, R. (eds.). *Contemporary issues in heritage and environmental interpretation.* London: The Stationery Office. pp. 185-202

Valentine, P. 1992. Review: nature-based tourism. IN: Weiler, B. and Hall, C.M. (ed.). *Special interest tourism.* London: Belhaven. pp. 105-127.

Van der Borg, J., Costa, P. and Gotti, G. 1996. Tourism in European heritage cities. *Annals of Tourism Research,* 23(2), pp. 306-321.

Van der Duim, R. and Caalders, J. 2002. Biodiversity and tourism: impacts and interventions. *Annals of Tourism Research,* 29(3), pp. 743-761.

Van der Stoep, G.A. and Gramann, J.H. 1987. The effect of verbal appeals and incentives on depreciative behaviour among youthful park visitors. *Journal of Leisure Research,* 19(2), pp. 69-83.

Veal, A.J., 2011. *Research methods for leisure and tourism: a practical guide* (4th ed.). London: Pearson Education.

Veverka, J.A. 1994. *Interpretive master planning.* Tustin, CA: Acorn Naturalists.

Von Droste, B., Silk, D. and Rossler, M. 1992. Tourism, World Heritage and sustainable development. *UNEP Industry and Environment,* 15(3-4), pp. 6-9.

Ward, C. 1973. *Vandalism.* London: The Architectural Press.

Ward, C.W. and Wilkinson, A.E. 2006. *Conducting meaningful interpretation: a field guide for success.* Golden, CO: Fulcrum Publishing.

WDDC. 2002. Tourism together: our plan for tourism in West Dorset 2003-2008. Dorchester: West Dorset District Council.

Wearing, S. and Neil, J. 1999. Ecotourism: impact, potentials and possibilities. Oxford: Butterworth-Heinemann.

Weaver, D.B. (ed.). 2003. *The encyclopedia of ecotourism*. Wallingford: CABI Publishing.

Weaver, D.B. and Lawton, L. 2006. *Tourism management* (3rd ed.). Milton, Queensland: John Wiley & Sons Ltd.

Weaver, S. 2007. *Creating great visitor experiences: a guide for museums, parks, zoos, gardens and libraries.* Walnut Creek, CA: Left Coast Press Inc.

Weiler, B. 1999. Assessing the interpretation competencies of ecotour guides. *Journal of Interpretation Research,* 4(1), pp. 80-83.

Weiler, B. and Ham, S. 2001. Tour guides and interpretation. IN: Weaver, D. (ed.). *Encyclopedia of Ecotourism.* Wallingford: CAB International. pp. 549-564.

West, I. 2008. *Geology of the Purbeck Fossil Forest - east of Lulworth Cove*. Available at (www.soton.ac.uk/~imw/Fossil-Forest.htm), last accessed August 2008.

Whatley, M.E. 1995. Interpreting critical resource issues in US and Canadian national parks. *Legacy,* January-February 1995, pp. 24-27.

Wheeller, B. 1994. Ecotourism: a ruse by any other name. *Progress in Tourism, Recreation and Hospitality Management,* 6, pp. 3-11.

Wilson, L-A. and Boyle, E. 2006. Interorganisational collaboration at UK World Heritage sites. *Leadership & Organization Development Journal,* 27(6), pp. 501-523.

Woodley, S. 1999. Tourism and sustainable development in parks and protected areas. IN: Nelson, J.G., Butler, R.W., and Wall, G. (eds.). *Tourism and sustainable development: monitoring, planning, managing, decision making: a civic approach* (2nd ed.). Waterloo, ON: University of Waterloo. pp. 159-174.

World Commission on Environment and Development (WCED). 1987. *Our common future: the Brundtland Report.* Oxford: Oxford University Press.

World Heritage List. 2011. *World Heritage centre – World Heritage List.* Available at (www.whc.unesco.org/en/list), last accessed August 2011.

Wouters, M. and Hall, C.M. 1995. Tourism and New Zealand's sub-Antarctic islands. In: Hall, G.J.M. and Johnston, M. (eds.). *Polar tourism: tourism in Arctic and Antarctic regions.* Chichester: John Wiley. pp. 277-295.

WTTC / WTO. 1995. *Agenda 21 for the travel and tourism industry.* London: WTTC.

WTO / UNEP. 1992. *Guidelines: development of national parks and protected area for tourism.* Madrid: WTO.

Yale, P. 1991. *From tourism attractions to heritage tourism.* Huntingdon: ELM Publications.

Yamada, N. and Knapp, D.H. 2009. Adult participants' preferences for interpretation at a Japanese Nature Park. *Journal of Interpretation Research,* 14(2), pp. 59-63.

Yates, S.J. 2004. *Doing social science research*. London: Sage Publications.

Yin, R.F. 2003a. *Case study research: design and methods* (3rd ed.). London: Sage Publications.

Yin, R.F. 2003b. *Applications of case study research* (2nd ed.). London: Sage Publications.