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Environmentalism and On-Tour Experiences of Tourists on Wildlife Watch Tours in New Zealand: A Study of Visitors Watching and/or Swimming With Wild Dolphins.

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A thesis submitted for the degree of

Doctor of Philosophy

At the University of Otago Te Whare Wānanga O Otago
Dunedin, New Zealand Aotearoa

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It was one of those days so clear
So silent, so still, you almost feel
The earth itself has stopped in
Astonishment at its own beauty.

*Katherine Mansfield (1888 – 1923)*
Abstract

Over the past two decades, the demand for nature-based tourism increased drastically, with a particular high demand in wildlife tours. Whale watching, as a particular form of wildlife tourism, experienced rapid growth. The emergence of this new ‘industry’ and the enormous numbers of participants brought with it increasing concern about the pressure put on the cetaceans being watched. A variety of research projects addressed the impacts of whale watching (including dolphin watching) on the marine mammals, but there is still a lack of knowledge about the participants on those tours. While whale watchers received more attention in academic research, only one study could be found that investigated participants on dolphin tours. Recognising this knowledge void, it is important to contribute to the existing body of knowledge with a special emphasis on the environmental concern and the on-tour experience on dolphin tours. The abundance of dolphin tour operations on both of New Zealand’s main islands further supported the need for more information about the individuals who are participating in those tours.

This programme of research set out to gain a better understanding of participants on dolphin tours in New Zealand. In particular, their environmental values, attitudes, and behaviour were examined, and how those relate to the experience on the dolphin tour. A demographic profile built the basis for these analyses. The New Environmental Paradigm (NEP) scale, the Environmental Concern (EC) scale, and the General Measure of Ecological Behavior (GEB) were investigated and implemented. As factors contributing to the visitor experience, interpretation and education on the tours, tourist satisfaction, and perceived crowding were addressed. Finally, the NEP scale was singled out and investigated regarding its usefulness in a tourism context.

The methodology included a thorough literature review, questionnaires, personal communication with tour staff, and observational data. The questionnaires were distributed to participants on swim-with-dolphins tours at three New Zealand locations during the shoulder season 2000.

Results indicate that tourists on dolphin tours generally hold high environmental values and attitudes. The environmental behaviour is not equally high, though. Demographics have very little influence on both the environmental consciousness, and the on-tour
experience. Regarding the NEP scale, it is suggested that the scale is a reliable and valid instrument to measure environmental values; however, in a nature and wildlife based tourism context, the scale seems to be of limited use.

The on-tour experience was investigated with special emphasis on interpretation and education on dolphin tours, crowding, and satisfaction in general. Results show that overall, satisfaction on the dolphin tours is very high. The majority of respondents agreed that environmental education is important and expect comprehensive interpretation on the tour. It was suggested that the tour staff have good knowledge about the dolphins, but that respondents would have liked to receive more information. This underlines the demand of previous research for comprehensive interpretational programmes on such tours. Crowding is a minor problem and does not seem to influence the experience.
Acknowledgements

The present study has been a self-motivated programme of research, during which I experienced a variety of challenges, such as a foreign country and language, endurance over the years, personal challenges, and self-discipline. While most of the experiences were positive, some of them were difficult to get through. During the course of this study I received guidance, support and assistance from a number of people, which I must acknowledge.

First and foremost, I want to thank my supervisor, mentor, colleague, and friend, Dr James Higham. Jimmy has been a loyal friend and mentor from day one of the project. His dedication went far beyond the role of a supervisor. He always knew how to motivate me, while at the same time he had a feeling for critical aspects of my work and guided me on paths to overcome those problems. Attending conferences and publishing together, was always a pleasure and taught me valuable lessons. It was Jimmy again, who supported my applications without hesitance and greatly helped me with my initial steps in an academic career. Without doubt I can say that I learned much more from Jimmy than he ever will admit or can imagine. Jimmy, I couldn’t have wished for a better supervisor, and I am looking forward to many years of collaborative work together!

While James Higham was my main supervisor throughout the whole research programme, there are a number of people that have accompanied me through parts of this adventure. Firstly, Professor Geoff Kearsley, then Director of the Centre for Tourism, encouraged me to come to New Zealand and supported me as member of my supervisory panel, but also financially in his capacity as Head of Department. It was also Geoff, who encouraged me to attend the 4th New Zealand Tourism and Hospitality Research Conference in Auckland and present preliminary findings during my first major international conference – and he also funded it. Thank you Geoff, without you I probably wouldn’t have done my PhD in New Zealand in the first place! During the first half of my study, Dr Alison McIntosh was a crucial supervisor and got me off the ground with the areas of values and tourist behaviour. Alison’s accuracy and excellent knowledge helped tremendously to identify my research area and form a research agenda – thank you Alison! After Alison left Otago, Dr Hazel Tucker took her place as my second supervisor. Hazel had not seen much of my work until the stage of writing up. Here, Hazel was of great help with valuable comments and suggestions on my first drafts. Hazel’s input was particularly helpful with structuring this work, which is a crucial part of the thesis. Thanks a bunch, Hazel, your input is most appreciated!

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List of Abbreviations

AGP ......................................................... Willingness to accept governmental prohibitions
ANOVA .......................................................... Analysis of variance
ASCOBANS ............................................ Agreement on Small Cetaceans of the Baltic and North Seas
BDP ................................................................. Behaviours difficult to perform
BEF ................................................................. Behaviours easy to perform
CSD ............................................................ Commission on Sustainable Development
CST .......................................................... Certification for Sustainable Tourism (Costa Rica)
DAT .......................................................... Dolphin Assisted Therapy
DDT .............................................................. Pesticide (banned since 1972)
DoC .......................................................... Department of Conservation
DSP .......................................................... Dominant Social Paradigm
EC .......................................................... Environmental Concern scale
ECOSOC ............................................ United Nations Economic and Social Council
EOS .......................................................... Environmental Organizations Sample
ETNA .......................................................... Ecotourist Needs Assessment
FIT .......................................................... Free and Independent Traveller(s)
GEB .............................................................. General Measure of Ecological Behavior
GG21 ........................................................ Green Globe 21
GPS ................................................................. General Public Sample
IFAW .......................................................... International Fund for Animal Welfare
ISO .......................................................... International Organization for Standardization
IUCN .......................................................... The World Conservation Union
IWC .......................................................... International Whaling Commission
KMA .......................................................... Estimated annual kilometres by airplane
KMC .......................................................... Estimated annual kilometres by car
LAC .......................................................... Limits of Acceptable Change
LOV .......................................................... List of Values
LTU .......................................................... Lufttransport Unternehmen GmbH & Co. KG (airline)
MDCs .......................................................... More developed countries
MJ ................................................................. Megajoule
MMPA .......................................................... Marine Mammals Protection Act
MMPR .......................................................... Marine Mammals Protection Regulations
NCWOR .................................................. Nonconsumptive wildlife-oriented tourism
NEAT .......................................................... Nature, Eco and Adventure Tourism
NEP .......................................................... New Environmental Paradigm
NFS .......................................................... National Marine Fisheries Service
NMFS .......................................................... National Marine Fisheries Service (USA)
Pax .......................................................... Passenger(s)
PCB .......................................................... Polychlorinated biphenyls
RMA .......................................................... Resource Management Act
ROS .......................................................... Recreation Opportunity Spectrum
RSE .......................................................... Relative Stress Index
RVS .......................................................... Rokeach Value Survey
SD .......................................................... Standard Deviation
SPSS .......................................................... Statistical Package for Social Sciences
TRINET ....................................................... Tourism Information and Research Network
UN ............................................................................................................. United Nations
UNEP ........................................................................................................... United Nations Environment Programme
UNEP/IE .................................. United Nations Environment Programme Industry and Environment
UNESCO ...................... United Nations Educational, Scientific and Cultural Organization
VALS ................................................................. Values and Lifestyle
WBT ................................................................. Wildlife-based tourism
WDCS ............................................................... Whale and Dolphin Conservation Society
WWF ................................................................. World Wildlife Fund
WTO ................................................................. World Tourism Organization
Publications

(During the course of Ph.D. candidature)

Referenced Publications


Guest-Edited Academic Journal


Non-Referenced Publications


Edited Books


Book Chapters


Conference Contributions


**Academic Book Reviews**


**Other Publications**

Introduction

What people do about their ecology depends on what they think about themselves in relation to things around them. Human ecology is deeply conditioned by beliefs about nature and destiny.

Lynne White Jr. (1967:1205)

One of the most fundamental changes in human awareness over the last fifty years has been the growing environmental consciousness and the realisation, that humans are not free of environmental constraints (Dunlap, 1980; Hussey & Thompson, 2000). The roots of environmental consciousness, however, can be traced back to at least medieval times (Thompson, 2000). Figures such as the 'green man' and the 'wild man' can be found in European history. Thompson (2000) notes that the images and traditions of the 'green man' have been transmitted solely through visual images throughout Western Europe since the middle ages. While the 'green man' was associated with vines and trees, the medieval 'wild man' was a creature that populated the darker woods and forests. However, both are seen as representatives of trees and forests and advocates of environmental consciousness (Thompson, 2000). More recently, the change of the relationship between people and their environment has been documented by Bennett (2000), who conducted extensive interviews in various countries, including Mauretania and the Sahel, India, Peru, and Lesotho. Bennett (2000) illustrates, that the older generations had different attitudes towards their immediate environment. They were much more conscious about the fact that harmony between humans and their environment is essential for survival. Bennett (2000:92) quotes one of
her respondents in Niger: ‘Our land is our only wealth. We are inextricably bound to her. Her poverty is our poverty, we suffer together’.

Especially Western cultures share a long tradition of an anthropocentric worldview. Humans were seen as superior and ‘above nature’. Part of this view was the abundance of natural resources and therefore no need for conservation of those resources. ‘Homo sapiens was seen, by virtue of possessing culture and technology, as able to adapt nature to human ends, rather than as having to adapt to the natural environment’ (Dunlap, 1980:6). Social sciences saw humans as exempt from ecological constraints. This exemptionism was manifested in a set of values and beliefs, called the Dominant Social Paradigm (DSP). According to Albrecht et al. (1982:39), the DSP entails:

1. a belief in limitless resources, continuous progress, and the necessity of growth
2. faith in the problem-solving abilities of science and technology
3. Strong emotional commitment to a laissez-faire economy and the sanctity of private property rights.

With an increasing awareness of environmental problems, due to environmental accidents, oil spills, and mismanagement of toxic waste it was recognised that humans are not immune to ecological constraints (Noe & Snow, 1990). As a result of this awareness, the DSP lost its validity and people developed a tendency to a new ecocentric values. O’Neill (1997) notes that today most people would agree that the environment, or at least some parts of it, should be valued. One of the reasons for this is a set of distinctive environmental values, which are views that are ‘broadly speaking vaguely realist and (at least) biocentric, or (more commonly) emphatically ecocentric, and supposedly reject anthropocentric positions’ (O’Neill, 1997:127). Carson and Moulden (1991) argue that this ‘greening’ of consumers has its roots in the radical sixties, where the so-called counter culture criticised the ethics and operation procedures of the industry. The 1970s saw this trend continuing and environmental pressure groups lobbied governments to act, which resulted in legislation changes, for example the implementation of new pollution-control laws (Carson & Moulden, 1991). Consumer polls in the late 1980s and early 1990s showed that, for example in North America and Europe, some consumers deliberately purchased products based on ‘environmental-friendliness’. Thus, the ‘rising concern about the environment has produced a new kind of consumer’ (Carson & Moulden, 1991:5).
1.1 Research context

At about the same time when Carson and Moulden (1991) observed the growth of an environmental movement, Poon (1993:3) stated that ‘the tourism industry is in crisis – a crisis of change and uncertainty; a crisis brought on by the rapidly changing nature of the tourism industry itself’. Her statement was the result of the recognition that both modern technologies and consumer behaviour are changing. While progress in technology is not the subject of this thesis, the change in consumer behaviour is vital. According to Poon (1993; 1994), the ‘new tourist’ is more demanding, independent, well educated and much more experienced than the traditional or ‘old’ traveller. However, Poon was not the first researcher predicting those changes. In fact, another ten years before Poon’s work, the world saw the advent of new alternative forms of tourism. As a result of the enormous growth of the tourism industry, combined with the environmental movement in the 1970s, concern arose about the detrimental impacts the millions of tourists would have on natural and cultural environments. In the late 1980s and early 1990s, alternative forms of tourism developed (Butler, 1992a; Krippendorf, 1986). This was partly because ‘the public has become “tired” of the crowds, weary of jetlag, awakened to the evidence of pollution, and in search of something “new”’ (Eadington & Smith, 1992:6). Fennell (1999:9) notes that Alternative Tourism encompasses a ‘whole range of tourism strategies (e.g. ‘appropriate’, ‘eco’, ‘soft’, ‘responsible’, ‘people to people’, ‘controlled’, ‘small-scale’, ‘cottage’, and ‘green’ tourism), all of which purport to offer a more benign alternative to conventional mass tourism’. In particular, the term ‘ecotourism’ found its way into tourism on all levels, including the industry, governmental and public bodies, conservationists, academia, and tourists. Most tourism activities are based on the natural environment as a resource base, but the tourism industry might harm and ultimately damage this base (Cater & Goodall, 1992). Generally, ecotourism developed in order to provide a tourism experience that is not detrimental for the natural and social environments of ‘the host countries.

The United Nations Economic and Social Council (ECOSOC) recognised the importance of ecotourism as vital component to achieve the goals of Agenda 21. In 1998, ECOSOC proposed to the UN General Assembly to designate the year 2002 as International Year of Ecotourism and as International Year of the Mountains. Subsequently the Commission on Sustainable Development (CSD) was advised to implement the Year and mandated the World Tourism Organization (WTO) and the United Nations Environment Programme
to prepare and co-ordinate the activities (United Nations Environment Programme, 2001).

A particular form of ecotourism is sustainable wildlife-based tourism. It is noted that tourism experiences rapid growth, when observation of or interaction with wildlife is involved (Schänzel, 1998b). Whale watching, for example, is an activity that experienced high growth rates in different parts of the world since the late 1980s (Hoyt, 2000). Initially seen as an ideal form of tourism (whale watching instead of whale hunting), soon marine scientists voiced concerns about the possible negative impacts on whales and other cetaceans (dolphins and porpoises). Resulting from these concerns, a number of researchers addressed this issue in studies on whale and dolphin watching tours at various sites around the globe, for example Orcas at Canada’s Pacific Coast (Duffus & Dearden, 1993), Spinner dolphins in Hawaii (Driscoll-Lind & Östman-Lind, 1999), and Dusky dolphins in Kaikoura, New Zealand (Barr & Slooten, 1999). However, there is still a lack of knowledge about the long-term effects of tourism on cetaceans (Constantine, 1999).

Although whale watching emerged as a multi-million dollar business in many parts of the world, and tourism impacts on marine mammals have been addressed, there appears to be a lack of knowledge about the people who are participating in marine mammal tourism. Existing studies include Amante-Helweg’s (1995) work on participants in dolphin tours in Paihia, New Zealand, Orams’ (2000) study on whale watchers in Tangalooma, Australia, and most recently, research by Finkler (2001) on Orca watching tourists in the San Juan Islands, Washington/USA. The lack of research in this area is surprising, because it was noted that it is as important to understand the whale watchers as it is to understand the whales (Orams, 2000). Forestell and Kaufman (1993) argue that it is a misnomer to ‘manage whales’, when it should rather be the management of humans who are interacting with whales. Therefore, one important component of marine mammal tours is the education of participants in those tours. Arguably, some researchers feel that ecotourists already hold pro-environmental values and therefore ecotours would preach to the converted (Beaumont, 2001). Other researchers believe that not all ecotourists are ‘converted’ and do not necessarily have pro-environmental attitudes or values (Beaumont, 2001; Cater & Lowman, 1994). In fact, it is noted that many tourists are not dedicated ecotourists, but partake in ecotours as part of their overall trip (Higham & Lück, 2002; Uysal et al., 1994). It is also argued that education and interpretation on ecotours are
demanded by tourists. MacCannell (1976) states that tourists are searching for the truth, the meaning, and authenticity. Roggenbruck and Williams (1991) found that the quality of interpretation and knowledge of guides greatly influence tourist satisfaction. In addition to education and interpretation, there are a variety of factors contributing to tourist satisfaction, including values, attitudes, and crowding (Noe, 1999).

This study attempts to address various aspects of swim-with-dolphins tours from a tourist’s perspective. The fundamental aim of this research is to gain a better understanding about the participants on swim-with-dolphins tours. In particular, the environmental dispositions were investigated, including the environmental values, attitudes, and behaviour of the participants. The on-tour experience, including satisfaction, crowding, and education/interpretation on the respective dolphin tours built the second pillar of this study. In order to achieve the aim to gain an in-depth knowledge about the participants, it was examined how various demographic characteristics influence the environmental dispositions and the on-tour experience. In addition, an attempt was made to contribute to the discussion on whether or not the New Environmental Paradigm (NEP) scale is applicable in a tourism context. The objectives of this study are as follows:

1. To draw a demographic profile of participants in dolphin tours in New Zealand.
2. To examine environmental values, attitudes and behaviour of participants on dolphin tours. It will then be attempted to combine these three factors in order to measure ‘Environmentalism’, including values, attitudes, and behaviour.
3. To gain an understanding about factors that influence the tourist experience on dolphin tours, including satisfaction, crowding, and education/interpretation.
4. To identify a relationship between ‘Environmentalism’, the on-tour experience, and various demographic data.
5. To investigate whether or not Dunlap and Van Liere’s (1978) New Environmental Paradigm (NEP) scale is applicable in a tourism context.

1.2 Thesis structure

This thesis is organised into eight chapters. Dolphin tours in New Zealand are examined in the wider context of marine tourism and the concept of ecotourism. Chapter Two consists
of three main sections and reviews literature that pertains to the discussion about ecotourism, wildlife tourism, and marine tourism.

The first section provides an overview of the discussion about the term and concept of ecotourism, including its development, benefits and pitfalls. This section demonstrates that there is still no clear-cut definition and understanding about the term ‘ecotourism’, and that some researchers suggest the use of ecotourism frameworks to operationalise ecotourism, rather than abide to strict and often inoperable definitions.

Sustainable wildlife tourism, as a special form of ecotourism, is investigated in the following section. In particular, the difference between consumptive and non-consumptive use of wildlife for tourism purposes is illustrated. This section also introduces the reader to an influential wildlife tourism framework, developed by Duffus and Dearden (1990).

The third section of Chapter Two addresses issues associated with marine tourism. After providing a historical background of marine tourism and the whaling industry, the rapidly growing sector of whale watching is discussed. Dolphin tours, by definition, are falling under the umbrella of whale watching (Hoyt, 2000). Most research has been undertaken on whale watching tours, however, only limited research has been undertaken on dolphin tours, with the largest gap in research on the tourists participating on those tours. A fair amount of research has been conducted in order to determine the potential negative effects of tourism on various species on dolphins. Results of these research projects are introduced, before the legal framework for dolphin tourism in New Zealand is outlined to conclude this section.

Chapter Three consists of three main sections and reviews literature that pertains to environmental values, attitudes and behaviour, the tourist experience, and tourist satisfaction.

The shift in values from the Dominant Social Paradigm (DSP) to the New Environmental Paradigm (NEP) is illustrated in Section One of Chapter Three. Dunlap and Van Liere’s (1978) NEP scale has been applied in various studies over the last twenty years (Lück, 2002c, 2003). While the NEP scale measures values, Weigel and Weigel’s (1978) Environmental Concern scale (EC) addresses attitudes towards environmental issues.
Finally, the General Measure of Environmental Behavior (GEB), introduced by Kaiser (1998), relates to the actual environmental behaviour of respondents in their home environment. All three studies are vital parts of this study and will be discussed in considerable detail. Particular emphasis is given to the NEP scale, however, all three scales will be examined regarding their reliability and validity.

Section Two introduces aspects of the tourist experience and satisfaction. Concepts in the fields of Social Sciences and Psychology with special focus on theories of learning and education are discussed. Two significant models of research on whale watching, introduced by Forestell and Kaufman (1990) and Orams (1997a), are outlined. Educational aspects from a tourist’s point of view follow this, before this section also describes the use of dolphins for therapeutic programmes. Crowding, in particular social crowding, can have a significant impact on the tourist experience. As the last part of this section, the concept of crowding is discussed and Shelby et al.’s (1989) scale to measure crowding is examined.

Section Three of the third chapter introduces the concept of visitor satisfaction. Here, studies on tourist satisfaction on whale watching tours are discussed. In this section it becomes apparent that there is a major lack in research on satisfaction on dolphin tours. In fact, it appears that only one study, undertaken by Amante-Helweg (1995) in the Bay of Islands, New Zealand, addressed tourist satisfaction on dolphin tours.

While drawing upon relevant research literature, Chapter Four presents the methodological approach of the study. Research techniques are reviewed and determine the research agenda of this study. The design and development of the data collection instrument is outlined in detail. This includes the justification of the research area, the questionnaire design and administration, ethical considerations, questionnaire evaluation after pre-testing and pilot testing, deficiencies of the administered questionnaire, sampling method, notes on records taken on-site, and limitations of the study. The chapter concludes with an overview of the applied data processing and analysis techniques.

The presentation and discussion of all survey results are presented in Chapter Five. The data presented in this chapter embraces the first objective of this project, outlining a detailed demographic profile of the respondents and comparing the results with relevant studies. The third objective is considered through the analysis of data in various sections of
the questionnaire. The results of Section Three in the questionnaire provide a first indication about respondents’ environmental values, attitudes and behaviour, partially addressing Objectives Two and Four of this study. In addition, the data presented in this chapter serves to prepare the detailed analysis and comparison in the following chapter.

In Chapter Six, the main findings are presented and discussed. The first section provides an analysis of factors influencing the on-tour experience of participants in dolphin tours in New Zealand (Objective Three). This is followed by an examination of the environmental values, attitudes, and behaviour of the respondents (Objective Two) and a comparison with previous studies that employed the NEP, EC, and GEB scales.

Embracing Objectives Two and Four, Chapter Seven presents the attempt to establish a model that relates ‘Environmentalism’ and ‘Experience’ of respondents with demographic data (Objective Four). The outcome of this procedure was surprising and the expected results could not be confirmed by the actual results of the survey. Lastly, the NEP scale has been singled out and the results are compared with previous research projects in order to determine whether or not the NEP scale is applicable in a tourism context (Objective Five).

The final chapter provides an overview of the present study and outlines the results achieved. Drawing upon the results, recommendations for dolphin tour operators and for further academic work are discussed. Drawbacks of the developed model and limitations of the study are outlined.
2 Tourism in the ecological and in the marine context

2.1 Ecotourism and wildlife tourism

The fuss, the attention ecotourism is receiving is, in my opinion, totally out of proportion to its effectiveness as a salutary management tool.

Brian Wheeller (1994b:653)

2.1.1 Introduction

Recognising environmental impacts of tourism and the importance to protect natural resources, there has been a new movement embracing less destructive forms of tourism, however, there is no clear understanding about what these entail. Sirakaya (1998) observed a shift from mass tourism toward a relatively benign type of tourism over the past decade. These ‘new’ forms of tourism receive a variety of labels, such as alternative tourism, soft tourism, ecotourism, wildlife tourism, nature tourism, green travel, sustainable tourism, adventure tourism, responsible tourism, to name but a few. Very often, the term ecotourism is used as an umbrella for those forms of tourism, but the problem is that in many cases, the concept of ecotourism is still not fully understood and often confused with the broader concept of sustainable tourism (Ceballos-Lascurain, 2002). Boo (1990:xiii), for example, noted that little information is known about ‘ecotourism, also known as nature tourism’.
Holmes (1993:6) also stated that ecotourism is ‘exploring the natural environment’. Although over time a better understanding about these forms of tourism was gained and various different forms were distinguished, Weaver (2002a:251) still observes that the term ‘ecotourism is confused or synonymously used with such terms as “sustainable”, “nature-based”, and “adventure” tourism’. Despite some overlaps, it is now recognised that there are fundamental differences between those forms of tourism. Burton (1998), for example, subdivides nature-based tourism into ecotourism and adventure tourism (Figure 2.1). Nature-based tourism is all tourism that uses the natural environment as their main asset. Examples are jet boating (adventure tourism), and guided hiking tours in small groups (ecotourism). Wildlife tourism, such as bird watching, can be ecotourism as well. However, Burton’s (1998) model is very simplistic with major forms of tourism, such as wildlife tourism, missing. Also, Burton makes a clear distinction between nature-based tourism and mass tourism. This would exclude any mass tourism from being nature based, and vice versa. This however, does not seem to be realistic, as many forms of tourism (for example, cruises, bus trips, ski fields) have natural resources as their main base, i.e. are nature-based mass tourism ventures.

![Tourism Diagram](image)

**Figure 2.1**: Distinction between nature-based tourism and ecotourism. Source: Burton (1998:756)

Buckley (2000) observed a tourism sector that relies on outdoor natural environments. He refers to it as NEAT; nature, eco- and adventure tourism. One of the problems with nature-based tourism seems to be the lack of a clear distinction between concept-based definitions and activity-based definitions. Sustainable tourism and ecotourism, for example, are broad concepts, while wildlife tourism and adventure tourism are activity-based descriptions.
However, the two concepts of sustainable tourism and ecotourism have a variety of goals in common, and it is now recognised that one of the main goals of ecotourism is to achieve a sustainable form of tourism development (Cater, 2002; Garrod, 2002; Orams, 2002a). Indeed, according to Clarke (2002), ecotourism is one of the driving forces towards sustainability. On the other hand, Garrod (2002) notes that ‘non-damaging’, ‘non-degrading’, and ‘ecologically sustainable’ are common requirements in ecotourism definitions, however, in practice it means ‘less damaging’, ‘less degrading’, and ‘less unsustainable’. He concludes that ‘it is unlikely that any kind of tourism, ecotourism included, will ever be able to become absolutely sustainable’ (p. 355).

These examples illustrate the difficulties in clear definitions and distinctions. The following sections review core issues discussed in numerous publications on ecotourism, followed by an introduction into wildlife tourism.

2.1.2 Ecotourism

In the Ecotourism Guide for Planners and Managers, Western (1993:7) notes that ecotourism ‘has surged through the travel and conservation world like a tsunami’. Indeed, it became a growing industry over the last two decades and has been described as an idea that nature-based tourism can actively contribute to environmental conservation and social benefits (Wearing & Neil, 1999). In general, the prefix ‘eco’ has raised interest and sales, and within a short period of time, there were many tour operators emerging offering eco tours. Carson and Moulden (1991) provide guidelines for businesses interested in ‘greening’ their operation, emphasizing that green products and services are high in demand due to a change in customer preferences. All too often however, nothing in the operation or behaviour of the eco operators distinguished them from conventional operations, it was just used as a label for effective marketing (Wight, 1993). This development peaked in operations, such as eco-jet boating or eco-fishing. Mader (2002) even observed ‘eco-car parks’ in the centre of Mexico City, being called ‘eco’, presumably due to a few trees or shrubs lining the edges of the car park. Fennell (1999:181) observed debates on the discussion forum TRINET and concludes that ‘too many tourists are subsumed under the ecotourism label’. It is therefore necessary to investigate what the term ecotourism entails and how it is defined and used, as well as what challenges ecotourism
operators face. The following sections review a plethora of literature, with a specific emphasis on the definitions of ecotourism, the problems that are associated with ecotourism, and frameworks that attempt to operationalise ecotourism.

2.1.2.1 Defining ecotourism

The term ecotourism arguably emerged in the early 1980s, with most credit given to Ceballos-Lascuráin as the person who has coined this term. According to Ceballos-Lascuráin (1987:13), ecotourism is

- tourism that involves travelling to relatively undisturbed or uncontaminated natural areas with the specific object of studying, admiring and enjoying the scenery and its wild plants and animals, as well as any existing cultural aspects (both past and present) found in these areas.

Fennell (1999), however, found evidence that the term was used long before Ceballos-Lascuráin. He argues that as early as 1965, Hetzer used the term ecotourism to describe the relationship between tourists, the environment, and cultures. In Hetzer’s work, four fundamental ideas form the ecotourism concept. Those were a minimal environmental impact, a minimum impact on - and a maximum respect for - the host cultures, maximum benefits to the host community’s economy, and a maximum of recreational satisfaction for the tourist (Fennell, 1999). Fennell (1998) also found evidence, that the term was used by the Canadian Government in the mid-1970s, when they developed different ecological zones for travellers around the Trans-Canada Highway. But even at that time ecotourism as such was not a new phenomenon. Although not termed ecotourism, train journeys to the first North American national parks in the late nineteenth century were nature based tourism, which was close to what we now call ecotourism (Hall, 1998; National Audubon Society, 1991).

Subsequently, over the last two decades a large number of researchers addressed the concept of ecotourism. Opinions are still divided, and there is no agreement on an all encompassing definition for the ecotourism concept. Macleod (1998) talks about ‘alternative tourism’ and confirms that the concept of it is very broad. Rather than finding the ecotourism definition, it appears that most researchers define the term according to the needs and requirements of the specific case, perspective, or country (Bottrill & Pearce, 1995). Indeed, ‘the term ecotourism was bent, twisted, added to and substracted’
Wheeler (1994b:648) confirms this view and even suggests that 'to an extent, any desire for a definitive definition of ecotourism ... is redundant. People will interpret the notion as they will, as best suits them and their circumstances'. Croy (1999) describes this problem as 'ecotourism parody', which leads to 'eco-antagonism'. Eco-antagonistic ventures are defined by Croy (1999:97) as those operations 'that have an eco-label but not an eco-ideology'. Lück (2001a, 2002b) refers to those ventures as 'ecopirates'. Seeing this conflict, Norris (1995:1) asks: 'Golden goose or wolf in sheep's clothing? Cash cow or Trojan horse?'. Ecotourism is seen from various perspectives, such as the host communities, from the supply side, and from the tourists' point of view. Bottrill and Pearce (1995) also argue that the increased use of the term did not significantly contribute to a clarification of the concept. Blamey (1997) adds that a definition is needed if ecotourism is to be separated from conventional tourism, and when reviewing ecotourism definitions throughout the literature over the last two decades, it becomes apparent that a number of aspects repeatedly found mention in the plethora of definitions.

One of the main aspects is that ecotourism takes place in natural, relatively undisturbed areas (Ballantine & Eagles, 1994; Blamey, 1997; Ceballos-Lascurain, 1987; Eagles & Cascagnette, 1995; Fennell, 1999; Holmes, 1993; Krippendorf, 1987b; Ross & Wall, 1999; Sirakaya et al., 1999; Valentine, 1993; Weaver, 2001a; Weiler & Richins, 1995), and that it contributes to the conservation of those areas (Boo, 1990; Buckley, 1994; Fennell, 1999; Holmes, 1993; Honey, 1999; Jones, 1992; McArthur, 1997; Ross & Wall, 1999; Valentine, 1993; Wight, 1993). A third major focus of ecotourism is on the well-being of the host communities. Ecotourists want to interact with (local) people and/or the local natural environment (Ballantine & Eagles, 1994; Butler, 1990; Jones, 1992; Krippendorf, 1987b; Macleod, 1998; Sirakaya et al., 1999; Weiler & Richins, 1995), and at the same time ecotourism is supposed to generate an income and other benefits for the residents (Boo, 1990; Fennell, 1999; Honey, 1999; Jones, 1992; McArthur, 1997; Norris, 1995), while ecotourists respect and appreciate local cultures (Butler, 1990; Ceballos-Lascurain, 1987; Gilbert, 1997; Honey, 1999; Jones, 1992; Macleod, 1998; Ryan, 1998; Sirakaya et al., 1999; Wight, 1993). In order to achieve those goals, ecotourism usually is meant to be small in scale (Gilbert, 1997; Jones, 1992; Khan, 1997; Krippendorf, 1987a; Lindberg & McKercher, 1997; Lück, 1998; Orams, 1995c; Pleumarom, 1993; Thomlinson & Getz, 1996; Warren & Taylor, 1994; Wheeler, 1994b), tries to minimise negative impacts on the host communities and the natural environment (Acott et al., 1998; Fennell, 1999; Gilbert,
1997; Honey, 1999; Lindberg & McKercher, 1997; Mathieson & Wall, 1982; Orams, 1995c; Pleumaron, 1993; Ryan, 1998; Swarbrooke & Horner, 1999; Valentine, 1993), and includes an educational component (Ballantine & Eagles, 1994; Blamey, 1997; Boo, 1990; Ceballos-Lascurain, 1987; Eagles & Cascagnette, 1995; Fennell, 1999; Gilbert, 1997; Honey, 1999; Krippendorf, 1987a; Macleod, 1998; Orams, 1995c; Ryan, 1998; Weaver, 2001a). Only over the last decade, after the Earth Summit in Rio de Janeiro in 1992, has sustainable development become an additional part of many ecotourism definitions (Beaumont, 2001; Blamey, 1997; Dowling, 2000; Fennell, 1999; Ross & Wall, 1999; Ryan, 1998; Valentine, 1993; Weaver, 2001a).

Although, or because, there exist a vast number of ecotourism definitions, ‘there still seems a general lack of agreement on a single, accepted definition of ecotourism, as well as on standards and sound certification processes in the wide world of ecotourism’ (Ceballos-Lascurain, 2002:168). Definitions range from very broad to very detailed, depending on the context and use of them. Ballantine and Eagles (1994), for example, conducted research on Canadian outbound tourists to Kenya. In order to define the ecotourist, they compared previous definitions and aimed to set a more simple and operable method. They suggest three criteria to determine whether a tourist qualifies as ecotourist (p. 212):

1. the respondent must answer ‘very important’ or ‘somewhat important’ to ‘learning about nature’ as a motivation when planning a trip to Kenya;
2. the respondent must answer ‘very important’ or ‘somewhat important’ to ‘wilderness/undisturbed areas’ as an attraction when choosing a trip to Kenya;
3. the respondent must spend at least one-third of their Kenyan vacation days on safari.

This appears to be a rather simple method to define an ecotourist, and it is no surprise that 84% of the Canadian tourists surveyed qualified as ecotourists. However, Ballantine and Eagles (1994) argued that these criteria are of general utility and match the three major types of tourist motivation: the social motive (travelling to learn about nature); an attraction motive (visiting wilderness); and a time commitment (33% of vacation time spent in this field). Higham and Lück (2002) note that under these criteria a definition of ecotourism might become meaningless, because the criteria are not strict enough in order to identify clear differences between various groups of tourists. However, they argue that Ballantine and Eagles’ work is valuable, because it illustrates the scope of ecotourism, rather than simply defining it.
At the other end of the spectrum are definitions that are very comprehensive and require a large number of attributes for ecotourism. Butler (1992b) and Hunter & Green (1995), for example, suggest that ecotourism should be identified by a large number of characteristics, as shown in Table 2.1.

Table 2.1: Ecotourism attributes

<table>
<thead>
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<tbody>
<tr>
<td>It must promote positive environmental impacts</td>
<td>Slow development</td>
</tr>
<tr>
<td>It must not degrade the resource</td>
<td>Controlled</td>
</tr>
<tr>
<td>It concentrates on intrinsic, not extrinsic values</td>
<td>Long term</td>
</tr>
<tr>
<td>It is biocentric, not homocentric</td>
<td>Holistic</td>
</tr>
<tr>
<td>It must benefit wildlife and the environment</td>
<td>Singles/families</td>
</tr>
<tr>
<td>It is firsthand experience with the natural</td>
<td>Spontaneous decisions</td>
</tr>
<tr>
<td>environment</td>
<td></td>
</tr>
<tr>
<td>It has an expectation of education and appreciation</td>
<td>Active</td>
</tr>
<tr>
<td>It has high cognitive and affective dimensions</td>
<td>Tactful, quiet</td>
</tr>
<tr>
<td></td>
<td>Tourist education</td>
</tr>
<tr>
<td></td>
<td>Heart selling</td>
</tr>
<tr>
<td></td>
<td>Re-use of existing</td>
</tr>
<tr>
<td></td>
<td>Local developers</td>
</tr>
</tbody>
</table>

Source: After Butler (1992) and Hunter & Green (1995)

These detailed check-lists indicate that the opposite end of the spectrum requires much more detail and rigorous criteria. It is argued that they are too detailed, and more a ‘wish-list’ than an operable definition (Ballantine & Eagles, 1994). Comprehensive check-lists, as suggested by Butler (1992) and Howard & Green (1995), would place intolerable constraints on ecotour operators and certainly the majority of small scale, family owned operators would not be able to match all required criteria (Higham & Lück, 2002; Warren & Taylor, 1994).

The three examples reviewed above illustrate the wide spectrum of ecotourism definitions and requirements. Orams (1995c) discussed this continuum of ecotourism definitions and argued that at one end the definitions are too broad and every form of tourism could be classified as ecotourism. Here, humans are viewed as living organisms and any behaviour of them is natural. Thus, they do not have any obligations or responsibilities to conserve other living organisms. They are simply unable to behave ‘unnaturally’, and therefore ‘un-ecotouristically’. As a result, there is no difference between the human environment and
the natural environment, and a definition of ecotourism becomes meaningless and obsolete. At the other end of the spectrum, ecotourism is impossible to achieve. Orams argues that any kind of tourism has some negative impacts, hence the only ‘true’ ecotourism is no tourism at all. He concluded that both ends of the continuum are inoperable and that there is a need for a more desirable form of ecotourism, however, ‘what is seen as “better”, or a more desirable form of ecotourism, is very subjective and possibly contentious’ (Orams, 1995c:7). As a consequence of this dilemma, almost twenty years after first using the term ecotourism, Ceballos-Lascurain states that he believes in ‘ecotourism’, but not in ‘ecopurism’ (Ceballos-Lascurain, 2002:168).

2.1.2.2 Problems associated with ecotourism

In addition to numerous attempts to define ecotourism and the recognition of many positive aspects about ecotourism, discourse focuses on the problems associated with the implementation of those definitions. Higham and Lück (2002) argue that there are a number of contradictions and constraints associated with the definitions, which result in the inoperability of ecotourism. Ecotourism businesses face those problems in their day-to-day operation, and the following sections discuss these challenges.

2.1.2.2.1 Environmental impacts of ecotourism

According to most definitions, ecotourism is to take place in natural and/or undisturbed areas (Blamey, 1997; Boyd & Butler, 1996; Ceballos-Lascurain, 1987; Fennell, 1998). Clearly, the natural environment is one of the, if not the most important resource base for ecotourism. Cater (1993) notes that many researchers addressed environmental impacts in classic enclaves of mass tourism. However, Cater argues that prime ecotourism attractions and sites experience concentrated use by ecotourists, who put the natural environment under stress. Overuse results in an unacceptable level of degradation (Cater, 1993). Weaver (2002a) supports this view and notes that the environmental impacts of ecotourism can be either deliberate, or inadvertent. Deliberate costs are, for example, those costs that occur with the construction of an ecolodge. Even if the site is already developed to a certain extent, the construction usually requires further alteration, clear cuts and sealing of ground areas. These impacts are usually foreseeable and seen as acceptable, when kept to small
scale in limited areas (Weaver, 2002a). Lindberg and McKercher (1997) identify a list of ecotourism impacts, stating that there is still only little knowledge about the environmental impacts of ecotourism. They suggest a categorisation into ‘direct’ and ‘indirect’, or ‘on-site’ and ‘off-site’ impacts (see Table 2.2). Weaver (2002a) agrees and further states that there are a variety of impacts that result from ecotourism, including the introduction of foreign species in various ways. Exotic seeds can be introduced with the building material for an ecolodge or with the outdoor equipment of ecotourists. It is known that insects travel on tourist vessels or aircraft and can overcome considerable distances that way.

Table 2.2: On-site and off-site environmental impacts of ecotourism

<table>
<thead>
<tr>
<th>On-Site Impacts</th>
<th>Off-Site Impacts</th>
</tr>
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<tbody>
<tr>
<td>Soil erosion and compaction</td>
<td>Reclamation of land or infrastructure (e.g., coastal hotels for marine ecotourism)</td>
</tr>
<tr>
<td>Disturbance of wildlife</td>
<td>Water and air pollution</td>
</tr>
<tr>
<td>Trampling of vegetation (or coral in the case of marine ecotourism)</td>
<td>Purchase of souvenirs utilising threatened or endangered species (e.g., black coral)</td>
</tr>
<tr>
<td>Removal of vegetation (e.g., collection of plants for firewood)</td>
<td></td>
</tr>
<tr>
<td>Accidental introduction of exotic species</td>
<td></td>
</tr>
<tr>
<td>Increased frequency of fire</td>
<td></td>
</tr>
<tr>
<td>Litter and vandalism</td>
<td></td>
</tr>
</tbody>
</table>

Source: After Lindberg and McKercher (1997:71)

Due to the fact that ecotourists tend to discover new and undisturbed areas, ‘try to avoid the beaten track’ and ‘want to go to places where nobody else has set foot before them’ (Järviuluoma, 1992:118), effects on the natural environment are more severe than, for example, in tourist destinations which are already developed and hardened. It is therefore warned that ecotourism, with all its good intentions, is the worst form of tourism and destroys the very resource base it depends on (Gray, 1997; Järviuluoma, 1992).

Another, often neglected aspect of ecotourism is that most research examines the possible costs and benefits from a destination perspective. Flognfeldt (1997) divides the term ecotourism into ‘destination eco-systems’ and ‘eco-route systems’. With the use of these terms, Flognfeldt clearly distinguishes between the perspectives from just a destination’s view on one hand, and the whole trip on the other. Cater (1993) notes that for various reasons, many Third World destinations are primary ecotourism destinations, while most ecotourists originate from more developed countries (MDCs). Thus, in order to get to an
ecotourism destination, most ecotourists travel by aeroplane to their destination (Weaver, 2002a). Air travel is the least environmentally friendly form of travel, which contributes to global warming. The ratio between energy consumption for travelling and the energy consumption for the stay at the destination is illustrated in Figure 2.2 (Gwinner, 2001). Such environmental travelling costs are often not calculated in parochial local accounts of ecotourism impacts. Weaver (2002a) suggests that an extra-parochial approach would include actions from ecotour operators, for example, planting new vegetation in order to compensate for the negative effects, such as greenhouse gas emissions.

<table>
<thead>
<tr>
<th>Energy consumption for travel to/from destination</th>
<th>Energy consumption at the destination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Train trip to Kärnten/Austria</td>
<td>Train trip to Kärnten/Austria</td>
</tr>
<tr>
<td>Trip 1400 MJ. 2 x 1100km</td>
<td>58%</td>
</tr>
<tr>
<td>Flight to Gran Canaria/Spain</td>
<td>Flight to Gran Canaria/Spain</td>
</tr>
<tr>
<td>Flight 12000 MJ. 2 x 3180km</td>
<td>92%</td>
</tr>
<tr>
<td>Flight to Thailand</td>
<td>Flight to Thailand</td>
</tr>
<tr>
<td>Flight 33000 MJ. 2 x 9150km</td>
<td>97%</td>
</tr>
<tr>
<td>Private car to Kärnten</td>
<td>Private car to Kärnten</td>
</tr>
<tr>
<td>Trip 2200 MJ. 2 x 970km</td>
<td>69%</td>
</tr>
<tr>
<td>Flight to Thailand</td>
<td>Flight to Thailand</td>
</tr>
<tr>
<td>Flight 33000 MJ. 2 x 9150km</td>
<td>97%</td>
</tr>
</tbody>
</table>

Figure 2.2: Ratio of primary energy use between the journey and the stay at the destination (Country of origin: Germany).
Source: After Gwinner (2001:170)

Airline companies are well aware of the negative environmental aspects of their day-to-day operations. With the knowledge of never being able to operate in an eco-friendly way, they attempt to support environmental projects or organisations. Ansett Australia, for example, planted more than 500 trees at different points all over Australia as part of their environmental commitment associated with the 2000 Olympic Games in Sydney (Mieling, 2001). Another example is LTU International Airways, Germany’s second largest charter carrier. LTU supports high-calibre research on the effects of air travel on the atmosphere. In addition, for a number of years on flights from Germany to the Maldives, LTU handed out so-called ‘eco-bags’ and encouraged their passengers to collect all inorganic waste.
during their stay, and return them to the check-in, where it was collected, sorted and flown back to Germany for proper recycling or disposal (Lück, 2001b)\(^1\). Certainly Ansett and LTU cannot be seen as ecotourism operations, but they might be used by ecotourists in order to get to their ecotourism destination.

2.1.2.2.2 Settings for ecotourism

The demand that ecotourism is supposed to operate in natural areas, away from developed areas (Boyd & Butler, 1996), is contradictory. Ecotourism needs a minimum level of infrastructure for the operation, which contradicts the demand of the definition. Alternatively, the only choice would be to withdraw ecotourism from untouched natural areas. Although ‘degrees of naturalness’ does not necessarily exclude all ‘anthropocentric change’, the existence of one would have detrimental effects on the other (Higham & Lück, 2002). In favour of naturalness and at the exclusion of an anthropocentric view, Boyd et al. (1995) attempted to map ecotourism areas in Ontario, Canada, using a Geographical Information System (GIS) method. The results showed that only a few areas were suitable for ecotourism, because most areas in Ontario are located within some distance to major roads or other human constructs. Higham and Lück (2002) argue that this shows the value of GIS as a research tool, but highlights the inadequacy of many ecotourism definitions. A minimum of infrastructure is necessary for an ecotour operation and crucial for the survival of the operator. Here, the definitions often overlook basic operational requirements of any ecotour operation.

The other extreme is urban ecotourism. According to the majority of ecotourism definitions, this would be an oxymoron due to a lack of the natural, remote, or pristine environment. There are certain developments, however, that support the ideas of this seemingly impossible form of ecotourism. Dwyer and Edwards (2000) observe that large cities are continually growing. City councils and Local Governments meet the challenge of continually expanding the cities in order to provide housing for the growing population on one hand, and preservation of natural resources on the other. Most of those natural resources are located in urban or urban fringe areas and have tourism potential (Dwyer & Edwards, 2000). Higham and Lück (2002) argue that urban ecotourism can battle many of

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\(^1\) LTU ceased the ‘eco-bag’ programme after change of ownership.
the problems associated with ecotourism. Firstly, environmental impacts can be kept to a minimum. There is no need to travel to and penetrate remote, pristine natural areas. Often, cities provide a well developed infrastructure for tourism and the local population, which can well be used by ecotourists. Secondly, it is argued that urban ecotours provide an ideal platform for education. According to many definitions, education is a vital part of ecotourism (Blamey, 1997; Boo, 1990; Ceballos-Lascurain, 1987; Eagles & Cascagnette, 1995; Honey, 1999; Krippendorf, 1987a; Macleod, 1998; Orams, 1995c; Weaver, 2001a). Urban ecotours have the chance to cater for both local residents and tourists. Moreover, urban ecotours might attract a much wider mix of people, and not only ‘hardliner’ ecotourists. Participants are more of the ‘generalist’ type (Duffus & Dearden, 1990), which offers the opportunity to reach a wider audience, rather than ‘preaching to the converted’ (Beaumont, 2001). Higham and Lück’s third argument is that urban ecotourism is more likely to be financially viable for the tour operators. The relatively easy access to the departure points of the tours attracts more tourists and can fill seats on tours. Also, many ‘generalist’ tourists might want to add an ecotour while being in the city anyway. Higher guide-visitor ratios can lead to a higher quality for the operation. Also, city holidays are less affected by seasonality than wilderness tours. Therefore, urban-based tour operators have better opportunities to offer year-round operations, which again, leads to financial viability of the operation (Higham & Lück, 2002). Finally, ecotourism in urban settings can contribute to the restoration of natural areas and/or the use of obsolete industrial sites. Conservational values can be restored and enhance the quality of the city while providing a unique ecotourism experience. Such projects can create habitats for endangered species and re-introduce those to the area.

2.1.2.2.3 The question of scale

To have some tourism but not too much is like being a little bit pregnant.
Richard Butler (cited in Järviuluoma, 1992:118)

According to Poon (1993) the ‘new’ travellers are more experienced and sophisticated, they will accept fewer constraints in their travel patterns and are more conscious about the environment (cf. Section 1.1). If this kind of traveller is considered to be the ‘right’ ecotourist, and this form of tourism is growing rapidly, the dangers of mass tourism will appear again and ecotourism is seen as a precursor of mass tourism (Jones, 1992). Orams
(1999) refers to this cycle as ‘recreational succession’. The theory of recreational succession is mirrored by Butler’s (1980; 1991) model of the tourist-area cycle of evolution: After a phase of exploration and involvement the destination becomes more popular and develops quite rapidly. When reaching the phases of consolidation and stagnation stages, a critical range of elements of capacity is reached.

Once larger numbers of tourists start to visit these ‘eco sites’ or ‘eco attractions’ the aware and educated traveller always seeks new, unspoiled destinations and inevitably paves the way for the package tour (Jones, 1992; Wheeller, 1991). Mass tourism is often stereotyped as ‘large-scale, externally controlled, ruthlessly capitalistic and based on international building styles’, while ecotourism was shown in a positive light and described as ‘small-scale, locally controlled, humanely socialist, and sensitive to local vernacular architecture’ (Weaver, 2002a:253).

The example of the small island of Niue in the South Pacific demonstrates that the dependency on the schedules of major airlines, for example, is part of the problem and illustrates one of the conflicts of sustainable ecotourism: Small destinations would appreciate more frequencies by major airlines in order to receive sufficient numbers of visitors for viable operation, while once visitor numbers increase as mentioned above, it can result in adverse effects due to too many tourists (de Haas, 2002).

There is, however, another school of thought. Today, researchers increasingly voice their criticism of the fact that environmentally friendly tourism must be small-scale tourism. Weaver (2001a:109) argues that ecotourism can be a variant of mass tourism. He emphasizes that even the most intrepid hard ecotourists are also mass tourists in that they will almost inevitably use a major airline to reach an overseas gateway, and a mass-produced vehicle to reach their ecotourism site from there. They are also likely to spend some time in a large urban hotel at the gateway during the early and late phases of their stay in that destination.

Weaver follows Wheeller (1991) in contentiously stating that mass tourism can be even a more sustainable form of tourism than small-scale ecotourism. Indeed, mass tourism has an important role to syphon off potential demand for scarce resources and keep masses in their place (Wheeller, 1991). Kirstges (1995; 2001) takes one step further and creates a
scenario in which all tourism would be ecotourism and concludes that this is virtually impossible and would have catastrophic consequences for the environment. According to Cater and Goodall (1997:88), ‘staying at home is the “greenest” way to holiday’. Small-scale ecotourism for various reasons can fail and has the worst adverse effects on the natural environment. In contrast, the examples of two major players in mass tourism (Europe’s largest package tour operator TUI and Germany’s second largest charter carrier LTU) illustrate that those operations are certainly no ecotour operators according to the majority of definitions. However, they can make a difference in taking responsibility and operating according to (self-set) environmental and social codes of conduct, initiate outstanding projects, and support research (for detailed information about these projects, refer to Lück, 2001b; 2002a). Weaver (2002:253) argues that ‘there is no innate reason as to why ecotourism cannot occur as a form of large-scale or mass tourism, while still adhering to the criterion of intended sustainability’.

With constantly growing numbers in tourism, it would be naïve to think that there could be a world without mass tourism. But mass tourism can be managed as consciously as small-scale tourism, and only if all sectors of the industry partake in the ideas of ecotourism and take responsibility, there is a chance to achieve sustainable tourism. Khan (1997:988) summarises this problem with the conclusion, that ‘if managed and planned carefully, ecotourism can remedy some of the problems caused by mass tourism, but cannot replace it’.

2.1.2.2.4 Economic constraints

There are other problems related to the small scale of ecotourism businesses. The majority of all tourism businesses are of small or medium size (Sasidharan et al., 2002). In fact, it is claimed that 99% of the European tourism businesses employ fewer than 250 staff and 92% qualify as micro-operators with 10 staff or less (Clarke, 2002). Warren and Taylor (1994) observe that indeed the majority of ecotourism businesses in New Zealand are small and family operated. If staff are employed, those are usually family members and only employed part-time or seasonal. The majority of business owners have set up a tour operator business primarily because of their personal interest in the environment (Thomlinson & Getz, 1996) or for lifestyle reasons, i.e. they want to earn a living from a passion for, for example, kayaking or wildlife (Warren & Taylor, 1994). Thus, many
entrepreneurs are inexperienced in running a business. This results in the common problem of under-capitalisation and it is observed that lending institutions tend to look unfavourably to small businesses without secure income and a perceived high risk. Furthermore, it is argued that ethical considerations of the business owners in the ecotourism sector result in an ‘income-bias’ and the reluctance to put a monetary value on natural resources. Thus, these entrepreneurs often refuse decision-making on economic self-interest grounds (Garrod, 2002).

In many parts of the world, small ecotourism operators are highly seasonal and have to generate an income over the peak season that secures survival over the off-season. In particular, over the first three to five years, the turnover is relatively low and many operators are not able to generate the necessary income (Warren & Taylor, 1994). Small operators are often less profitable because the provision of environmentally responsible facilities and a high standard of quality tend to be more cost-effective for larger companies (Thomlinson & Getz, 1996). The demand for a lower guide-to-group ratio brings with it further financial constraints. Ecotourists will have to pay higher prices, but prices must still be reasonable enough to attract enough visitors (Gilbert, 1997; Higham & Lück, 2002). As a result, small operators are forced to compromise in order to survive. In many cases, the owners of ecotourism businesses pursue further employment during off-season and probably part time during high season. Other operators have to compromise in the quality of their product. Warren and Taylor (1994:6) report that as a result of those economic constraints one operator considered that ‘he would be better-off being on the dole’.

2.1.2.2.5 Internationality, common guidelines, and eco-labelling

The major task for planners and managers will possibly be to define common rules and codes of conduct. This is necessary in order to establish a transparent system for the consumer, and to identify ecotourism operations. With the advent of the term ecotourism, many tour and hotel operators adopted the term without changing anything within their actual behaviour and operational procedures (Wight, 1993). Following the Earth Summit in Rio de Janeiro in 1992, the United Nations Environment Programme Industry and Environment (UNEP/IE) issued a report on the need for environmental codes of conduct in tourism. Codes of conduct are voluntary guidelines set up by the industry as a guide to how
According to the United Nations Environment Programme (UNEP) voluntary codes are crucial in the tourism industry (United Nations Environment Programme 1994). Although Wheeller (1994b:651) critically states that the debate to what ecotourism is, results in ‘a never-ending series of laughable codes of ethics: codes of ethics for travelers; codes of ethics for tourists, for government, and for tourism businesses. Codes for all – or, more likely, codeine for all’, the majority of researchers and managers see codes of conduct as an important tool for both ecotourism and the general tourism industry.

There is a need not only for a common code of conduct, but also for independent audits and certification. There have been many local and national attempts to find common grounds and labels, for example, the ‘Top Team Natur(e)’ and the ‘Gruene Koffer’ (Green Suitcase) in Germany (Krause, 1998), the ‘Green Tourism Business Scheme’ in Scotland, the ‘Certification for Sustainable Tourism (CST)’ in Costa Rica (Synergy, 2000), and the ‘Best Practise Ecotourism’ programme of the Commonwealth Department of Tourism in Australia (1995). The Australian system is widely regarded as the only nationally applicable and most advanced, comprehensive codes of conduct system existing. Font and Tribe (2001) acknowledge that awards and labels can help consumers with the search for environmentally friendly products. However, they also caution that there is an increasing clutter of environmental awards and labels throughout the tourism industry. A widely accepted global system was absent for a long period of time. After the Earth Summit in Rio de Janeiro in 1992, Agenda 21 became an issue in tourism operations throughout the world. Subsequently in 1994, the idea of 'Green Globe 21' (GG21) was developed as a global system for individuals, companies and communities. Green Globe 21 means

- Quality alliances for global coverage and local implementation
- State of the art Environment Management and Support Systems
- Clear standards based on ISO and Agenda 21
- Independent Certification
- World-wide, web-driven promotion of brand holders for consumers (Green Globe, 2000)

Participating companies and communities have the advantages of being independently assessed and certified and consumers have the opportunity to check Green Globe's website free of charge and can rely on the quality of certified companies in their destination. The costs for participating companies are relatively small. Depending on the size of the
company, costs range from $US 350 to $US 5,000, while communities are charged with $US 50,000 in the first phase. Consecutive costs depend on the size of the community and the intensity of service and consultancy required (Green Globe 21, 2002). Compared with advertising in other media, these are relatively low costs. Assessment and implementation of the standards are time consuming and it can take up to a few years until a participating company is officially certified. However, the effort and the commitment are already awarded by the right of using the GG21 logo (left in Figure 2.3). Once certification has been completed, the GG21 logo with a tick (right in Figure 2.3) may be used for advertising purposes (Green Globe 2000).

![Green Globe 21 logos](image)

**Figure 2.3:** Green Globe 21 logos.  
Source: Green Globe 21 (2002)

Ideally, the implementation of a global quality mark, such as GG21, can be a crucial step to achieve transparency for all stakeholders. ‘Ecopirates’ can be identified, because they will not pass the independent audit. As a result, tourists have the chance to decide for certified operators and communities and avoid those without certification (Luck, 2002a).

The World Wildlife Fund for Nature (WWF) commissioned Synergy to analyse various tourism certification programmes, with the main emphasis on the Green Globe 21 scheme. In their report, the WWF acknowledges that certification schemes, such as Green Globe 21, can play an important role on the way to a sustainable tourism development. However, they also warn that certification is only one of a suite of tools to achieve this goal. Also, it was found that the GG21 programme could be improved to become more credible (Synergy, 2000). In particular, WWF/Synergy identified three main problems: Firstly, the GG21 programme has undergone a number of changes, which largely contributed to the confusion of both consumers and the tourism industry. This resulted in about 500 companies still using the GG21 logo, but only around 60 of them are meeting the new and stricter requirements. Secondly, GG21 is based on the ISO 14001 environmental management standard. ISO 14001 allows participants to set their own targets and is
therefore considered 'process' based rather than 'performance' based. This results in companies developing environmental policies and management systems, but may still be operating in a manner that is detrimental to the environment (Synergy, 2000). Lastly, WWF claims that the use of the GG21 logo is not transparent and misleading for the consumer. Green Globe 21 allows companies to use the logo as soon as they commit to the programme. That means that a participating company can use the logo, although it has not changed anything in its operation. The difference between this logo and the logo with the tick, which may be used after certification, is too subtle and almost impossible for the consumer to recognise (Synergy, 2000). As a result of these three deficits, WWF acknowledges the importance of the programme and that certification programmes in general have improved over the last decade. But they also warn about the problems associated with the Green Globe 21 programme and suggest that credibility and effectiveness need to be improved (Synergy, 2000). For the same reasons, there has been criticism about the UN International Year of Ecotourism 2002 (IYE). The Malaysia-based Third World Network is concerned about negative impacts of ecotourism, including a greenwash and the destruction of more biodiversity and harm to more local communities, and therefore finds it inappropriate to celebrate the IYE (Environment News Service, 2000b).

2.1.2.3 Conceptual frameworks of ecotourism and operationalising the concept

As a result of the variety of ecotourism definitions and the constraints associated with them, a need has emerged to conceptualise ecotourism in order to provide an operable framework. Orams (2001) suggests a categorisation of ecotourism types according to the nature of their operation. Orams introduces three frameworks. Firstly, he refers to Laarman and Durst’s (1987) model of hard and soft dimensions of ecotourism (cf. also Weaver 2002b). The terms ‘hard’ and ‘soft’ refer to the level of dedication of the ecotourist to the form of tourism in which they are involved. Hard ecotourists have a deep interest in the subject matter, and are often well informed and have a level of expertise. Often, the tours they are participating in provide a higher physical challenge than ‘soft’ ecotours (Laarman & Durst, 1987). The second framework Orams refers to, is the continuum of naturalness and unnaturalness of Miller and Kaae (1993). In this framework, Miller and Kaae argue that humans have an unnatural impact on the environment, no matter how soft they would
travel. At the other end of the continuum, they see humans as part of nature and therefore human actions, including travelling, are natural. Finally, Orams (2001) introduces his 'exploitive-passive-active' continuum. In this model, the exploitive form results in damage to the host environment and is therefore the least desirable form. Passive tourists try to minimise the impacts on the host environment and thus, are less damaging than the exploitives. Finally, the most desirable form are the active tourists, who not only try to avoid damage to the host environment, but also actively contribute to the health and conservation of the host environment (Orams, 1995c, 2001).

Buckley (1994) underlines that an operable framework is more useful than just a tight definition. Bottrill and Pearce (1995:45) support this view and state that 'the increasing usage of the term ecotourism has done little to clarify the concept'. The two approaches proposed by Buckley (1994) and by Bottrill and Pearce (1995) will be introduced in the following sections.

2.1.2.3.1 The Buckley framework

Buckley (1994) recognised four main links within ecotourism: the natural environment as main asset for marketing, the management of tourism in natural areas in order to minimise the negative impacts, a direct or indirect contribution to conservation (economic and/or material), and an attitude of the tourists towards education and conservation (Figure 2.4). He argues that different stakeholders place emphasis on different aspects of ecotourism, for example, environmental organisations have generally a view that demands ecotourism to be nature-based, sustainable, an advocate for education, and supports conservation. The tourism industry and governmental bodies, in contrast, have a view that is focused on the product and marketing, and often ecotourism and nature based tourism are used synonymously.
Buckley concludes that a definition of ecotourism is unnecessary, unless it is needed to identify certain key points as a basis for funding agencies or legal and administrative bodies. Given consideration of various environmental aspects, there is a need for an operational framework, rather than a simple definition. The framework in Figure 2.4 is supported with a comprehensive check-list, including a variety of issues, such as distinguishing characteristics, environmental issues, size and growth, the industry subsector, and policy options, to name but a few. Buckley suggests that decisions should rely on the above information and that the proposed framework helps to identify critical issues. He states that this framework is only one option, and that it can be expanded according to the needs of the user (Buckley, 1994).

**Figure 2.4**: An ecotourism framework.  
Source: Buckley (1994:662)
2.1.2.3.2 The Bottrill and Pearce approach

It is acknowledged that the wide range of existing ecotourism definitions are usually debated on a conceptual or semantic level (Buckley, 1994). The connection to actual examples is still limited to one-off case studies, often of limited extent. Thus, Bottrill and Pearce (1995) propose a classification of ecotourism ventures, in order to satisfy the practical needs of the parties concerned. They identify three distinct perspectives of ecotourism: that of the participant, the operator, and the resource manager. It is argued that ecotourism is described as 'ethical travel' and that it is an important aspect to participants and that opportunities to learn should be provided by the ecotour operator, in particular for the participants to learn more about the natural environment and to foster attitudes towards environmental conservation. The operator’s perspective includes ‘green’ management of the ecotour operation. This includes a variety of issues including waste management, energy consumption, recycling, responsible marketing, educating participants, resource usage, minimising negative impacts, constant monitoring, and many more. Bottrill and Pearce (1995) argue that these requirements vary from site to site and from operation to operation, but it may include such practices as maintaining a minimum distance to wildlife, maximising local expenditure, training of staff, and respecting the cultural integrity of local communities. From the resource manager’s perspective, aspects such as resource assessment, planning, and protection are vital. One of the required pre-requisites for successful resource management is seen in a system of protected areas under law. It is often argued that ‘ecotourism would only occur in environments having protected area status’ (Bottrill and Pearce 1995:48). However, a less extreme view suggests that ecotourism can take place in non-legally restricted areas, but should promote conservation as an alternative to potentially resource damaging forms of tourism (Ceballos-Lascurain, 1993). Bottrill and Pearce (1995:48) conclude that

what the key elements approach to the classification of ecotourism entails is not the search for a comprehensive all-embracing definition but the designation of a set of measurable key elements whose presence is required if specific operations are to be recognised as constituting ecotourism ventures.

Such a classification was applied to twenty-two ecotour operations in British Columbia, Canada, with the result that only five out of those qualified as ecotour operators. Most of the operators were excluded on the protected area criterion, while others did not engage
visitors into a high level of active participation. Thus, Bottrill and Pearce (1995) conclude that there is still a need for more research in that area and vagueness is apparent for what constitutes a reasonable standard of the assessment criteria. Therefore, the theoretical debate is crucial for the achievement of a concept that is working in practice without losing credibility and the benefits ecotourism can bring.

2.1.2.4 Summary

With the advent of the term ecotourism in the early 1980s, a boom of new operations emerged and offered ecotours. This sector is still growing at faster rates than the tourism industry as a whole (Fennell, 1999). However, what the term ecotourism actually entails, remains somewhat vague. A large number of definitions emerged, but an all-encompassing definition is still elusive. Definitions range from very strict and detailed to very broad, both to an extent that some researchers suggest that those definitions tend to be meaningless. However, it is clear that there are a variety of requirements mentioned in the majority of ecotourism definitions, mainly that ecotourism takes place in the natural environment, is required to contribute to environmental conservation and social benefits, provides a minimum of interpretation and education, should be socially and culturally sensitive, and be small-scale. There are debates as to what extent an operator has to match these requirements in order to qualify as an ecotourism operator. With the aim to find more operable guidelines for ecotourism, frameworks have been developed, in which ecotour operators can be assessed.

2.1.3 Wildlife tourism

*Wildlife is a magnet.*

Olindo (1997:90)

2.1.3.1 Introduction

It was observed that the recreational use of wildlife and the desire to interact with animals have experienced rapid growth since the mid-1980s (Duffus & Dearden, 1990; Duffus & Wipond, 1992; Hall *et al.*, 2001; Higham, 1998; Kerr, 1991; Orams, 1994a; Pearce & Wilson, 1995; Schänzel, 1998a). Natural area management recognised the economic
benefits associated with this increasing demand and since the early 1980's, wildlife agencies have increased efforts to provide wildlife viewing recreation (Manfredo & Larson, 1993). Reynolds and Braithwaite (2001) underline the economic importance of wildlife tourism, in particular as major foreign exchange earner in developing countries. Olindo (1997) recognised as early as in 1991 that some 650,000 tourists visit Kenya's parks and protected areas annually and spend around $US650 million. A lion is estimated to be worth US$27,000 per year, and a herd of elephants about US$610,000 (Holing, 1996). The International Ecotourism Society (1998) states that 40 to 60 per cent of all international tourists are nature tourists ('people visiting a destination to experience and enjoy nature'), with a share of wildlife-related tourists ('tourists visiting a destination to observe wildlife') being 20 to 40 per cent of these. Eagles (1992) identifies another reason for the increased growth especially in developing countries: He argues that the amount of undeveloped environment and the diversity of complex ecosystems still intact is higher than in developed countries.

The following sections review how wildlife tourism is defined, some problems associated with wildlife tourism and the discussion on consumptive and non-consumptive forms of wildlife tourism. The discussion about various forms of wildlife tourism and the associated impacts resulted in the proposal of management frameworks for wildlife tourism, which will be introduced. Finally, a section is dedicated to the interaction specifically between humans and cetaceans.

2.1.3.2 Defining wildlife tourism

Definitions of wildlife tourism are not as abundant as those of ecotourism. Most definitions focus on aspects, such as interaction with wildlife, wild or captive, consumptive and non-consumptive. Barnes et al. (1992:136) define wildlife-based tourism as 'non-consumptive means of using wild resources to benefit human populations'. Duffus and Dearden (1990) refer to this as 'nonconsumptive wildlife-oriented recreation' (NCWOR). They identify three dimensions of interactions between humans and wildlife. These include consumptive (fishing and hunting), low-consumptive (zoos, aquaria, serpentaria) and non-consumptive (viewing and photography) uses. Figure 2.1 (Section 2.1.1) illustrates that ecotourism and wildlife tourism can both be subsumed under nature-based tourism. A clear distinction
between those two types of tourism, however, is often not possible. Reynolds and Braithwaite (2001:32) therefore define wildlife-based tourism as 'an area of overlap between nature-based tourism, ecotourism, consumptive use of wildlife, rural tourism, and human relations with animals' (Figure 2.5).

Figure 2.5: Wildlife-based tourism. 
Source: Reynolds and Braithwaite (2001:32)

In addition to this definition, Reynolds and Braithwaite (2001:33-34) suggest that wildlife tourism can be placed into seven categories:

1. **Nature-based tourism with wildlife component**: Many nature-based tours show wildlife as a key but incidental part of the product.
2. **Locations with good wildlife opportunities**: Some accommodation establishments are located in close proximity to wildlife-rich habitat. They may even contrive to attract wildlife through provision of food or other enticement.
3. **Artificial attractions based on wildlife**: Some species are amenable to forming the basis of a man-made attraction where the species is kept in captivity, and may even be trained. Some of these attractions may have detrimental effects on the animals.
4. **Specialist animal watching**: Such tours cater for specialist interests in a species or group of species. Bird watching is a good example.
5. **Habitat specific tours**: Such tours are based on a habitat rich in wildlife and usually amenable to being accessed by a specialised vehicle or vessel.
6. **Thrill-offering tours**: The basis of these is the exhibition of a dangerous or large species enticed to engage in spectacular behaviour in the wild by the operator.
7. **Hunting/fishing tours**: This consumptive use of wildlife may be in natural habitat, semi-captive or farmed conditions. This may involve killing the animal or releasing with an often frequent high rate of mortality.

These categories, along with the comprehensive definitions illustrate the wide scope of the term wildlife tourism. In addition to wildlife tourism as such, attempts have been undertaken to define the wildlife-based product as well. King (1947, in Shaw 1984:222) proposed six different categories of wildlife values including recreational, esthetic, educational, biological, social, and commercial values. According to Shaw (1984), these values vary significantly, depending on the ways in which people benefit from wildlife. Shaw’s (1984) approach is similar to Duffus and Dearden’s (1990) categories by also suggesting three different categories of wildlife users. Consumptive users are similar to those in Duffus and Dearden’s NCWOR. The second category (non-consumptive users) is similar as well, however, has the two distinctive sub-categories of primary and secondary users. Primary non-consumptive users are directly engaged in wildlife activities, such as viewing and/or photography. Secondary users of wildlife are those users that benefit from seeing or hearing wildlife while engaged in other activities that are not directly wildlife oriented (e.g., hiking or kayaking). Shaw’s third main category includes the indirect or vicarious users. They would benefit from wildlife without any direct contact with the animals. Shaw argues that this category is a major one, involving more people than the other user categories. People who support conservation efforts would fall into this category.

Fulton *et al.* (1996:29) identify eight dimensions of wildlife beliefs in order to assist wildlife management:

1. **Wildlife Use** – Philosophy regarding utilization of wildlife for human benefits.
2. **Wildlife Rights** – Philosophy about the rights of wildlife.
3. **Recreational Wildlife Experience** – Importance of wildlife to recreational uses of wildlife.
4. **Bequest & Existence** – Importance of knowing that healthy populations of wildlife currently exist in the state and ensuring these populations for future generations.
5. **Hunting/Anti-hunting** – Focused on whether hunting is a humane and positive activity.
6. **Residential Wildlife Experience** – Importance of wildlife in the neighbourhood and around the home.
7. **Wildlife Education** – Importance of learning and teaching others about wildlife.
8. **Fishing/Anti-fishing** – Importance on whether fishing is a humane and positive activity.
These eight categories are not solely based on tourism or recreational activities, but are seen as key issues for future wildlife management. In addition to the wildlife experience, wildlife education has become a major component of wildlife-based tourism activities.

2.1.3.3 Consumptive versus non-consumptive wildlife tourism

The definitions shown in the previous section clearly distinguished between consumptive and non-consumptive wildlife users. According to Duffus and Wipond (1992), wildlife managers have traditionally focused primarily on the consumptive forms of wildlife use, such as hunting and fishing. Reynolds and Braithwaite (2001:31) also state that ‘the non-consumptive side of human relations with wildlife has, until recently, received much less attention than wildlife as a source of food, trophies, fabric and other resources’. Generally, the non-consumptive forms of wildlife tourism are seen in a positive light. Edington and Edington (1986) stress that the attention given to wildlife certainly has beneficial effects on animal welfare. They argue that the income generated from tourism in national parks would be more than sufficient to meet the costs of their management. Wildlife-based tourism is seen as a non-consumptive tool to benefit human populations in generating income, and offers the chance to protect wildlife (Barnes et al., 1992). Barnes and Associates (1992:137) argue that ‘in contrast to most consumptive uses of wildlife resources that lead to small commercial or subsistence economies, a well managed wildlife tourist industry can lead to relatively high returns’. In order to achieve such a win-win situation, they suggest that four factors are crucial for a sensitive management of wildlife tourism. These include a critical consideration of the scale of tourism and the type of tourists in order not to threaten or disturb wildlife. Secondly, they demand that tourism revenues need to filter down to local people. This is important to provide incentives for locals to protect land and wildlife rather than using them in a traditional consumptive way. Thirdly, Barnes et al. (1992) address protected areas, where they suggest that wildlife tourism must support the goals of park management without tourism activities counteracting these. Lastly, it is suggested that wildlife tourism managers must ensure that a wide range of tourists have the opportunity to access wildlife tourism. It must be avoided that wildlife tourism is an activity exclusively for the rich and/or foreign visitors. Swanson and Barbier (1992) underline these demands to a large extent. They investigated the
relationship between developed countries (the ‘North’) and developing countries (the ‘South’), emphasizing the importance of the return of money to communities. ‘In essence, all that “wildlife utilization” means as a concept is the recognition of the North’s obligation to pay for the maintenance of diversity in the South’ (Swanson & Barbier, 1992:217). They add that it makes little difference where those payments originate (wildlife tourism, safari, hunting, television royalties), as long as there is an ongoing commitment to make them.

There is no doubt that tourism activities, including wildlife-based tourism, can contribute to the welfare and conservation of animals. However, there is growing concern that wildlife-based tourism has significant detrimental effects on wildlife and their habitat. In many cases, the concentration of wildlife is dependent on seasonal patterns and closely associated with critical periods of migration, breeding or spawning. At such times animals are most vulnerable to human disturbances, but at the same time makes them most interesting for wildlife viewers (Kerr, 1991). Even in protected areas, wildlife tourists can become a serious source of disturbance (Edington & Edington, 1986). These negative effects, it is argued, create a potential conflict and contradiction in the use of animals as ‘attractions’ (Hall et al., 2001). Thus, Tremblay (2001) questions the appropriateness of the term ‘consumptive’ in order to contrast wildlife tourism with alternative forms of wildlife use. Wilkes (1977:344) takes a step further and declares that the concept of the non-consumptive recreation user is a ‘comfortable myth’, a ‘comfortable illusion’ and ‘simply false’. He argues that the non-consumptive user does consume resources along spatial, visual, and physical dimensions. The example of the Ivy Green Provincial Park on Vancouver Island, Canada, illustrates the spatial consumption of resources: In order to serve visitors, a variety of facilities have been established, including 3.5km of roads, 48 campsites, 30 toilets, a service pad, a car park for 104 cars, and a trailer sani-station. Only about one quarter of the park has been left unimpaired, and all the facilities have been established for the so-called non-consumptive user (Wilkes, 1977). Visual consumption refers to the consumption of solitude by large numbers of visitors. Not only does it affect the wilderness experience of the tourists, but has negative effects on wildlife as well. Wilkes (1977) argues that there are species that need privacy, and the presence of humans close to or in their habitats means visual consumption. Physical consumption embraces negative effects, such as soil compaction, trampling and resulting erosion. These impacts affect special vegetational habitats required by wildlife. Increasing numbers of natural food enthusiasts harvest edible wild nature. Littering is an additional, unsightly problem that can alter animal behaviour. ‘We all know about bears and garbage, yet how can littering
activity that leads to the destruction of “problem” bears be called non-consumptive?’ (Wilkes, 1977:347). Thus, Swanson and Barbier (1992) caution that overuse will lead to the end of wildlands and wildlife, and Holmes (1993) warns that wildlife tourists are loving nature to death.

On the other hand, consumptive wildlife use today is often seen as less destructive and, indeed, as an activity that has fewer negative impacts than many ecotourism activities. Supporters of hunting trips argue that hunting requires minimal infrastructure, provides high per capita economic returns and even helps park management in controlling animal populations, because animals targeted by trophy hunters are usually biologically surplus males (Roe et al., 1997). Tremblay (2001) confirms that consumptive forms of wildlife tourism, such as hunting and fishing, are more often than not complementing wildlife-viewing from both consumption and production perspectives. He concludes that the dichotomy between consumptive and non-consumptive forms of wildlife tourism ‘misleadingly suggests a naïve differentiation from the points of view of both motivations and impacts’ (p. 85).

2.1.3.4 Duffus and Dearden’s conceptual framework

Duffus and Dearden (1990:215) define non-consumptive wildlife-oriented recreation (NCWOR) as ‘a human recreational engagement with wildlife wherein the focal organism is not purposefully removed or permanently affected by the engagement’. In recognition of the increasing non-consumptive use of wildlife and the dynamics of this form of tourism, Duffus and Dearden (1990) proposed a conceptual framework in order to better understand and manage wildlife-based tourism. Their framework is based on three models: Stankey et al.’s (1985) Limits of Acceptable Change (LAC), Butler’s (1980) tourist area lifecycle, and Bryan’s (1977; 1979) continuum of leisure specialisation. For the development of a framework, Duffus and Dearden stress the importance of two particular aspects of knowledge. Firstly, they suggest that it is crucial to develop a thorough understanding about the relationship between the wildlife and the particular site, for example, if the site is a breeding area or a feeding area. Secondly, in order to recognise and assess possible disturbance by human use, managers need to know about animal behaviour and reproduction rates under normal, undisturbed circumstances. Successful management,
however, lies in the combination of biological and social research. Duffus and Dearden argue that the non-consumptive user evolves and user groups vary with the development of a site or attraction, as described in the model of recreational succession by Orams (1999). It is argued, that a relatively pristine site attracts exploratory visitors, called ‘expert specialists’ on Bryan’s continuum. These tourists are low in numbers, but have a high interest in and good knowledge about the particular wildlife species. They are motivated by a genuine interest and have minimal negative impacts on the focal species (Higham, 1998). Recreational succession means that with growing awareness of the attraction, visitor numbers increase, with changing visitor characteristics. With this increase, visitors become less ambitious and tend to approach the other end of Bryan’s continuum, called ‘novice generalist’. The original expert specialists lose interest in the site the more it is developed and will be displaced in order to discover new ‘pristine’ sites (Orams, 1999), while the increasing numbers of novice generalists demand more infrastructure and services and inevitably put the natural resource under pressure. This phenomenon is also explained by Butler’s (1980) tourist area lifecycle. Duffus and Dearden (1990) combined Butler’s lifecycle and Bryan’s leisure specialisation continuum as illustrated in Figure 2.6.

The implementation of the Limits of Acceptable Change framework addresses the implication that the visitor evolution has on the wildlife resource. LAC is a framework that has been developed as an extension of the Recreation Opportunity Spectrum (ROS) and is equally concerned with the identification of recreational opportunities (Payne & Graham, 1993). At a given point A (LAC I), for example, visitor numbers are low and the ‘expert specialists’ use minimum facilities and have negligible impacts on the species or their habitat (refer to Figure 2.6). If the limits of acceptable change are broadened to accommodate reduced wildlife populations, and facilities and visitor numbers increase, then the new limit might move on the lifecycle to, for example, point B (LAC II). Point C (LAC III) in Figure 2.6 represents a maximum number of visitors engaging in the wildlife activity. Beyond this point, the ecological carrying capacity would be exceeded and the visitor numbers may be reduced (point D) due to decreasing vistor satisfaction (Duffus & Dearden, 1990). Duffus and Dearden conclude that this cycle of a wildlife attraction evolution is likely to take place, and that there is a need for longitudinal research and monitoring of wildlife and habitat resources for tourism purposes. This is crucial when a destination reaches point C on the model.
2.1.3.5 Summary

It is recognised that wildlife is a main attraction for tourism. With increasing numbers of wildlife tourism operations and tourists, these activities continue to put wildlife under stress. In order to adequately manage wildlife tourism, researchers and wildlife managers distinguish between consumptive and non-consumptive wildlife tourism. This chapter, however, illustrates that there is an increasing criticism about this distinction, especially the notion that non-consumptive forms of tourism are harmless for wildlife. In order to better understand wildlife tourism and to find a more sustainable way to manage wildlife
resources, Duffus and Dearden (1990) combined three well-known models and created a framework, that helps to identify problems associated with wildlife tourism and to anticipate use (and over use) of resources within the life cycle of a destination. They argue that wildlife attractions, like any other tourist destinations and attractions, are subject to a certain life cycle and to recreational succession. In conclusion, Duffus and Dearden suggest more longitudinal research, including close monitoring of wildlife populations and the impacts of tourism upon those.

2.2 Marine tourism

*Clean water, healthy coastal habitats, and a safe, secure, and enjoyable environment are clearly fundamental to successful coastal tourism.*

C. Michael Hall (2001:601)

2.2.1 Introduction

According to Hall (2002), ocean and coastal tourism is one of the fastest growing areas in tourism. Traditionally, ‘marine’ tourism was focussed on the coastal areas (‘sun & beach’ holidays) and on the cruise ship industry. However, today marine tourism is much more than beach holidays and cruising. According to Orams (1999:9),

> marine tourism includes those recreational activities that involve travel away from one’s place of residence and which have as their host or focus the marine environment (where the marine environment is defined as those waters which are saline and tide-affected).

Thus, marine tourism also includes a wide spectrum of activities, such as scuba diving and snorkelling, wind surfing, fishing, observing marine mammals and birds, all beach activities, sea kayaking, visits to fishing villages and lighthouses, sailing and motor yachting, maritime events, and many more. Even those tourists, who just enjoy the marine environment and scenery can be subsumed under marine tourism. While many sectors within the marine tourism industry experience tremendous growth, the focus of this study lies on the whale watching industry. Whale watching is defined as ‘tours by boat, air or from land, formal or informal, with at least some commercial aspect, to see, swim with, and/or listen to any of the some 83 species of whales, dolphins and porpoises’ (Hoyt, 2000:1, emphasis added).
2.2.2 Whale and dolphin watching – a growing business

2.2.2.1 From whaling to whale watching

The transition from commercial whaling to whale watching is well documented (Gill & Burke, 1999; Orams & Forestell, 1995; Tilt, 1987). Almost all species of whales have been hunted, with the right whale having initially been the prime target. Due to its slow movements it was easy and the ‘right’ whale to hunt, hence the name (Environment News Service, 2001c). With advanced technology, such as steam boats and power bow harpoons, the faster whales were targeted as well, some close to extinction. Today, according to the IUCN Red Data Book, the Blue whale (Balaenoptera musuclus) and Northern Right whale (Eubalena glacialis) are classified as endangered, and the Humpback whale (megaptera novaengliae) and the Southern Right whale (Eubalaena australis) are listed as vulnerable (Hoyt, 2000). In most parts of the world, commercial whaling ceased in the 1950s and 1960s; however, Norway and Japan continue to ignore the International Whaling Comission’s (IWC) worldwide moratorium on commercial whaling, and both countries kill about 400 – 600 whales per year, mostly under the cover of scientific research (Gamillscheg, 2001). Norway allowed 549 Minke whales to be killed in 2001 (Gamillscheg, 2001). In Japan the meat is sold commercially, but whaling is not commercially viable and subsidised with $1 million a year by the Japanese government (Environmental News Network, 2000; Lazaroff, 2001). Environmental organisations condemn Japan’s policy and noted that in the winter season 2000/2001 Japan’s whaling fleet killed 440 Minke whales and 43 Bryde’s and Sperm whales. The majority of those were hunted in the international Southern Ocean Whale Sanctuary (Environment News Service, 2001b). These numbers, according to the Norwegian government, will not have an adverse effect on the whale population as a whole, since the Minke whale population is estimated at 140,000 mammals (Gamillscheg, 2001). The very recent proposal of Japan’s government to establish a whale farm for ‘scientific research’ has caused a major outcry among environmentalists, who see the planned breeding of Sperm and Minke whales as an excuse to increase the production of whale meat (METRO, 2002b).

The IWC introduced the Southern Ocean Whale Sanctuary in 1994, which covers most of the southern ocean from 40 degrees south, to the ice edge. It includes major feeding
grounds of the great whales, but not the warmer breeding areas. Australia, New Zealand, and 14 other nations are currently proposing the establishment of a South Pacific Whale Sanctuary, which would include most of the breeding grounds from Papua New Guinea in the west, to Pitcairn Island and French Polynesia in the east; from Fiji and Tonga in the south, to the equator in the north (Department of Conservation, 2001b; ONE News, 2001; Singh, 2001). While the proposal was backed by the majority of IWC member states at the IWC meeting in Adelaide in 2000, it was blocked by the votes of six Caribbean nations, which received substantial financial support from Japan (Singh, 2001). Greenpeace claims that Japan spent over $US47 million on buying the votes of Antigua and Barbuda, Dominica, Grenada, St Kitts and Nevis, St Lucia and St Vincent, and the Grenadines (Environment News Service, 2002).

In the northern hemisphere, it was reported that 30 North Atlantic Right whales were born off the Florida coast in the 2000 season, and 15 were born in the 2001 season. It is estimated that the population of Northern Right whales dropped to a dangerous low of 300 mammals (Environment News Service, 1998, 2000a, 2001c). After falling birth numbers of this endangered species, the growing numbers are encouraging and researchers hope that most of the calves survive their journey to the Canadian waters. Collisions with ships are common killers of the slow travelling Right whales and a constant danger in the areas of dense ship traffic (Canadian Press, 2002). In 1998, the United Nations approved a mandatory reporting system for ships in order to protect the Northern Right Whales. Ships larger then 300 tons entering the key areas off the Massachussetts and the Florida/Georgia coasts will have to report to the Coast Guard and will receive information about the last known locations of any Right whales (Environment News Service, 1998).

In May 2000, the government of South Africa announced the establishment of a whale sanctuary in Walker Bay during the breeding season of the Southern Right whale. While the Southern Right whales migrate to the feeding grounds in Antarctic waters, they come back to South Africa between May and December to mate, calve and rear their young (Environment News Service, 2000a).

Dolphins and porpoises have not been hunted to the same extent as their whale counterparts; however, numbers in some areas decreased dramatically due to the destruction or pollution of their habitat, as well as large amounts being killed as by-catch in
gillnets. Since dolphins are mammals, they can only survive a few minutes under water and once entangled in a net, they simply drown (World Wildlife Fund for Nature, 1996). The population of New Zealand’s endemic Hector’s dolphin (*cephalorhynchus hectori*), for example, is estimated at about 3,000 to 4,000 animals (Gill & Burke, 1999). In 1988, the Department of Conservation established a marine mammal sanctuary around Banks Peninsula, where commercial gillnetting is prohibited year-round and recreational gillnetting is limited from March to October. This sanctuary is vital for the survival for this endangered species (Dawson & Slooten, 1996; World Wildlife Fund for Nature, 1996).

In the northern hemisphere, dolphins and porpoises suffer a similar fate. An estimated 4,400 porpoises are killed in fishing operations each year in the North Sea alone. Eight countries bordering the North and/or the Baltic Seas formed ASCOBANS, the Agreement on Small Cetaceans of the Baltic and North Seas. In a review of their Common Fishery Policy in December 2002, they plan adopting a level of marine mammals that die in entanglements in nets to 1.7 percent of their populations (Environment News Service, 2001e). The executive director of the United Nations Environment Programme, Klaus Toepfer, stated that ‘placing a clear limit on the levels of dolphins and porpoises being lost in fishing gear could play an important role in guaranteeing a recovery of these charismatic and intelligent marine mammals in European waters’ (Environment News Service, 2001e:1).

The United Kingdom brought the problem of dolphin by-catch in fishing nets to the attention of Europe. In March and April 2002, new dolphin-friendly fishing nets were tested on Scottish trawlers in the North Sea. These new nets have separator grids that allow dolphins to escape through an escape hatch at the top of the nets, while the targeted fish swim to the end of the net and get caught (METRO, 2002a).

2.2.2.2 From almost zero to nine million whale watchers in two decades

After the abolishment of commercial whaling in most parts of the world, small operators started boat trips for tourists to observe whales. Probably the birth of commercial whale watching was in Laguna San Ignacio in Baja California/Mexico in the 1950s (Tilt, 1987). Whale watching tours were praised as *the* solution for the problems of the small fishing
communities. Former whalers had excellent knowledge about the local whales and other marine life, and were often hired as guides. In addition, tourism increased and foreign tourists would bring money into the communities and further jobs were created to cater for the whale watching travellers. Environmental organisations were satisfied, that instead of hunting whales, they now would be watched and appreciated. Laguna San Ignacio was declared a UNESCO World Heritage Site in 1993 and it is the home of the El Vizcaino Biosphere Reserve Whale Sanctuary (Environment News Service, 2001a).

In the South Pacific, the small town of Kaikoura on the east coast of New Zealand’s South Island experienced a similar development. The implementation of new fishing regulations in the 1980s led to job losses in the crayfishing industry and the restructuring of governmental departments resulted in further redundancies of state employees (Warren & Taylor, 1994). Young residents left the town and region in order to find employment in the larger cities. At that time, about 10,000 tourists travelled through Kaikoura every year, mostly because it is on the main road between Picton (ferry port to/from the North Island) to Christchurch, the largest city on the South Island (Orams, 1999). Kaikoura is in the unique situation of having a deep-sea trench close to shore and two main ocean currents converging. This combination brings with it nutrient-rich waters and attracts a large variety of marine life, including dolphins, whales, seabirds, seals, and many more. Nowhere else in the world can Sperm whales (*physeter macrocephalus*) be seen as close to shore as in Kaikoura (Gill & Burke, 1999; responsibletravel.com, 2001; Whale Watch Kaikoura, 1997). Kaikoura also is a very important place in Maori culture, where in the mythology, Maui fished up the North Island from this spot. In 1987, plans for a whale watching venture were developed, with first operations in 1988 and full operation from 1989 onwards. The fully Maori-owned company started with one boat and ten staff. The second year drew already 1,000 whale watching passengers to Kaikoura and the company grew rapidly. Today, *Whale Watch Kaikoura* accepts about 100,000 reservations per year, however, due to cancellations and poor weather conditions, around 60-62,000 passengers are taken out on tours (Carr, 1998). The impact of *Whale Watch Kaikoura* on the community is outstanding. Not only does the operator employ around 50 full time staff and operates four large vessels, but there have also been a variety of businesses established (eateries, accommodation, minibus and taxi operations to name but a few) to cater to the large number of visitors (Orams, 1999, 2002b; Warren & Taylor, 1994). Already in 1989, *Dolphin Encounter* saw the potential of this development and pioneered swim-with-
dolphins tours at the same location. The abundancy of Dusky dolphins (*lagenorhynchus obscurus*) off the Kaikoura coast is ideal for such tours and the success rate of encountering dolphins comes close to 100%. The highly successful tour operator employs 19 full time and four part time staff (Lück, 2000).

![Figure 2.7: Whale and dolphin watching in Kaikoura](image)

In addition to *Whale Watch Kaikoura* and *Dolphin Encounter*, a variety of operators offer wildlife tours. Swimming with seals, observing pelagic birds, and kayak tours with seals are now well established. Over the past ten years, Kaikoura developed into a thriving town and managed to coin a reputation as *the* marine wildlife place in New Zealand, if not in the South Pacific.

2.2.2.3 Economic impacts of whale watching

In the larger picture, Kaikoura is only one of many places that offer whale and dolphin watch tours. In New Zealand alone, there are more than twenty-five operations that offer dolphin or whale tours (see Figure 3.1). New Zealand’s neighbour Australia boasts endless
coastlines and ideal locations for similar tours. The famous dolphins of Monkey Mia in Shark Bay, close to Perth/Western Australia are as popular as whale watching and dolphin feeding at the former whaling base of Tangalooma on Moreton Island, north of Brisbane/Queensland. More recently, many other nations in Asia and the South Pacific saw the economic potential of marine mammal tours and operations emerged in countries, such as Fiji, Indonesia, Tonga, the Solomon Islands, Taiwan, Japan, and many more. The fastest growing whale watching country undoubtedly is Taiwan, with numbers from zero in 1994 to about 30,000 whale watchers until 1998 (Hoyt, 2000). Whale watching in Africa grew with rates of up to 53%, and Asia experienced a growth of 31.7% in the same period of time (Hoyt, 2000). Although Japan still is hunting whales, whale and dolphin watching in Japan became a popular activity as well. From 1991 to 1998, the average annual growth rate was 37.6% per year, with the highest rates in the early 1990s. In 1998 alone, more than 100,000 people went whale and dolphin watching in Japan, and spent nearly $US 33 million (Hoyt, 2000).

The number of tourists engaging in whale watching tours worldwide has increased by an average of 12.1% since 1991 and reached an estimated total nine million in 1998. The direct expenditures on whale watch tours increased at an average of 21.4% and totalled $US299.5 million in 1998 (Hoyt, 2000).

The establishment of a whale sanctuary in Walker Bay, Hermanus, South Africa, is a result of the recognition that tourism is a major income earner. South Africa’s Minister of Environmental Affairs and Tourism, Mohammed Valli Moosa, said that ‘tourism more than any other sector of the economy holds the potential to create jobs and stimulate economic growth. It’s rapidly overtaking the contribution of gold mining to GDP’. He adds that ‘no stone is being left unturned in the quest to unlock the full potential of tourism’ (Environment News Service, 2000a). Findlay (1997) notes that Hermanus is probably the most successful community in providing whale watch experiences, but he points out that there are a number of other towns along the southern Cape coast, that have potential to become whale watch bases.

Hoyt (2000) indicates that the percentage of tourists that engage in watching smaller cetaceans (including orcas, pilot whales and dolphins) is increasing. Some countries, such as New Zealand, Australia, Ireland, and Japan experienced a dramatic growth in the
number of people taking dolphins tours. The Shannon estuary in Ireland, for example, is seen as the prime area for observing bottlenose dolphins. While tours started off with very low numbers in the early 1990s, with just 10 to 20 tours a year, Shannon saw a tremendous growth of more than 300% in the 2000 season with about 12,000 people participating in dolphin trips in the estuary (Berrow, 2001). Figures on dolphin tours have proven difficult to obtain. Whale watching is still predominant and if there are figures available, they usually concern whale watching including dolphin tours, as published by Hoyt (2000). However, the three operators of the present study indicated that they have an average of 20,000 passengers each in Paihia and in Kaikoura, and 15,000 in Akaroa (Lück, 2000). Taking the average tour prices, these 55,000 passengers would spend an estimated $NZ4 million a year on tours with those three operators alone.

2.2.3 The impacts of cetacean based tourism

Rapid growth of the cetacean based tourism industry brings with it a variety of impacts on both the communities and the animals. Undoubtedly the economic impacts are predominant. The figures above clearly indicate a large influx of money into the communities. Especially for less developed countries, tourism is a vital industry for their survival, because ecotourism tends to take place in areas that are relatively untouched by traditional development efforts (Lindberg, 2001). Worldwide, the nine million people engaged in whale or dolphin watching activities in 1998 spent an estimated $US 1,049 million. This figure includes tour fares, but also additional expenditure on souvenirs, food and accommodation (Hoyt, 2000). As Orams (1999:28) states, ‘watching whales (and dolphins) is, quite simply, big business’. This economic impact is also enhancing the living standard of the local communities and, in cases where indigenous people are involved, can give those a new pride and help to maintain their culture.

With growing interest in whales and dolphins, environmental organisations and marine researchers fear a rapidly growing pressure on the marine mammals as well. Coastlines are particularly alluring to tourists and therefore tourism is adding stress to the fragile coastal resources (Cater & Goodall, 1992). In many countries proper regulations are either not in place, or not policed. The sight of a large number of vessels around one pod of dolphins or whales is not uncommon in some parts of Asia, for example in Bali/Indonesia. Finkler
(2001, pers. comm.) observed up to forty commercial and recreational vessels around orcas at the San Juan Islands in Washington, USA. But even in countries with tight regulations and careful operators, such as in New Zealand, research indicates a certain amount of stress on these animals. In addition, a large number of private vessels can have considerable impacts on the marine wildlife. Even more so, since non-licenced, private boats spend more time with the marine mammals, and it is much more difficult to monitor (Lusseau, 2002).

Buckley (2001:379) suggests that 'ecotourism should involve deliberate steps to minimize impacts, through choice of activity, equipment, location and timing; group size; education and training; and operational environmental management'. Lindberg and McKercher (1997) identify a variety of indirect and direct impacts of ecotourism. Many of those impacts are potential impacts of whale/dolphin watching tours.

2.2.3.1 Indirect impacts

According to Lindberg and McKercher (1997), indirect impacts of tourism include a general degradation of the habitat, including removal or damage of vegetation, water and air pollution, soil erosion, the accidental introduction of foreign species, litter and vandalism, and the purchase of souvenirs (for example, black coral or shark teeth). Additional indirect impacts stem from a growing local population in order to cater for tourists. Brown (2000) argues that marine mammals have to compete with humans for resources such as habitat and food. Habitat degradation is a concern, since with coastal development the risk of soil runoff, sewage, and refuse are increasing. Increased boat traffic (both commercial and recreational) amplifies the risk of fuel and oil spills, adds to noise pollution and intensifies the chance of vessel-mammal collisions (Brown, 2000). The Northern Right whale, for example, is listed as endangered under the United States Endangered Species Conservation Act (1969). However, it is estimated that half of all Northern Right whale deaths happen through collisions with passing ships (Environment News Service, 1998). Whales are not the only marine mammals that suffer from collisions with vessels. Edington and Edington (1986) refer to injuries inflicted by propellers of power boats as a major threat for manatees (*Trichechus manatus*) in Florida, where not all animals can escape direct 'mechanical' injury. Robinson (2001) reports that Hector’s
dolphins in Akaroa were found with large propeller lacerations. Marine debris, defined as ‘any object of wood, metal, glass, rubber, plastic, cloth, paper, or other man-made item that has been lost or discarded in the marine environment’ (Berghan, 1998:33), is another common threat for marine mammals. Although marine debris does not exclusively stem from tourism, the development of coastal tourist resorts and an increase in recreational boat traffic contributes to that kind of pollution. Berghan (1998) reports that there has been a Sperm whale found with not less than 50 plastic bags in its throat. The ‘Dirty Dozen’ identify the twelve most common pollutants found on U.S. beaches during a coastal cleanup in 1996. The main pollutant was cigarette butts (16.2% of the collected debris), followed by plastic pieces (6.41%) and foamed plastic pieces (5.51%). The collected 608,759 cigarette butts would make up over 30,438 packs of cigarettes (Berghan, 1998). During a similar clean-up campaign in Scotland, thousands of bits of rubbish were found on Edinburgh’s beaches, including a toilet seat and pieces of furniture (Ferguson, 2002). Another problem can be the noise generated by vessels. Most whale and dolphin watch tours are undertaken by powered boats (only few by kayak or yachts), and noise levels under water are relatively high. This can have detrimental consequences for the mammals. Recent research found that Beluga whales in the St. Lawrence River, Canada, suffer from heavy boat traffic and have problems communicating. This noise overload, generated by whale watching vessels, ferries and freighters, could lead to the deafness of the belugas (Carroll, 2002).

2.2.3.2 Direct impacts

Most research regarding direct impacts on cetaceans has been undertaken through research on whales (for example, MacGibbon, 1991, Gordon, 1992, Duffus, 1993, Finley, 1990, Corkeron, 1995, and Obee, 1998). Although there seems to be a fair amount of research on the effects of tourism on whale populations, Constantine (1999) argues that most of the research addresses short-term effects. The long-term effects and behavioural changes of cetaceans are poorly known. Little research has been undertaken on dolphin populations at various places around the globe.

It was reported that vandalism against dolphins included feeding dolphins with beer, hot dogs, candy bars and baited fishhooks (MMPA Bulletin, 1995). But it is suggested that in
comparison, all impacts on dolphins, such as pollution, hunting, and habitat loss are insignificant to entanglement of marine mammals in gillnets (Dawson & Slooten, 1996). Each gillnet is sixty kilometres long, drifts in the open oceans killing hundreds of thousands of dolphins every year. The only dolphins exempt from this are either larger species (such as orcas) or those whose distribution is well away from gillnets (e.g. hourglass dolphins in Antarctic waters). Although gillnets are the greatest threat for dolphins, human-made chemicals have been found in dolphins’ tissues and identified as cause of a lower reproduction rate, since chemicals, such as PCBs, DDT and dioxins can cause sterility (Dawson & Slooten, 1996). Apart from those general human impacts on the dolphin populations, there are some major research projects that addressed the impacts of (tourist) vessels on dolphins.

Barber (1993) concludes that Spinner dolphins in Kealakekua Bay, Hawaii, shorten their resting periods when exposed to boat traffic. Driscoll-Lind and Östman-Lind (1999) also argue that Spinner dolphins in that area are constantly harassed by tourism activities. Due to a lack of regulations (or their enforcement) it happens that although specific groups of swimmers approach a pod of dolphins only for a limited time, other swimmers may attempt to do the same later. Driscoll-Lind and Östman-Lind conclude that this way, it is very likely that a pod of Spinner dolphins have humans trying to interact with them during most of their resting period throughout the day. Other studies, for example on Bottlenose dolphins in Sarasota Bay, Florida, showed that dolphins avoided the area at certain times. Apart from displacement, disruption of feeding patterns and changes in habitat use were identified (Constantine, 1999). Similar impacts were identified by marine scientists Dunn and Goldworthy in Sorrento, Australia. They observed, that people on commercial and private boats, and on power-skies interact with the bottlenose dolphins in Sorrento for up to seven hours every day (Heinrichs, 2001).

Constantine and Baker (1997) report a significant change in behaviour of Bottlenose dolphins and Common dolphins around vessels in the Bay of Islands, New Zealand. They emphasise the difficulty to obtain exact research data, because dolphins avoiding vessels from a greater distance would not be observed at all.

The effects of vessel noise on dolphins were investigated by Helweg (1995) in the Bay of Islands. He concluded that Common dolphins do not significantly react to noise caused by
vessels or swimmers, however, Bottlenose dolphins in the Bay responded with a ‘high-intensity burst-pulse sound known as “ratchet” [...]’. Once when a vessel started its engine, and once when swimmers entered the water’ (Helweg, 1995:21). This sound can be interpreted as an expression of anger or alarm (Constantine, 1999).

Bejder (1997) investigated the effects of dolphin-watch vessels on Hector’s dolphins in Porpoise Bay in the south of New Zealand’s South Island. He concluded that the dolphins were not displaced, but that the dolphins’ interest in the boats decreased with increasing contact time. Bejder also observed the formation of significantly tighter pods in the presence of boats, which Bejder (1997) interpreted as an indicator for the need of greater protection.

Marine Scientists Barr and Slooten (1999) confirmed a similar behaviour of Dusky dolphins in Kaikoura. They suggested that Dusky dolphins have a main resting phase around midday, but are often disturbed by dolphin tours. During this resting phase and in proximity of vessels, the Dusky dolphins tended to form tighter pods, similar to the Hector’s dolphins in Bejder’s study (Barr & Slooten, 1999).

Since Dolphin Encounter started to offer swim-with-dolphins tours in Kaikoura in 1989, a number of operators have emerged to offer similar tours at three locations in New Zealand (cf. Section 3.2). Apart from the vessel, those tours might have additional impacts on the mammals due to the swimmers. Few research projects in New Zealand addressed impacts from swimmers on dolphins (Constantine, 1999).

In the Bay of Islands, Constantine and Baker (1997) assessed the method of swimmer placement, i.e. in the path of travel, line abreast, or when dolphins were around the boat. According to the Marine Mammal Protection Regulations 1992, Regulation 18 (k), it is illegal to cut off a path of travel of dolphins (cf. Section 2.2.4.1). This method would have the greatest impact on the dolphins, while it was reported that the ‘line abreast’ method had the lowest rate of avoidance by dolphins (Constantine, 1999).

Bejder’s (1997) study also included the observation of swimmers with dolphins, although these were not participants of commercial tours. All 56 observed swim attempts were undertaken by swimmers entering the water from the beach as boat-based swimming with dolphins is not allowed in Porpoise Bay. The impacts are believed to be minimal, because
swimmers entering the water from the beach do not have the same ability to pursue dolphins as from a boat. However, Bejder, again, observed the formation of tighter pods. He also found that the Hector’s dolphins used a small area at the southern end of the bay to a large extent and concluded that this would be an important habitat for them. Constantine (1999) observed that this area is also very popular for swimmers and an increase in recreational swimmers is likely to have a long-term impact on the dolphins.

Barr (1997) and Yin (1999) conducted research on the Dusky dolphins off the Kaikoura coast. Both studies investigated the interaction of dolphins with boats and swimmers. Barr (1997) concluded that only nine out of an estimated pod size of 350 dolphins would interact with swimmers. Constantine (1999) suggests interpretation of this number with caution, since it would have been difficult to count the exact number of dolphins during Barr’s research. However, Yin’s (1999) observation was similar suggesting that only a very small proportion of a pod would interact with swimmers.

Brown (2000) used data of a study conducted by Cipriano prior to the first commercial swim-with-dolphins tours in Kaikoura, and compared those data with current data. Her findings showed that smaller pods (< 50 dolphins) spend more time inshore at the northern end towards South Bay, while large pods tend to avoid the boat ramp and tourist boats and move further south of the bay.

Neumann conducted research on the effects of tourism on Common dolphins around the Coromandel Peninsula on New Zealand’s North Island. They report that reactions of dolphins vary from group to group. While some groups seem to be unaffected, others approach the vessel and bowride. Another group of Common dolphins immediately avoided boats (Neumann & Orams, 2002).

There is no doubt that any interaction with marine mammals on a regular basis can have detrimental effects on the population of those mammals. This chapter introduced a number of research projects that were undertaken in order to gain a better understanding of those impacts, however, Constantine (1999:14) states that since ‘the development of commercial dolphin-watching and seal-watching is a relatively new occurrence in most places, information on the effects of tourism on these animals is limited’. In particular, there is a lack of information about the long-term effects.
2.2.3.3 Risks for humans interacting with cetaceans

A number of studies have been undertaken to determine what effects human interaction with whales and dolphins may have on the cetaceans (see previous section). More recently, there have also studies been undertaken to assess the benefits whale watchers gain from their experience (Finkler, 2001; Muloin, 1998; Orams, 2000). However, it is noteworthy that interaction with wildlife can change animal behaviour, including an aggressive behaviour that can become a potential risk for the tourist. Specifically during interaction with dolphins, such behaviour has been observed. In Monkey Mia/Shark Bay in Western Australia, apparently benign activities such as feeding dolphins have led to increasing impacts, including injuries to humans from habituated dolphins (Newsome et al., 2002). Douglas (1999:37) observed Bottlenose dolphins at Shark Bay and concluded that their world is one of ‘sex and violence, where kidnapping is common-place and gang warfare rife’. Although most of the behaviour of those dolphins did not directly affect humans, she recommends: ‘If you find yourself taking a dip with Flipper don’t be fooled by his beatific smile’. Although Douglas’ article approaches this problem in a humorous way, the problem is serious. In Florida, the National Marine Fisheries Service (NMFS) states that the friendly reputation of dolphins has reached mythical proportions, however, they received various reports of ‘people being bitten, swimmers being pulled under the water, and injuries severe enough to require stitches and hospitalisation. In Brazil, a man who was harassing a wild dolphin was killed when the dolphin rammed him in the chest’ (National Marine Fisheries Service, 1995). Other reports include the transmission of diseases. A woman that had been bitten by a dolphin in Sarasota, Florida, needed 20 stitches in her leg and was hospitalised with a cholera infection (Seidemann, 1997). The Humane Society of the United States claims that ‘swim with the dolphins programs add an increased element of exploitation without adding any perceivable additional educational benefits. In fact, swim with the dolphins programs mis-educate the public to believe that dolphins desire our company as much as we desire theirs’ (Environment News Service, 2001d). Officials attempt to prevent humans from harm by prohibiting swimming, harassing, hunting or capturing dolphins through Marine Mammals Protection Acts (MMPAs). However, such efforts are often undermined by tour operators or local tourist boards. The visitor’s guide of Panama City in Florida contains a variety of references to opportunities to interact with wild dolphins and even illustrates those with photos of vacationers feeding and swimming...
with them (Seidemann, 1997). However, in the same city a boat rental company was fined $US 4,500 for illegally feeding and harassing wild dolphins. In addition the company was ordered to post a ‘no dolphin feeding’ sign on their premises (Smullen, 1999).

A programme where tourists can feed wild dolphins has been established at Tangalooma on Moreton Island, Australia in 1992. Research showed that the dolphins at Tangalooma became more confident and started to make forceful contact with tourists who enter the water to feed them. This behaviour is referred to as ‘pushy’ (Orams, 1995b). The study shows that some of the dolphins became aggressive, depending on factors such as dolphin competition, mobility, and male behaviour. It is suggested that this behaviour needs to be further monitored and addressed in management strategies, so as to minimise the risks for the tourists (Orams, 1995b; Orams et al., 1996).

2.2.4 Legal framework in New Zealand

Due to the tremendous growth of the marine mammal watching industry and the impacts this brings with it, researchers recognise the urgent need for appropriate planning and management (Wilson et al., 2001). Wilson et al. (2001) claim that many of the problems and conflicts in marine and coastal management can be found in overall procedural, planning, policy and institutional weaknesses. The Fourth Labour Government in New Zealand (1984-1990) initiated a major review of the management of resources and the legislation for their management. This review resulted in the proposal of the Resource Management Act (RMA), which was passed by the government in 1991 (Collier, 1994). The RMA replaced a variety of older statutes, for example the Water and Soil Conservation Act 1967, and the Town and Country Planning Act 1977. The RMA identifies five types of resource consent, including land use consents, subdivision consents, coastal permits, water permits, and discharge permits (Collier, 1994). In addition to the RMA, New Zealand has quite rigorous rules and regulations for the management of any use of marine mammals, including the use for tourism purposes. Management of marine mammals in New Zealand is based on two major pieces of legislation: the Marine Mammals Protection Act (1978), and the Marine Mammals Protection Regulations (1992). In Kaikoura, management is also according to voluntary codes of conduct of the involved operators. Legislation and regulations will be introduced in the sections of this chapter.
2.2.4.1 The Marine Mammals Protection Act (1978) and the Marine Mammals Protection Regulations (1992)

The Marine Mammals Protection Act (1978) and the Marine Mammals Protection Regulations (1992) have been developed in order to protect marine wildlife. Constantine (1999:8) states that the purpose of these two regulations is:

To make provision for the protection, conservation, and management of marine mammals and, in particular:

(a) to regulate human contact or behaviour with marine mammals either by commercial operators or other persons, in order to prevent adverse effects on the interference with marine mammals;
(b) to prescribe appropriate behaviour by commercial operators and or other persons seeking to come into contact with marine mammals.

Management of the MMPA and MMPR is administered by the Department of Conservation (DoC), the Government agency responsible for the welfare of marine mammals in New Zealand (Baxter, 1993; Department of Conservation, 1996b). According to the MMPA, every person to 'take' a marine mammal, is required to apply for a permit. The term 'take' includes all actions that can harm, harass, injure and attract a marine mammal (Department of Conservation, 1996a). The Act is also the foundation for the establishment of marine mammal sanctuaries, which will be discussed in Section 2.2.4.3.

The Marine Mammals Protection Regulations were developed in 1992, as a consequence of a dramatically increasing demand of observing and interacting with marine mammals, such as whales, dolphins, and seals (Baxter, 1993). They regulate the requirements relating to permits (Part I), suspension, revocation, restriction, or amendment of permits (Part II), behaviour around marine mammals (Part III), and miscellaneous provisions (Part IV) (Marine Mammal Protection Regulations, 1992).

According to Part I of the regulations, no commercial operation is to be carried out without a valid permit. Brown (2000), observed that there are currently 74 permits issued to swim with or observe marine mammals in New Zealand. The requirements to obtain a permit are manifold, and the Department of Conservation assesses the applications carefully. The proposed operation should not be contrary to conservation management strategies or have significant adverse effects on the species targeted. In contrast, they should be in the interest
of conservation and protection of the mammals. In addition, it is required that the operator has sufficient experience with the marine mammals and that education is a vital part of the venture (Constantine 1999). Permits in New Zealand are limited, in order to keep the stress and negative impacts on wildlife as low as possible, and in order to run operations viably. Table 2.4 illustrates the amount and types of current permits at the three locations investigated. There are large numbers of investors applying for additional permits at the three locations of this study, but the Department of Conservation will only issue a new permit, if an existing one will be given back. Limiting the number of permits, and therefore the number of vessels and swimmers, is meant to ensure that the dolphin populations maintain healthy and stay at the areas. Markowitz and Associates (1999:12) refer to Hardin (1968) and state that 'by restricting the access of capitalist enterprises to this natural resource, the New Zealand Department of Conservation has effectively avoided the “Tragedy of the Commons”, greatly increasing the long-term benefit to the Kaikoura community and protecting the dusky dolphins population from unsustainable harassment'. They suggest that the DoC model in New Zealand could be a role model for the management of marine mammal tourism at other locations around the globe.
Table 2.3: DoC permits for dolphin watch/swim operations in the research areas

<table>
<thead>
<tr>
<th>Place/Operator</th>
<th>No. of vessels</th>
<th>Trips</th>
<th>Max. pax per trip</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akaroa (max. 10 swimmers in the water at any one time)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Akaroa Harbour</td>
<td>1</td>
<td>2-4/day</td>
<td>92</td>
<td>watch</td>
</tr>
<tr>
<td>Cruises</td>
<td>1</td>
<td>1-4/day</td>
<td>30</td>
<td>watch/swim</td>
</tr>
<tr>
<td>Bluefin Charters</td>
<td>1</td>
<td>3/day</td>
<td>12</td>
<td>watch</td>
</tr>
<tr>
<td>Dolphin Experience</td>
<td>1</td>
<td>4/day</td>
<td>12</td>
<td>watch/swim</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>4/day</td>
<td>12</td>
<td>watch/swim</td>
</tr>
<tr>
<td>Kaikoura (max. 13 swimmers in the water at any one time)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dolphin Encounter</td>
<td>1</td>
<td>3/day</td>
<td>17</td>
<td>watch/swim</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>3/day</td>
<td>38</td>
<td>watch/swim</td>
</tr>
<tr>
<td>NZ Sea Adventures</td>
<td>1</td>
<td>8/week</td>
<td>13*</td>
<td>watch/swim</td>
</tr>
<tr>
<td>Kaikoura Whalewatch</td>
<td>4</td>
<td>112/week</td>
<td>n.i.</td>
<td>watch</td>
</tr>
<tr>
<td>Paihia/Russell (max. 18 swimmers in the water at any one time)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carino (yacht)</td>
<td>1</td>
<td>1/day</td>
<td>18*</td>
<td>watch/swim</td>
</tr>
<tr>
<td>Dolphin Discoveries</td>
<td>1</td>
<td>2/day</td>
<td>74</td>
<td>watch</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2/day</td>
<td>44</td>
<td>watch/swim</td>
</tr>
<tr>
<td>Heritage Tours</td>
<td>1</td>
<td>2/day</td>
<td>n.i.</td>
<td>watch</td>
</tr>
<tr>
<td>Fuller’s Northland</td>
<td>1</td>
<td>2/day</td>
<td>35</td>
<td>watch/swim</td>
</tr>
<tr>
<td>King’s Tours</td>
<td>1</td>
<td>1/day</td>
<td>n.i.</td>
<td>watch/swim</td>
</tr>
</tbody>
</table>

* capacity of the vessel not indicated
n.i. = not indicated


For interactions with dolphins, for example, regulations require boats to approach a pod at no-wake speed and only from behind or the sides, so as to minimise the agitation of dolphin groups. In order to limit noise, disturbance and stress on the dolphins, there are
only three vessels allowed within 100 meters of a dolphin or a pod at any one time. Vessel operators are not allowed to obstruct the path of any dolphin (Markowitz et al. 1999; Marine Mammals Protection Regulations 1992).

- ‘No wake’ speed within 300 m; on departure greater speeds can be used to outdistance dolphins.
- Approach from behind and parallel to Dolphins.
- No more than 3 vessels within 300 m.
- Path of Dolphins not to be obstructed.

Figure 2.8: Regulations governing vessel operation around dolphins. Source: Marine Mammals Protection Regulations 1992, Part III: Behaviour around marine mammals.

Figure 2.8 illustrates these regulations. In addition, Part III also requires a variety of tour operators’ behaviour, such as no rubbish to be thrown over board near a marine mammal, swimming with juvenile dolphins is prohibited, interaction is to be abandoned if there is
any sign of the mammal being disturbed or alarmed, and many more. The MMPR provide similar regulations for interaction with whales (by boat and by air), and with seals.

2.2.4.2 Voluntary codes of conduct

Barr and Slooten (1999) undertook extensive research on the effects of swim-with-dolphins tours on the Dusky dolphins in Kaikoura (cf. Section 2.2.3.2). As a result of their findings, the only three licensed tour operators for dolphin tours and the Department of Conservation developed voluntary guidelines for boat operators. These guidelines apply during the summer season, between 1 December and 31 March. The operators continue their normal commercial operations; however, they will not approach dolphins during the ‘time-off’ period between 11:30am and 1:30pm (Department of Conservation, 1999; Markowitz et al., 1999). The Department of Conservation informs recreational vessel operators wherever possible and attempts to encourage them to observe the code of conduct like the commercial operators. DoC developed a fact sheet, which is available at the Kaikoura field centre and also from DoC staff. In addition to the voluntary codes of conduct, this fact sheet informs boat operators about common sense behaviour around marine mammals and main rules of the Marine Mammals Protection Act (Department of Conservation, 1999).

Voluntary guidelines are an important way to protect the mammals and the same time secure a sustainable industry. Protection acts might be in place in many countries, however, the resources to police those regulations are not. Only if tour operators realise that their own survival is dependent on the survival and well being of the marine mammals, there can be a symbiotic relationship between nature and tourism. Tourists and operators benefit from watching cetaceans, and can contribute to conservation and important research. Tourism research confirms that education and interpretation are at the forefront of marine ecotourism operations (Forestell, 1991). In recognition to that, the International Fund for Animal Welfare (IFAW) held a workshop in 1997 in Provincetown, Massachusetts on educational values of whale watching. The whale watching experience ‘may be viewed to get students (and teachers) interested in local species and ecosystems, and to stimulate an interest in formal schooling in cetology, oceanography, ecology and/or conservation biology’ (International Fund for Animal Welfare, 1997). The importance of education as vital part of the ecotourism experience will be investigated in Section 2.4.2.
2.2.4.3 Marine protected areas in New Zealand

Another regulatory management tool is the establishment of marine parks. These can facilitate both recreational use and environmental protection (Orams, 1999). Depending on the extent to which the use is restricted, marine parks can be gazetted as marine parks, marine reserves, or sanctuaries. In New Zealand, Marine parks are the least regulated form of protected areas. They do not provide specific management or protection rules (Orams, 1999). An example for this form of marine park is the Hauraki Gulf Marine Park, which was established by special legislation in February 2000. The park protects the natural and historic features of the Gulf, including numerous islands. It is unique in terms of its administration, as local authorities can add reserves to the park while retaining ownership and control. Hauraki Gulf Marine Park includes privately owned Maori land, which identifies opportunities for Maori to contribute to management in close association with the local councils and the Department of Conservation (Department of Conservation, 2000; Higham & Lück, 2002).

At the other end of the extreme, marine reserves are very tightly regulated. According to the Department of Conservation (2001a), marine reserves are

specified areas of territorial sea, seabed and foreshore managed for scientific study and to preserve the marine habitat in its natural state. Reserves may be established in areas that contain underwater scenery, natural features, or marine life of such distinctive quality, or so typical, beautiful or unique that their continued preservation is in the national interest.

Currently, there have been 16 marine reserves established in New Zealand, covering some four per cent of its territorial waters. The Department of Conservation endeavours to raise this amount to ten per cent, with plans for several more reserves already in place (Department of Conservation, 2000). The first such marine reserve in New Zealand was Cape Rodney-Okakari Point, which was set up in 1975 north of Auckland. Table 2.4 shows all current marine reserves in New Zealand.
Table 2.4: Marine reserves in New Zealand

<table>
<thead>
<tr>
<th>Marine Reserve</th>
<th>Location</th>
<th>Established in</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cape Rodney-Okakari Point Marine Reserve</td>
<td>Near Auckland, North Island</td>
<td>1975</td>
</tr>
<tr>
<td>Poor Knights Islands Marine Reserve</td>
<td>Near Whangarei, North Island</td>
<td>1985</td>
</tr>
<tr>
<td>Kermadec Islands Marine Reserve</td>
<td>Appr. 400 nautical miles north-east of Auckland, North Island</td>
<td>1990</td>
</tr>
<tr>
<td>Kapiti Marine Reserve</td>
<td>North of Wellington, North Island</td>
<td>1992</td>
</tr>
<tr>
<td>Whanganui A Hei (Cathedral Cove) Marine Reserve</td>
<td>South-east end of Mercury Bay, Coromandel Peninsula, North Island</td>
<td>1992</td>
</tr>
<tr>
<td>Mayor Island (Tuhua) Marine Reserve</td>
<td>North-east of Tauranga, North Island</td>
<td>1992</td>
</tr>
<tr>
<td>Long Island-Kokomohua Marine Reserve</td>
<td>Queen Charlotte Sound, Marlborough Sounds, South Island</td>
<td>1993</td>
</tr>
<tr>
<td>Piopiotahi Marine Reserve</td>
<td>Fiordland, South Island</td>
<td>1993</td>
</tr>
<tr>
<td>Te Awaatu Channel (The Gut) Marine Reserve</td>
<td>Fiordland, South Island</td>
<td>1993</td>
</tr>
<tr>
<td>Tonga Marine Reserve</td>
<td>Abel Tasman National Park, South Island</td>
<td>1993</td>
</tr>
<tr>
<td>Westhaven (Te Tai Tapu) Marine Reserve</td>
<td>North-west coast of the South Island</td>
<td>1994</td>
</tr>
<tr>
<td>Long Bay-Okura Marine Reserve</td>
<td>North of Auckland, North Island</td>
<td>1995</td>
</tr>
<tr>
<td>Motu Manawa-Pollen Island Marine Reserve</td>
<td>Waitemata harbour, Auckland, North Island</td>
<td>1995</td>
</tr>
<tr>
<td>Te Angiangi Marine Reserve</td>
<td>Hawke’s Bay, North Island</td>
<td>1997</td>
</tr>
<tr>
<td>Pohatu Marine Reserve</td>
<td>Banks Peninsula, South Island</td>
<td>1999</td>
</tr>
<tr>
<td>Te Tapuwae O Rongokako Marine Reserve</td>
<td>North of Gisborne, North Island</td>
<td>1999</td>
</tr>
</tbody>
</table>

Source: Department of Conservation (2001a; 2002)

In addition to these 16 existing marine reserves, there are eight applications at different stages of the statutory process, three that are close to commencing the formal process, and seven more proposed (Department of Conservation, 2002).

A special form of protected area is a sanctuary. The Hector’s dolphin is the world’s smallest dolphin and endemic to New Zealand. Numbers decreased dramatically, mostly because they were caught as by-catch in gillnets of local fishermen (Dawson & Slooten, 1996). The current population is estimated at about 3,000 – 4,000 animals (Gill & Burke, 1999; Robinson, 2001). In 1988, the Department of Conservation established a Marine Mammal Sanctuary around Banks Peninsula, specifically to protect the Hector’s dolphins. Within the sanctuary, gillnetting is very restricted to a total ban in summer, and restricted gillnetting possibilities during all other times (Dawson & Slooten, 1996).
2.2.5 Summary

The recreational use of the marine environment has been growing rapidly over the past two decades. In addition to the traditional beach activities, new sectors emerged and grew faster than the tourism industry overall. These include activities, such as scuba diving, whale watching, swimming with seals and dolphins, bird watching, and many more. Whale watching, including dolphin tours as by definition, is experiencing tremendous growth and in many locations around the globe became a major income source. However, while the whale watching industry is a major foreign exchange earner in many places, there is a growing concern about the well being of the marine mammals. Research undertaken by marine scientists revealed that even in countries with fairly tight regulations, such as New Zealand, dolphins and whales are under pressure. Edington and Edington (1986:34) argue that ‘evidence is now accumulating to show that animal watchers can represent a serious source of disturbance even in protected areas’. Statutory and voluntary guidelines and rules are vital in order to reduce the negative impacts on the marine mammals. It is therefore the challenge for all stakeholders, including managers, tour operators, and tourists, to take responsibility and act carefully around marine wildlife.
3 The social context of tourism

One of the most profound changes in human consciousness over the last fifty years has been the growing realization that nature is not an inexhaustible resource. Stephen Hussey and Paul Thompson (2000:1)

There are a large variety of social aspects associated with tourism. These can range from very specific feelings of a single tourist, to the larger social implications tourism has on a destination’s host community. This study investigates some of the aspects from a tourist’s perspective.

3.1 Environmental values, attitudes and behaviour

3.1.1 Introduction

One of the objectives of this thesis is to examine the environmental values of participants on dolphin tours. According to Madrigal and Kahle (1994), values are closely related to attitudes and behaviour. Thus, in order to gain a better understanding about values, it is essential to have a closer look at values, attitudes and behaviour.
It was suggested that there has been a shift in environmental values over the past twenty years. As a result of this shift from the anthropocentric Dominant Social Paradigm (DSP), to the ecocentric New Environmental Paradigm (NEP), a number of researchers developed a variety of scales and tools to measure environmental values, attitudes, and behaviour.

This chapter provides an overview of literature about values, attitudes and behaviour in general. For the present research project, three established scales to measure environmental values, attitudes and behaviour, were employed. It is therefore crucial to closely examine those scales in terms of their credibility. This will be done in the later sections of this chapter, by comparing previous important studies that employed those scales.

3.1.2 Personal values and attitudes

A large number of research programmes have addressed the role of values and attitudes in consumer decision making with the goal of market segmentation (Ajzen & Fishbein, 1977, 1980; Dalen, 1989; Gutman, 1990; Homer & Kahle, 1988; Pitts & Woodside, 1983; Tarrant & Cordell, 1997). Values and attitudes have also been the subject of a variety of research projects in the tourism field, ranging from tourists’ attitudes (Ross, 1994), to value systems of travellers (Crick-Furman & Prentice, 2000; Madrigal, 1995), to the willingness to pay for wildlife viewing and site choice (Holdsworth, 1999), and to market segmentation in tourism (Blamey & Braithwaite, 1997; Madrigal & Kahle, 1994; Muller, 1989; Thrane, 1997).

Personal values and value systems are closely related to attitudes and behaviour (Madrigal & Kahle, 1994). According to Rokeach (1973), values consist of cognitive, affective, and behavioural components. He suggests that ‘when we say that a person has a value, we may have in mind either his beliefs concerning desirable modes of conduct or desirable end-states of existence. We will refer to these two kinds of values as instrumental and terminal values’ (Rokeach, 1973:7). Values represent abstract ideals and are stable over time. After review of relevant literature, Schwartz and Bilsky (1987:551) conclude that ‘values are (a) concepts or beliefs, (b) about desirable end states or behaviours, (c) that transcend specific situations, (d) guide selection or evaluation of behaviour and events, and (e) are ordered by relative importance’. According to Schwartz and Bilsky (1987; 1990), values represent
three universal human requirements, including biologically based needs, social interactional needs for interpersonal coordination, and social institutional needs for groups welfare and survival. As a result, values can be seen at an individual or an institutional level. This confirms Rokeach’s (1973) categories of socially shared cognitive representations of personal needs, and socially shared cognitive representations of group goals and demands (Madrigal & Kahle, 1994).

Rokeach (1973) notes, that considerably more attention has been paid to the measurement of attitudes than of values. While values are single abstract beliefs, attitudes are a set of beliefs focussing on some specific aspect of an individual’s world, for example a physical object, a person, or a policy. Thus, ‘a person’s attitude represents his evaluation of the entity in question’ (Ajzen & Fishbein, 1977:889). Theodorson and Theodorson (1969:22) suggest that attitudes result from the application of values to concrete situations or objects.

Environmental behaviour is seen as a function of personal characteristics (knowledge, motivation, attitudes) and situational characteristics (social norms, other choices, economic constraints) (Mainieri et al., 1997), and is defined as ‘actions which contribute towards environmental preservation and/or conservation’ (Axelrod & Lehman, 1993:153). Most studies use self-reported behaviour, because it is more difficult to record actual behaviour. Self-reported behaviour, however, bears the danger of error. In fact, it is common that people claim to do more for the environment than they really do (Diekmann & Preisendörfer, 1998). Thus, Kaiser (1998) is sceptical about the accuracy of self-reported behaviour, but he acknowledges that it can be an indicator of environmental behaviour.

3.1.3 Measuring values and attitudes

The most frequently used method to measure personal values is the Rokeach Value Survey (RVS). This measure contains 18 instrumental values and 18 terminal values that are ranked in order of their importance as guidelines for the respondent’s life (Kamakura & Mazzon, 1991). Schwartz and Bilsky (1987) identified seven motivational domains of the values described in the RVS. These include enjoyment, security, achievement, self-direction, restrictive conformity, prosocial, and maturity. They argue that individuals who place most emphasis on the maturity domain, will see the enjoyment as not important, and
vice versa. Also, the value domains achievement and self-direction are in opposition to the security domain (Kamakura & Novak, 1992).

Another method to measure values is the Values and Life Style (VALS) scale, introduced by Mitchell (1983). Based on Maslow’s (1954) hierarchy of needs, VALS employs 34 questions to classify people into one of nine life style categories: survivors, sustainers, belongers, emulators, achievers, I-am-me, experiential, societally conscious, and integrated (Kahle et al., 1986; Kamakura & Novak, 1992).

An alternative to VALS is the ‘List of Values’ (LOV), which was introduced by Kahle (1983). LOV is, like VALS, based on social adaption theory and classifies people on Maslow’s (1954) hierarchy by nine values, including self-respect, security, warm relationships with others, sense of accomplishment, self-fulfillment, sense of belonging, being well respected, fun and enjoyment in life, and excitement (Kahle et al., 1986). In a tourism context, the LOV scale was used for market segmentation of tourists visiting Scandinavian countries (Madrigal & Kahle, 1994), and in a study on the relationship between Plog’s (1991) allocentric-psychocentric continuum and personal values (LOV) (Madrigal, 1995).

3.1.4 The scales employed in the present study

Various researchers investigated the influence of environmental values on pro-environmental behaviour (Cameron et al., 1998; Gagnon Thompson & Barton, 1994; Karp, 1996; Mainieri et al., 1997). Other studies have attempted to develop scales to measure environmental concern, values, and attitudes. According to Stern et al. (1995), the most frequently used measure of environmental concern is the New Environmental Paradigm (NEP) scale, developed by Dunlap & Van Liere in 1978. The NEP scale was developed out of the need to take into account the changes of human values and beliefs. Dunlap and Van Liere (1978) argue that terms, such as ‘limits to growth’, ‘the necessity of achieving a “steady-state” economy’, and ‘balance of nature’ increasingly became apparent. Thus, the anti-ecological worldview DSP had to be replaced by a more realistic set of values and beliefs, the NEP.
At about the same time when Dunlap and Van Liere developed the NEP scale, Weigel and Weigel (1978) introduced another scale as a measure for environmental attitudes. They also argue that there is a change in the attitudes and behaviours of people, and that human behaviour, in the long run, is ‘incompatible with the survival of the individual, the species and the planet’ (Weigel & Weigel, 1978:3). Weigel and Weigel (1978) also emphasised the severity of environmental deterioration and changes in peoples’ attitudes and behaviours.

The General Measure of Ecological Behaviour (GEB) was presented fairly recently by Kaiser (1998). Kaiser (1998:396) argues that it is ‘merely accidental that ecological behaviour is rarely used as an outcome measure. Rather, its rare use may be due to the lack of a widely accepted measure of ecological behaviour.’

This chapter reviews the three scales mentioned above (NEP, EC, GEB) with a specific emphasis on reliability, validity and dimensionality.

### 3.1.5 The New Environmental Paradigm scale

Dunlap and Van Liere’s original study (1978) employed 12 items as shown in Table 3.1. Two separate samples were used by Dunlap and Van Liere (1978), one General Public Sample (GPS) and one sample, including members of environmental organisations (EOS).

After the introduction of the NEP by Dunlap and Van Liere in 1978, a number of researchers aimed to test this scale for its reliability, validity, and dimensions (Albrecht et al., 1982; Geller & Lasley, 1985; Noe & Snow, 1990). However, the NEP scale has been tested and used only to a small extent in a tourism context. The first application in a tourism setting appears to be Uysal et al.’s (1994) study at two National Parks of the Caribbean island of St. John. More recently, Ryan (1999) applied a modified version for his investigation of visitors to Australian wildlife attractions, and Higham et al. (2001) used the NEP scale as part of their research at various ecotour operations and attractions throughout New Zealand. It appears that only very recently, the NEP finds its way into tourism research. Current studies apply the scale in research projects about backpackers (Russell, 2002) and visitor experiences of the environment and landscape (Carr, in progress). These studies were undertaken in New Zealand and are still under way. Results have not yet been published.
Table 3.1: The 12 original items of the New Environmental Paradigm scale (NEP)

1. We are approaching the limit of the number of people the earth can support
2. The balance of nature is very delicate and easily upset
3. Humans have the right to modify the natural environment to suit their needs
4. Mankind was created to rule over the rest of nature
5. When humans interfere with nature it often produces disastrous consequences
6. Plants and animals exist primarily to be used by humans
7. To maintain a healthy economy we will have to develop a "steady-state" economy where industrial growth is controlled
8. Humans must live in harmony with nature in order to survive
9. The earth is like a spaceship with only limited room and resources
10. Humans need not adapt to the natural environment because they can remake it to suit their needs
11. There are limits to growth beyond which our industrialized society cannot expand
12. Mankind is severely abusing the environment

Source: After Dunlap and Van Liere (1978:13)

Although the NEP scale has been applied in various studies, researchers do not seem clear about what the scale is actually measuring. While Dunlap and Van Liere (1978:10) describe the DSP as ‘a constellation of values, attitudes and beliefs’, they refer to previous, similar studies as ‘studies of environmental attitudes’. When describing the NEP, however, they indicate that they attempt to ‘develop an instrument to measure the New Environmental Paradigm’ (p. 11), i.e. do not state explicitly whether the NEP scale is measuring values or attitudes. Uysal, et al. (1994) and Pelstring (1997) refer to the NEP scale as a scale to measure attitudes, while Higham, et al. (2001), Widegren (1998) and Albrecht, et al. (1982) talk about values and beliefs. There is a number of studies using a variety of terms, such as ‘sensitivity to environmental issues’ and ‘awareness’ (Ryan, 1999), and ‘change in paradigm’ (Catton Jr. & Dunlap, 1980; Geller & Lasley, 1985). Noe and Snow (1990:21) state that the NEP scale was constructed ‘to reflect an ecologically integrated view of man and nature’, and Stern et al. (1995:724) mention a variety of terms, such as ‘conceptual framework that incorporates social-psychological work on environmental concern’, ‘environmental attitude scale’, and ‘the NEP can appropriately be considered a “generalized belief” about human-environment relations’.
Following the definitions of values and attitudes in Section 3.1.2, the present research employs the NEP scale as a scale to measure environmental values. This view is explained by the very nature of the NEP items. As previously discussed, values are set, long-term beliefs about broader general issues, while attitudes are a number of beliefs regarding a specific object or subject. Dunlap and Van Liere (1978) derived the NEP from the then dominant DSP, which was defined as a constellation of values and beliefs. The NEP items are of general content regarding environmental issues and therefore are not regarded as attitudes, but as values.

In order to gain a better understanding about the NEP scale, and to ascertain that it is a valid and reliable scale, the following studies were reviewed and will be compared. Dunlap and Van Liere’s (1978) original study, using the GPS and EOS samples, built the basis for subsequent studies over more than 20 years. In 1982, Albrecht et al. applied the NEP scale during a study and tested reliability, validity and dimensionality of the scale. They also used two different samples, one of farmers and one of urban residents, both in the State of Iowa. Geller and Lasley (1985) used the samples of Albrecht et al. (1982) and an additional study on farmers undertaken in Missouri. They were particularly interested in the question of dimensionality of the NEP scale. In 1990, Noe and Snow applied the NEP for studies at five national parks in the Southwest of the USA and looked at reliability and dimensionality of the scale. Uysal et al. (1994) appear to be the first researchers who applied the NEP scale in a tourism context. On the Caribbean island of St John, they used the NEP items in two samples and tested the scale for reliability and dimensionality. In 1997, Pelstring reviewed Dunlap and Van Liere’s first study and investigated the question of validity. Ryan (1999) conducted research on Australian tourists and their interest in wildlife based tourism attractions. Seven of the original NEP items were used among the 18 items of the applied scale. Finally, Higham et al. (2001) included the NEP scale in a survey of participants in ecotours tours and at eco attractions in New Zealand. The following sections compare results regarding reliability, validity, and the dimensionality of the NEP as found in the studies mentioned above.
3.1.5.1 Reliability

'Reliability refers to the extent to which a test or other measure performs consistently' (Kimble, 1978:186). In other words, a test or measure should produce the same results when undertaken repeatedly under exactly the same circumstances. The test used in these studies was Cronbach's coefficient alpha, which measures the internal consistency reliability among a group of items combined to form a single scale (Litwin, 1995). The coefficient can range from 0 (for a completely unreliable test with totally random scores) to 1 (for a completely reliable test). To be considered as being reliable, Cronbach's alpha should show a value of 0.6 or higher (Turner & Martin, 1984).

<table>
<thead>
<tr>
<th>Sample</th>
<th>Reliability (Cronbach's alpha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunlap &amp; Van Liere (1978)</td>
<td></td>
</tr>
<tr>
<td>GPS</td>
<td>0.813</td>
</tr>
<tr>
<td>EOS</td>
<td>0.758</td>
</tr>
<tr>
<td>Farmers</td>
<td>0.66</td>
</tr>
<tr>
<td>Urban</td>
<td>0.78</td>
</tr>
<tr>
<td>Noe and Snow (1990)</td>
<td></td>
</tr>
<tr>
<td>National Parks</td>
<td>0.61-0.71*</td>
</tr>
<tr>
<td>Uysal et al. (1994)</td>
<td></td>
</tr>
<tr>
<td>Tourists</td>
<td>0.454; 0.699; 0.706**</td>
</tr>
</tbody>
</table>

* Cronbach's alpha was calculated for 3 park studies and each factor, indicated here are the lowest and the highest alpha
** Cronbach's alpha was calculated for each factor

With one exception in the study of Uysal et al., all compared studies indicate reliability coefficients sufficiently large enough to justify the use of the NEP scale (although some being marginal), as shown in Table 3.2.

3.1.5.2 Validity

When measuring validity 'we are essentially talking about construct validity - the approximate truth of the conclusion that our operationalization accurately reflects the construct' (Pelstring, 1997:1-2). However, there are several ways to validate a measure. Dunlap and Van Liere (1978) attempted to prove validity of their NEP scale by construct, predictive, and face validity. Construct validity means that the scale has to be developed on a theoretical basis and need to support those views by actual collected data (Pelstring,
It is referred to as the most difficult form of validity and often needs a longer period of time to be determined (Litwin, 1995). Dunlap and Van Liere developed the NEP scale on a theoretical basis and consulted environmental scientists and ecologists in order to choose the relevant items and find an appropriate wording (Dunlap & Van Liere, 1978). They then applied the NEP scale in a survey of two different samples and were able to prove that the NEP scale works in the way it was theoretically developed. Predictive validity validates the relation between a theoretically predicted outcome and the actual outcome of a study applying the scale. Dunlap and Van Liere predicted that members of environmental organisations are more likely to endorse the New Environmental Paradigm than members of the general public. The results clearly show that this is the case. The overall mean of the EOS was 3.7, while the overall mean of the GPS was significantly lower at 3.0 (Albrecht et al., 1982). The third form of validity applied by Dunlap and Van Liere is the face validity. This is the most subjective (and therefore weakest) method to measure validity. ‘A scale has “face validity” if its constituent items logically reflect the attitudinal domain being measured’ (Albrecht et al., 1982:40). The developed 12 items constitute the paradigm and by consulting scientists and submitting the scale for review by experts in environmental issues, the two researchers were able to gain face validity (Pelstring, 1997).

Albrecht et al. (1982) tested the NEP for validity as well. They applied the tool of predictive validity and argued that previous studies had shown that farmers are generally less environmentally aware than the general public. Thus, they predicted that in their study in Iowa, the farmer samples would result in lower scores for the NEP than the sample of urban residents. The results of the study surprisingly showed that the environmental awareness and acceptance of the New Environmental Paradigm was very high in both samples. However, the anticipated difference was confirmed with an overall mean of 3.2 for the urban sample and 2.9 for the sample of farmers.

Pelstring approached the validity issue of the NEP scale in a theoretical way. She reviewed the types of validity and compared those theoretical definitions with the three types of validity used by Dunlap and Van Liere. She concludes that Dunlap and Van Liere succeeded in proving the NEP scale as a valid scale (Pelstring, 1997).
On the grounds of the three studies mentioned above, it appears that the New Environmental Paradigm scale is a valid instrument.

3.1.5.3 Dimensionality

If a scale is to be established for general use, it must be consistent across various populations. Inconsistent scales with different factor structures across various populations are of limited use for generalisation (Geller & Lasley, 1985). Therefore, it seems that dimensionality is one of the most important parts of testing the NEP scale. Hence, it is no surprise that all studies mentioned tested the NEP scale for dimensionality by using factor analysis.

Table 3.3 clearly illustrates that the outcome of these tests is diverse. Results of factor analyses varied from one to five factors. Dunlap and Van Liere applied factor analysis and found that all 12 items loaded sufficiently for one factor. The loadings ranged from .431 to .672 (.526 average) for the GPS, while the loadings for the EOS ranged from .378 to .575 with an average of .466 (Dunlap & Van Liere, 1978). Some loadings were rather low, but were still seen as sufficient to assign the items to one single factor. Therefore, Dunlap and Van Liere suggest that ‘it is appropriate to treat all 12 items as forming an internally consistent and uni-dimensional NEP scale’ (1978:14).

Table 3.3: Comparison: Dimensionality (NEP)

<table>
<thead>
<tr>
<th>Sample</th>
<th>Dimensionality (factors)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunlap &amp; Van Liere (1978)</td>
<td></td>
</tr>
<tr>
<td>GPS (Wash.)</td>
<td>1</td>
</tr>
<tr>
<td>EOS (Wash.)</td>
<td>1</td>
</tr>
<tr>
<td>Albrecht et al. (1982)</td>
<td></td>
</tr>
<tr>
<td>Farmers (Iowa)</td>
<td>3</td>
</tr>
<tr>
<td>Urban (Iowa)</td>
<td>3</td>
</tr>
<tr>
<td>Geller &amp; Lasley (1985)</td>
<td></td>
</tr>
<tr>
<td>Farmers (Iowa)</td>
<td>4</td>
</tr>
<tr>
<td>Urban (Iowa)</td>
<td>5</td>
</tr>
<tr>
<td>Farmers (Missouri)</td>
<td>4</td>
</tr>
<tr>
<td>Noe &amp; Snow (1990)</td>
<td>National Park users and residents close to NPs (Southwest USA)</td>
</tr>
<tr>
<td>Uysal et al. (1994)</td>
<td>Tourists (St John)</td>
</tr>
<tr>
<td>Higham et al. (2001)</td>
<td>Ecotourists (New Zealand)</td>
</tr>
</tbody>
</table>
While Albrecht et al. (1982) agreed with Dunlap and Van Liere in terms of reliability and validity, their findings regarding dimensionality were different. They also subjected the 12 items of the NEP scale to factor analysis. This time, three factors emerged for both the farmers and urban samples. These loadings were consistent and underlined the multidimensionality of the scale. Further analysis of the three factors revealed that each factor consisted of four items and could be classified as ‘balance of nature’, ‘limits to growth’, and ‘man over nature’ (Albrecht et al., 1982).

Geller and Lasley (1985) were particularly interested in the matter of dimensionality of the NEP scale. They adopted the data of Albrecht et al. (1982) and added a third sample. This third sample comprised farmers in Missouri. After applying factor analysis, Geller and Lasley's findings confirmed Albrecht et al.'s view that the NEP scale is not unidimensional. In fact, Geller and Lasley found that a minimum number of four factors are needed for the farmer samples of Iowa and Missouri and five factors for the urban sample. Therefore, Geller and Lasley also cannot support the hypothesis of uni-dimensionality of Dunlap and Van Liere. However, they 'cautiously accept the Albrecht et al. interpretation of three factors as being “Balance of Nature”, “Limits to Growth”, and “Man over Nature”.' (Geller & Lasley, 1985:12). They suggest the use of a reduced 9-item, three-factor scale.

Noe and Snow (1990) used five samples of national park visitors and residents living in close proximity to national parks in the Southwest of the USA. Factor analysis of those samples showed similarities with Geller and Lasley's (1985) study, however, some differences emerged. Most striking was the finding that the pool of 12 items yielded only two significant factors (Noe & Snow, 1990). Noe and Snow conclude in confirming the multi-dimensionality of the NEP scale, however, they recommend to continue the use of all 12 items and not to expect a single dimensional scale. Noe and Snow argue that there is not sufficient evidence for abandoning three of the 12 items, as suggested by Geller and Lasley (Noe & Snow, 1990).

Uysal et al. (1994) applied the 9-item NEP scale suggested by Geller and Lasley (1985). They used two samples of visitors to national parks on the small Carribean island of St

The most recent study of Higham et al. (2001) applied the original 12 NEP items, however on a five-point Likert scale. The similarities between their study and that of Uysal et al. (1994) is noteworthy, indeed Higham et al.'s (2001) study revealed exactly the same three factors as Uysal et al.'s study in 1994. The items showed loadings between .511 and .829, which allowed clear assignment to the respective factors, with the factor 'balance over nature' explaining 35.9% of variance.

3.1.6 The Environmental Concern scale

Following the shift in attitudes and beliefs regarding the environment, Weigel and Weigel (1978) introduced a measure for environmental attitudes and developed the Environmental Concern scale (EC). Weigel and Weigel (1978) aimed to prove its reliability and validity, and give recommendations regarding its possible future use for research. With several independent studies, Weigel and Weigel tested the EC for internal consistency, stability, known-groups-validity, and for the applicability for long-term behavioural predictions. The EC scale consists of 16 items addressing pollution and conservation issues (Table 3.4). While the NEP items are more general, the EC items are clearly focussed on pollution and more concrete issues regarding the government and environmental organisations. The 16 items are a selection of a pool of 31 items, which have been used in a survey in 1970. The chosen 16 items scored a Cronbach’s alpha of .88, which is an adequate internal consistency (Turner & Martin, 1984). Out of the 16 items, seven are stated positively and nine are stated negatively. Respondents had the opportunity to rank each item on a five-point Likert scale, ranging from ‘strongly agree’ to ‘strongly disagree’. For the tests mentioned above, Weigel and Weigel (1978) used several independent studies. In 1997, Tarrant and Cordell conducted telephone interviews with 1,220 respondents. Respondents were randomly given one of five environmental attitude scales, amongst those the Environmental Concern scale. In addition, all respondents were given a variety of questions regarding their environmental behaviour. Where possible, their results will be compared with Weigel and Weigel’s results.
Table 3.4: The 16 original items of the Environmental Concern (EC) scale

1. The federal government will have to introduce harsh measures to halt pollution since few people will regulate themselves.
2. We should not worry about killing too many game animals because in the long run things will balance out.
3. I'd be willing to make personal sacrifices for the sake of slowing down pollution even though the immediate results may not seem significant.
4. Pollution is not personally affecting my life.
5. The benefits of modern consumer products are more important than the pollution that results from their production and use.
6. We must prevent any type of animal from becoming extinct, even if it means sacrificing some things for ourselves.
7. Courses focusing on the conservation of natural resources should be taught in the public schools.
8. Although there is continual contamination of our lakes, streams, and air, nature's purifying processes soon return them to normal.
9. Because the government has such good inspection and control agencies, it's very unlikely that pollution due to energy production will become excessive.
10. The government should provide each citizen with a list of agencies and organizations to which citizens could report grievances concerning pollution.
11. Predators such as hawks, crows, skunks, and coyotes which prey on farmer's grain crops and poultry should be eliminated.
12. The currently active anti-pollution organizations are really more interested in disrupting society, than they are in fighting pollution.
13. Even if public transportation was more efficient than it is, I would prefer to drive my car to work.
14. Industry is trying its best to develop effective anti-pollution technology.
15. If asked, I would contribute time, money, or both to an organization like the Sierra Club that works to improve the quality of the environment.
16. I would be willing to accept an increase in my family's expenses of $100 next year to promote the wise use of natural resources.

Source: Weigel and Weigel (1978:6-7)

3.1.6.1 Reliability

As part of a general public opinion survey, the 16 items of the EC scale were used in two randomly sampled surveys in a New England town in 1974 and in 1976. The samples of 91 and 71 surveys respectively, yielded response rates of 87% and 79%. The two samples were combined and are referred to as ‘Eastern Sample’. With an alpha coefficient of .85, the sample showed a satisfactory internal consistency and can be seen as reliable (Weigel and Weigel 1978).
Table 3.5: Comparison: Reliability (EC)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(Cronbach's alpha)</td>
<td>0.85</td>
<td>0.78</td>
</tr>
</tbody>
</table>

With a Cronbach’s alpha of .78, the EC scale also reached an acceptable level of internal consistency in Tarrant and Cordell’s (1997) study, which suggests that the EC scale is a reliable measure (Table 3.5).

3.1.6.2 Stability

Weigel and Weigel administered a different survey in another New England city. Twenty-five residents were asked to complete a ‘public opinion poll’, which included the 16 items of the EC scale. Six weeks later, the 25 respondents were contacted again and asked to complete the questionnaire a second time. Clear instructions were given, stating that the aim is to evaluate changes in opinions, hence respondents need not worry about the answers given in the previous survey. This test-retest resulted in a correlation of .83. Weigel and Weigel (1978:9) state that ‘although the test-retest interval was somewhat longer than usually employed, the correlation obtained compares favourably to the average one-week test-retest correlations of .61 reported by Anastasi (1961) for the Minnesota Multiphasic Personality Inventory and of .90 reported by Gilliland and Colgin (1951) for the Stanford-Binet Intelligence Test’. Tarrant and Cordell’s (1997) study did not employ a second test, therefore no comparable results are available.

3.1.6.3 Known-groups validity and long-term behavioural predictions

Known-groups validity (predictive validity) can be explained by its name (Pelstring, 1997). This validity tests how well the scale can predict what it theoretically should predict. Weigel and Weigel (1978) argued that Sierra Club members would express a greater concern about the environment, than members of the random sample. They compared 126 active Sierra Club members with 162 members of the random Eastern sample. The score of
the Sierra Club sample was indeed significantly higher than the score of the Eastern sample, thus predictive reliability was confirmed for the EC scale.

In addition, out of the 91 initially surveyed respondents of the Eastern sample in 1974, a follow-up study was undertaken with 44 of those respondents. The aim was to determine an association of a variation in score of the EC scale and subsequent environmental action of the respondents. Firstly, three months after the initial survey, a disguised surveyer contacted the respondents in order to seek signatures for various ecology petitions. Another six weeks later, another confederate contacted the respondents and asked for participation in a roadside litter project. Finally, another eight weeks later, a third member of the study group approached the respondents again and asked for their participation in a recycling project being conducted in their area. As a result of this subsequent survey, validity was sought in two ways. Firstly, in order to establish how the scores on the EC scale would reflect the degree of participation in the three projects (signing petitions, roadside litter, and local recycling). Secondly, the subjects’ z scores on each of the three behavioural measures were computed. In order to receive a comprehensive behavioural index these scores were summed and finally the index was correlated with the scores on the EC scale (Weigel and Weigel 1978). This test resulted in a strong support of the hypothesis that the EC scale can predict environmental behaviour. Correlations between attitude scores and the three behaviour measures were significant, with $r=0.50$ for the petitioning measure, $r=0.36$ for the litter pick-up measure, and $r=0.39$ for the recycling measure. A correlation of 0.62 was obtained for the relationship between the comprehensive index and the EC scale, suggesting that ‘attitudinal variation could account for 38% of variance in the overall pattern of environmentally oriented behaviors assessed’ (Weigel and Weigel 1978:11).

Although self-reported behaviour can vary significantly from actual behaviour, Tarrant and Cordell (1997) conclude their study with the result that the Environmental Concern scale provides reasonably good predictions of self-reported general environmental behaviour. Thus, predictive validity for the EC scale is also confirmed in their study.
3.1.7 The General Measure of Ecological Behaviour

The most recent of the scales incorporated in the present study is the General Measure of Ecological Behaviour (GEB), which was introduced by Kaiser in 1998. Rather than investigating general environmental attitudes or beliefs, Kaiser’s aim was to establish a scale to measure actual ecological behaviour and actions that contribute to environmental conservation and preservation. He argued that there is ‘a lack of a widely accepted measure for ecological behaviour’ (Kaiser 1998:396). His work is based on three previously established scales, namely Maloney and Ward’s, Hungerford’s, and Fejer and Stroschein’s measures of ecological behaviour. Kaiser’s scale consists of 40 items, as shown in Table 3.6. For these items, simple yes/no responses were used and negatively formulated items were re-coded. He also applied seven Guttman subscales. They are as follows: a) prosocial behaviour, b) ecological garbage removal, c) water and power conservation, d) ecologically aware consumer behaviour, e) garbage inhibition, f) volunteering in nature protection activities, and g) ecological automobile use (Kaiser 1998:406).

Kaiser tested the scale with two samples in Switzerland, consisting of members of the two major transportation organisations. The two organisations are ideologically different, with one organisation lobbying automobile drivers’ interests, and the other one promoting transportation systems that have as little negative environmental impacts as possible. The sample size was 449 participants and 438 participants, respectively.

Kaiser tested the GEB scale for reliability, internal consistency, and for validity. A comparable study employing Kaiser’s GEB scale could not be found, thus no comparable data was available.
Table 3.6: Forty items grouped in seven ecological behaviour subscales

<table>
<thead>
<tr>
<th>Subscale name: Prosocial Behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sometimes I give change to panhandlers.</td>
</tr>
<tr>
<td>2. From time to time I contribute money to charity.</td>
</tr>
<tr>
<td>3. If an elderly or disabled person enters a crowded bus or subway, I offer him or her my seat.</td>
</tr>
<tr>
<td>4. If I were an employer, I would consider hiring a person previously convicted of a crime.</td>
</tr>
<tr>
<td>5. In fast food restaurants, I usually leave the tray on the table.</td>
</tr>
<tr>
<td>6. If a friend or relative had to stay in hospital for a week or two for minor surgery (e.g., appendix, broken leg), I would visit him or her.</td>
</tr>
<tr>
<td>7. Sometimes I ride public transportation without paying a fare.</td>
</tr>
<tr>
<td>8. I would feel uncomfortable if Turks lived in the apartment next door.</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Subscale name: Ecological Garbage Removal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I put dead batteries in the garbage.</td>
</tr>
<tr>
<td>2. After meals, I dispose of leftovers in the toilet.</td>
</tr>
<tr>
<td>3. I bring unused medicine back to the pharmacy.</td>
</tr>
<tr>
<td>4. I collect and recycle used paper.</td>
</tr>
<tr>
<td>5. I bring empty bottles to a recycling bin.</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Subscale name: Water and Power Conservation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I prefer to shower rather than to take a bath</td>
</tr>
<tr>
<td>2. In the winter, I keep the heat on so that I do not have to wear a sweater.</td>
</tr>
<tr>
<td>3. I wait until I have a full load before doing my laundry.</td>
</tr>
<tr>
<td>4. In the winter, I leave the windows open for long periods of time to let in fresh air.</td>
</tr>
<tr>
<td>5. I wash dirty clothes without prewashing.</td>
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<thead>
<tr>
<th>Subscale name: Ecologically Aware Consumer Behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I use fabric softener with my laundry.</td>
</tr>
<tr>
<td>2. I use an oven-cleaning spray to clean my oven.</td>
</tr>
<tr>
<td>3. If there are insects in my apartment, I kill them with a chemical insecticide.</td>
</tr>
<tr>
<td>4. I use a chemical air freshener in my bathroom.</td>
</tr>
<tr>
<td>5. I use chemical toilet cleaners.</td>
</tr>
<tr>
<td>6. I use a cleaner made especially for bathrooms rather than an all-purpose cleaner.</td>
</tr>
<tr>
<td>7. I use phosphate-free laundry detergent.</td>
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<table>
<thead>
<tr>
<th>Subscale name: Garbage Inhibition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sometimes I buy beverages in cans</td>
</tr>
<tr>
<td>2. In supermarkets, I usually buy fruits and vegetables from the open bins.</td>
</tr>
<tr>
<td>3. If I am offered a plastic bag in a store, I will always take it.</td>
</tr>
<tr>
<td>4. For shopping, I prefer paper bags to plastic ones.</td>
</tr>
<tr>
<td>5. I usually buy milk in returnable bottles.</td>
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<table>
<thead>
<tr>
<th>Subscale name: Volunteering in Nature Protection Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I unwrap useless (i.e., non-functional) packages at the store. (excluded)</td>
</tr>
<tr>
<td>2. I often talk with friends about problems related to the environment.</td>
</tr>
<tr>
<td>3. I am a member of an environmental organization.</td>
</tr>
<tr>
<td>4. In the past, I have pointed out to someone his or her unecological behavior.</td>
</tr>
<tr>
<td>5. I sometimes contribute financially to environmental organizations.</td>
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<table>
<thead>
<tr>
<th>Subscale name: Ecological Automobile Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I do not know whether I may use leaded gas in my automobile.</td>
</tr>
<tr>
<td>2. Usually I do not drive my automobile in the city.</td>
</tr>
<tr>
<td>3. I usually drive on freeways at speeds under 100 kph (62.5 mph).</td>
</tr>
<tr>
<td>4. When possible in nearby areas (around 30km; i.e., 18.75 miles), I use public transport or ride a bike</td>
</tr>
<tr>
<td>5. My automobile is ecologically sound. (excluded)</td>
</tr>
</tbody>
</table>

Source: After Kaiser (1998:404-405)

3.1.7.1 Reliability and internal consistency

The 40 items were assessed as a scale with Rasch features and resulted in a reliability of .70 and an internal consistency (Cronbach’s alpha) of .74. After the test, two items were
excluded due to misfit (see Table 3.6) and the remaining 38 items resulted in higher scores with a reliability of .71 and an internal consistency of .76. These results suggest that the GEB scale is reliable and internally consistent.

3.1.7.2 Validity

Kaiser also tested his GEB scale for validity with two different methods. Firstly, he used criterion-related validity in order to prove that the scale is valid. Doing this, he correlated the items with three measures of ecological behaviour: a) the estimated annual kilometres by car (KMC), b) the estimated annual kilometres by airplane (KMA), and c) financial contribution to ecological organisations (FCO). In addition, he correlated the items with empirically aggregated measures of ecological behaviour: a) readiness to adopt behaviours easy to perform (BEP), b) readiness to adopt behaviours difficult to perform (BDP), and c) willingness to accept governmental prohibitions (AGP). Kaiser (1998:410) concluded that ‘the influence of social desirability seems to be, at least on the present measure of GEB and among the present sample, somewhat marginal (r=-.10, N=443)’. Secondly, Kaiser attempted to prove discriminant validity. For this test, one-way analysis of variance (ANOVA) was used to compare mean GEB scale values for both samples. It was anticipated, that due to the different ideologies of the two Swiss transport organisations, the members of those organisations would differ in their behaviour. Indeed, the results showed that members of the organisation that represents automobile users’ interests behave less ecologically than members of the organisation promoting a transport system causing fewer impacts on humans and nature with means of 0.91 (SD=0.71) and 1.82 (SD=0.80), respectively.

3.1.8 Summary

With an increasing concern for the environment, the world has experienced a shift from the anthropocentric Dominant Social Paradigm (DSP) to the ecocentric New Environmental Paradigm (NEP). Dunlap and Van Liere (1978) developed a 12-item scale to measure the extent to what respondents are endorsing this new worldview. They argued that their NEP scale is reliable, valid and unidimensional. Several studies over the last 20 years attempted
to test this NEP scale and agreed to the following points. Firstly, the NEP scale proved to be a reliable scale. Various researchers tested the NEP scale for different forms of validity and found that the scale is a valid tool to measure environmental values. However, all researchers found that the NEP scale is not unidimensional, as suggested by Dunlap and Van Liere (1978). Five subsequent studies revealed dimensions from two to five factors for the NEP scale, but almost all researchers suggest that there is not enough evidence for a definite number of dimensions and further research in that area is recommended.

At about the same time when Dunlap and Van Liere developed the NEP scale, Weigel and Weigel (1978) developed a scale to measure environmental attitudes, the Environmental Concern scale (EC). Weigel and Weigel and later Tarrant and Cordell (1997) tested the scale for reliability, stability, and validity. The results suggest that the EC scale is reliable, stable, and valid.

The most recent of the employed scales is the General Measure of Ecological Behavior (GEB), developed by Kaiser in 1998. In contrast to the NEP and the EC, this scale was developed to measure actual environmental behaviour, rather than general attitudes or values toward environmental issues. The 40 items set by Kaiser were used in two samples and tested for reliability, internal consistency, and validity. When reviewing academic literature, no further research could be found, that tested the GEB scale. However, Kaiser (1998:395) concludes his studies with the statement that ‘reliability, internal consistency, and validity scores indicate that a probabilistic measurement approach can measure general ecological behavior accurately and unidimensionally.’

3.2 The visitors’ experience

We had the experience but missed the meaning.

T. S. Eliot (1971:39)

3.2.1 Introduction

Measuring tourist experiences is a difficult task. There are many different approaches, which focus on various parts of the overall experience. Manfredo et al. (1983:264) define experiences as ‘a package of specific psychological outcomes which are realized from a recreational engagement’. The experiential perspective focuses on cognitive processes.
These are more private and subconscious in nature (Holbrook & Hirschman, 1982). The following review of literature clearly confirms Barbee’s (1990:21) view that ‘we will...continue to define and redefine our definition of an appropriate visitor experience.’

Clawson and Knetsch (1966) defined the recreation experience as a five-phase experience, including the phases of anticipation, travel-to, onsite, travel-back, and recollection. They emphasise how important the different stages are, and that they vary in length depending on the actual activity. The first phase, for example, can take only a brief time before visiting an attraction or undertaking an activity. But for a summer vacation, it can take even months of anticipation and preparation. The second phase, again, can vary from just a short walk to a site to a long-haul flight for a vacation in other parts of the world. However, some sort of travel is involved for most activities. Clawson & Knetsch (1966) note that the third phase is commonly seen as the most important phase, and that it is the most researched part of the experience. However, they argue that in many cases, it takes up less than half of the overall time of the recreation experience. The travel back phase is consuming about the same time as the travel to the attraction, however, the mindset and thoughts during the travel back are very different. The last major phase of the experience is the recollection phase. Depending on the experience, this phase can be long and lasting (Clawson & Knetsch, 1966). Forestell and Kaufmann (1990) and Orams (1997a) focused on this phase for educational models on whale watching tours. These models will be discussed in Sections 3.2.1.3 and 3.2.1.4. Hammitt (1980) argues that most research is able to measure travellers’ experiences only during the two phases just before or just after the experience. Thus, the important onsite phase, including the dynamics of the experience, are not recorded. The post-hoc satisfaction approach looks at the experience in retrospect, what needs were met and how satisfying the engagement was (Mannell & Iso-Ahola, 1987).

Cohen (1979) identifies five main modes of touristic experiences. In the recreational mode the tourist’s experience is mostly based on restoration of physical and cognitive powers. For travellers in the diversionary mode, travelling loses its recreational significance. It becomes simply an escape from the daily boredom and meaningless routine. While diversionary tourists move in a meaningless, centre-less space, the tourist in the experiential mode is looking for a meaning in the life of others, thus travels in the quest for meaning outside the confines of their own society. The experimental mode is marked by the ‘drifter’ type traveller, who engages in the quest for an alternative in many different
directions. This traveller does not adhere to the spiritual centre of the own society and is characterised by the more thoughtful among the disoriented travellers. Finally, the existential mode in its extreme form is characteristic of the traveller who is fully committed to an “elective” spiritual centre, i.e. one external to the mainstream of his native society and culture’ (Cohen, 1979:189).

Otto and Ritchie (1996) stress the importance of the fact that the experience is a subjective feeling and confirm Dunn Ross and Iso-Ahola’s (1991) finding that beside sociological factors and socioeconomic status, individual’s cognitions and feelings have significant influences on the tourist experience. They clearly distinguish between the objective, functional, cognitive, and attribute based quality of service and the subjective, holistic, hedonic, and affective quality of experience. Otto and Ritchie argue that even when tourism businesses, such as an airline or a hotel, are mostly functional, the experiential benefits remain a crucial part of the evaluation. In fact, elements of the physical environment can also produce strong emotional and subjective reactions (Otto and Ritchie 1996).

Gilbert (1997) identifies a variety of components of the ecotourism experience, such as participant’s feelings, emotions and behaviour. They are influenced by the tour size, cost, itineraries, tour information (i.e. interpretation), challenge and enjoyment, and safety and comfort. Gilbert (1997) indicated that safety is a major concern for ecotourists, who want to learn about the environment, but not be distracted by threats. He sees safety as a measure for comfort.

### 3.2.2 Education as part of the tourist experience

*We want to restart people caring for the environment, as it must be cared for. ...The hardest part of any big project is to begin. We have begun-- we are underway-- we have a passion. We want to make a difference. We hope that you and as many of your friends as possible will join us.*

Sir Peter Blake (2001)

It is widely accepted that education and interpretation are integral parts of tourism, especially at heritage sites and in the natural environment (Fennell, 1999; Gilbert, 1997; Hall & McArthur, 1996; Ham, 1992; Newsome et al., 2002; Uzzell & Ballantyne, 1998).
Weiler and Davis (1993) note that interpretation assists the visitors to appreciate the area they are visiting. This includes an understanding and awareness for the natural environment. Interpretation ‘aims to make the visit a richer and more enjoyable experience’ (Weiler & Davis, 1993:94). Simonds (1990) suggests that through adventure-learning-programmes or through simple nature based tourism, ecological awareness can be increased when nature education is incorporated. This section reviews the concepts of education and interpretation, including classical concepts of general human psychology. Two models of effective interpretation programmes in marine tourism are also introduced.

3.2.1.1 Interpretation and education

There is about as much educational benefit to be gained in studying dolphins in captivity, as there would be studying mankind by only observing prisoners held in solitary confinement.

Jacques Cousteau

Used in a (eco-) tourism context, the terms ‘interpretation’ and ‘education’ are often used synonymously. However, with an increasing interest in interpretation and education as part of the tourist experience, researchers are more aware of distinct differences. Hammitt (1984:11) states, that ‘environmental education often involves a formal approach to educating while environmental interpretation is almost always informal. It is sometimes said that, “environmental education involves students while environmental interpretation involves visitors.”’ Taken this approach, the more formal environmental education usually takes place in a more formalised setting, such as a classroom, and addresses a ‘repeat’ student as part of a captive audience. Environmental interpretation often addresses a voluntary ‘first time’ audience in a natural setting (Hammitt, 1984). Moscardo and Pearce (1986) note that interpretation is designed to stimulate interest and enthusiasm and provide an educational aspect, thus it has an entertainment and a pedagogic role. Orams (1999) argues that the tourism experience must achieve more than simply providing tourists ‘a good time’. One of the most recognised definitions of interpretation dates back to 1957, when Tilden (1957:8) defined it as

an educational activity which aims to reveal meaning and relationships through the use of original objects, by first hand experience, and by illustrative media, rather than simply to communicate factual information.
It is now recognised, that education is part of the interpretational process. Newsome et al. (2002) subdivide interpretation into an educational, a recreational, and a conservational supporting behavioural component. Although interpretational techniques can involve a variety of media, ranging from simple signs and plates to interactive displays, video screenings, to personal information provided by a tour guide, it is suggested that personal interpretation by well-trained staff is still the most effective method (McArthur & Hall, 1996). This is explained by the possibility of direct interaction. The tourist can ask questions and the tour guide can tailor interpretation and information to the needs of individuals or the group (Aiello, 1998). Roggenbruck and Williams (1991) conducted research on commercial river tours and concluded that training in interpretative techniques and knowledge significantly improved visitor satisfaction. Or, on the negative side, Almagor (1985) found that the major reason for visitor dissatisfaction in Moremi Wildlife Reserve in Botswana was indeed the dissatisfaction with the tour guides’ knowledge of environmental issues.

Education in marine tourism has become so important, that, for example, the International Fund for Animal Welfare (IFAW) held an international workshop on ‘Educational Values of Whale Watching’ in Provincetown, Massachusetts, in 1997 (International Fund for Animal Welfare, 1997). IFAW claims to be the world’s leading advocate for whale watching, because they believe it is an educational and environmentally friendly industry (International Fund for Animal Welfare, 2001). Also, New Zealand’s Marine Mammals Protection Regulations (1992) state in section 6 (h) about requirements for licensing ‘that the commercial operation should have sufficient educational value to participants or to the public’.

In recognition of these events, the need for better and more structured interpretation has become predominant on ecotours. Concepts and models for effective interpretation have been developed for interpretation of heritage sites (Uzzell & Ballantyne, 1998), in natural area tourism in general (Newsome et al., 2002), and on marine mammal tours (Forestell, 1991; Orams, 1995d). According to Gilbert (1997), ecotourists are looking to gain an understanding about the environment of the local area, including its culture and wildlife. Thus, educating tourists is seen as a major mechanism of managing protected areas, for example, the Great Barrier Reef Marine Park in Australia (Hockings, 1994).
Visitors' increasing demand for interpretation is not the only driving force for the development of effective interpretation. An equally important role of interpretation is educating the tourist in order to reduce the negative impacts of tourism (Newsome et al., 2002). Explaining the why and how are vital elements of interpretation (Uzzell & Ballantyne, 1998).

The role of guides in an interpretation context is crucial for the success of the tour. Knowledge and personality of guides influence the satisfaction of visitors. Ham (1992) distinguishes between four types of guides. ‘Cops’ are those guides who protect the environment and police it. They have the feeling, that the visitors cause irreparable damage to the environment. ‘Machines’ just repeat messages that they learned by heart. Once they are ‘turned on’, they are impossible to stop and hardly breathe between sentences. It often is obvious that this type of guide has given the same tour in the same way many times before. ‘Know-it-alls’ have a wealth of knowledge and are very keen to show this during the tour. They are happy to even extend the tour for half an hour, so that they can give more information, no matter if this is appreciated by the guests or not. Finally, Ham (1992) identifies the ‘Host’: ‘They don’t see themselves as cops (even though they are very concerned about protecting the site), as machines (even though their tours are well-planned and rehearsed), nor as know-it-alls (even though they’re very knowledgeable about their topics)’ (p. 136). He concludes that hosts are the most successful personality type for interpretation.

3.2.1.2 Cognitive dissonance and affective domain

Education as a management strategy is not used to the same extent as, for example, physical or regulatory techniques. Orams (1999) argues that this is because difficulties in implementing an effective educational programme due to a variety of reasons, such as different group sizes, demographics of the participants and the fact that tourists are a non-captive audience. Ham (1992) analysed distinct differences between captive and non-captive audiences. Captive audiences are usually motivated by external rewards, such as grades, certificates, and diplomas, while non-captive audiences are more internally motivated. Their rewards are intrinsic and relate to self-enrichment, self-improvement, a better life and similar rewards. In contrast to the captive audience, they are usually a
voluntary audience (Ham, 1992). Basis for most educational models, like the two models introduced in the following two sections, is the theory that learning is the resolution of a cognitive conflict, mostly illustrated in the works of Piaget (1970), Piaget and Inhelder (1966) and Festinger (1957; 1964). Piaget investigated the learning process of children (Klausmeier & Associates, 1979) and described this conflict as ‘disequilibrium’, while Festinger (1957) named it ‘cognitive dissonance’. Both theories are based on differences between cognitive elements. ‘Dissonance’, ‘consonance’, and ‘irrelevance’ are the three key concepts of this theory. If two elements are consistent or supportive of one another, they are in consonance. They are dissonant, however, if they are not supportive of one another or inconsistent. Finally, if the elements have no relationship with another, they are irrelevant (Fishbein & Ajzen, 1975; Orams, 1995d). Festinger (1957) suggested that dissonant elements cause a psychological discomfort. This in turn is the motivator to learning, i.e. to reduce the dissonance and achieve consonance. Four situations can cause cognitive dissonance: disagreement with others, forced compliance, decision-making, and exposure to dissonant information (Orams, 1995d). The latter situation is the type, which provides a chance for education through interpretation. Interpretation can deliberately cause cognitive dissonance, where in the participant tries to resolve this conflict. This can be achieved either through updating the knowledge base (‘accommodation’) or by redefining an already existent knowledge base (‘assimilation’) (Piaget 1970). Fishbein and Ajzen (1975) further argue that the larger the described dissonance, the more the individual will be willing to learn in order to close this gap. In marketing, this idea is common, however, Orams (1995d) observes that its application to environmental education is new.

The affective domain has been described as ‘that part of human thinking that includes attitudes, feelings, emotions and value systems.’ (Eiss & Harbeck, 1969:88). Emotions, knowledge, and value systems have been formed to influence behaviour, thus, attention has been given to the cognitive development in education programmes, and balanced with effort on the affective domain (Orams, 1994a). Iozzi (1989) observed that cognitive and affective factors should be part of a holistic teaching and learning process, however, he notes that in practice this is an exception rather than standard procedure. He further argues that an increase in knowledge alone will not significantly change attitudes and values. This can only be achieved through specially designed activities as part of educational programmes. Iozzi (1989) suggests that this can be best achieved with issues, which
involve humans' affective domain, i.e. issues such as reproduction, life and death, birth, illness, social behaviours, and the like.

3.2.1.3 The Forestell and Kaufman model

Forestell and Kaufman (1990) and Forestell (1991; 1993) reviewed literature on cognitive psychological theory for the development of their model for effective interpretation, based on whale-watching tours in Hawaii. A key principle of their model is that a 'direct guided experience' is more effective than just either a 'guided experience' or a 'direct experience'. With 'direct experience', they refer to a real-life situation, for example on a whale watch tour, without a guide, whereas a 'guided experience' is the exposure to a knowledgeable guide, however, not in a real-life situation. Both concepts combined lead to a guided, real-life situation, which is the most effective form. Forestell and Kaufman's (1990:404) model is based on a three-point approach:

1. Creating a perceived need for information;
2. Providing the needed information in an informed and interesting manner;
3. Facilitating participation in follow-up activities, which incorporate the new information into a changed behavioural repertoire.

They argue that a whale watch tour can be divided into three different stages, each of which bears different information needs (Figure 3.1).

Figure 3.1: Forestell and Kaufman's interpretation model.
Source: Orams (1995d:85)
During the pre-contact stage, tourists are excited about the coming experience and have the need for information regarding their safety, the surrounding, and their following encounter with whales. The contact phase is a time when tourists are interacting with whales. During this stage, they have specific questions about the mammals and their behaviour, as well as about the knowledge of the guides. The final, post-contact stage is a time of personal validation, in which participants compare knowledge and expectation with the just experienced encounter. Forestell and Kaufman observed that during the post-contact phase, whale watchers are very receptive to environmental issues in general. In this stage, they often re-consider global environmental threats and habitat degradation. Since they just encountered marine wildlife, these threats are not abstract issues far away from their home, but very tangible issues that are affecting the whales they have just encountered. Forestell and Kaufman conclude that interpretation would be most effective, if a final stage were added. The proposed follow-up activities would include lobby activities, calls for signing petitions, and making information material available to participants. Although they suggest that there is not scientific data available to support this proposition, Forestell and Kaufman stress the significant opportunities of this model, including the chance to change the participants’ behaviour even for other marine activities in the future, such as snorkelling, nature cruises, or diving trips.

3.2.1.4 The Orams model

Forestell and Kaufman’s model was the basis for Orams (1993; 1994a; 1996b; 1997a) to further develop this model. Orams suggests a model, which is based on five major steps, as illustrated in Figure 3.2. The design of the interpretation programme includes both theories of cognitive dissonance and the affective domain, as discussed in Section 3.2.1.2. An interpretation programme should offer a variety of interesting questions, so that participants become curious and develop a cognitive dissonance between the questions and their knowledge. With stories about the animals encountered, for example marine mammals, the affective domain shall be addressed through the involvement of participants’ emotions. A state of cognitive dissonance is meant to motivate and provide an incentive to act. Orams suggests that the interpreter should address specific environmental problems and issues, and offer solutions for each participant to act.
Ideally, participants are given concrete opportunities to act during the experience, such as petitions to sign, signing up for membership of an environmental organisation, or products to purchase that support environmental research. Orams stresses the importance of this stage, because tourists are highly motivated after the experience and more likely to act than they would be once they are back at home. The final stage is crucial for the design of programme changes. Feedback and assessment are indicators for the success of the programme and should include observation, interviews of participants, or questionnaires. In order to investigate the long-term effects of the educational programme, follow-up surveys should be undertaken (Orams, 1993, 1996b).

3.2.1.5 Educational aspects from the tourist’s perspective

In a review of management strategies for human-wildlife interaction, Orams (1996a) examined physical, regulatory, economic, and educational strategies. Although Orams found a number of authors who are cynical about the idea of sustainable or environmentally sensitive ecotourism, for example, Butler (1990), Wheeller (1991; 1994a), and Pleumarom (1993), he concludes, that ‘if the objectives of such strategies are sound, the potential exists to protect wildlife, increase visitor enjoyment and understanding, and prompt more environmentally responsible behaviour’ (Orams, 1996a:45). Aldridge (1989:64) defines interpretation as ‘the art of explaining the significance of a place to the

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**Figure 3.2**: Interpretation techniques (features of an effective interpretation programme). Source: Orams (1997a:297)
people who visit it, with the object of pointing a conservation message’. Many ecotour operators recognise the importance of interpretation during their tours. Fennell (1999) suggests that the desired outcome of interpretation is a particular behaviour of the tourist. The IFAW (1997:21) sees whale watching tours, for example, as an ‘enticement to get students (and teachers) interested in local species and ecosystems, and to stimulate an interest in formal schooling in cetology, oceanography, ecology and/or conservation biology’.

In many cases, when developing interpretation models and programmes, the desire of tourists is overlooked. It was discussed that educating the tourists, and the desire to change their behaviour, is a prime motivator for interpretation on wildlife tours. But do tourists want to be educated? McKercher (1993) argues that tourists want to be entertained and are nothing but consumers. According to Poon (1993) a ‘new tourism’ has been emerging since the early 1990s. In contrast to the ‘old’ tourists, these ‘new’ tourists are more mature and experienced, they want to be different, are more understanding, have special interests and want to learn. MacCannell (1976) also argues that tourists are searching for the truth, the meaning and for authenticity in other cultures. Markwell and Weiler (1998) take one step further and state that it is the (eco)tourists’ commitment to act environmentally and ecologically friendly, and that this can be supported through interpreted experiences. Higham et al. (2001:26) found that a number of respondents on ecotours throughout New Zealand ‘recognised the role performed by the New Zealand ecotour operator in fostering environmental awareness and challenging the environmental values of visitors in pursuit of post-experience pro-environmental behaviour’. Referring to heritage interpretation, McArthur and Hall (1996) recognised a disequilibrium between the importance of interpretation objectives from a heritage management’s point of view, and the tourist’s point of view. In fact, they argue that the objectives are practised by heritage managers in the opposite order of importance to how they are perceived by visitors. Masberg and Savige (1996) refer to Watson (1989) and also argue that interpretive programmes usually reflect the needs and ideas of staff, rather then the needs of the visitors. They propose a new Ecotourist Needs Assessment (ETNA) model, in order to gather information about the needs and wants of tourists and then incorporate those into the interpretation programmes of the tour operators.
3.2.1.6 Dolphins and therapy

Although not the focus of this research project, it is worth mentioning that dolphins are used in therapy programmes as well. These programmes are far beyond the common educational programmes or education through interpretation during dolphin swim and watch tours. In North America, wilderness therapy in many different settings is used for work with adolescents for various reasons. Many young people are more and more left alone in their spare time, due to the fact that both parents are working full time, and due to an increasing number of one-parent households (Russell & Hendee, 2000). Russell and Hendee (2000) conclude that these, amongst other cultural stimuli, lead to an epidemic of emotional disorders. In their survey, they identified 38 wilderness programmes, generating 392,000 ‘wilderness days’ for young participants in 1998.

In other programmes, dolphins are used for therapy with children with disabilities. Since the 1970s, several programmes have been developed in order to help autistic and mentally disabled children (Cochrane & Callen, 1998; Scope, 2002). Dolphin Assisted Therapy (DAT) is used to ‘reward the individual for participating in the more traditional helping approaches and therapies, such as physio- and speech therapy’ (Scope, 2002:2). A variety of therapy centres have been established in different parts of the world, such as Florida, Hawaii, Switzerland, Israel, and many more. The therapy is mostly used to work with children that suffer from cerebral palsy or with autistic children (Dolphins Plus, 2002; Scope, 2002; The Alexander Trust, 2002). Both disabilities are of entirely different nature. Cerebral palsy is an injury sustained either just before or during birth, and is a fixed injury that does not progress any further. It affects the brain and the extent can range from relatively minor speech problems to fundamental motoric problems, which fix the affected child to a wheel chair. Autism, in contrast, is a psychiatric diagnosis, and a mental health disorder. It does not show a readily identifiable physical problem within the brain (Reynolds 2002, pers. comm.). Most of the therapy programmes involve working with captive dolphins, which is a major concern and point of criticism (Cochrane & Callen, 1998). Environmentalists claim that, for example, a therapy project at an aquarium in Nürnberg, Germany, is just a PR-project in order to justify the keeping of captured dolphins in Nürnberg’s zoo (Lakotta, 2000). The Whale and Dolphin Conservation Society (WDCS) is reviewing details of the DAT programmes due to a growing concern for the well-being of both humans and dolphins. An increasing number of aggressive behaviour of
dolphins in captivity, including biting and butting, has been recorded in North America (The Whale and Dolphin Conservation Society, 1999).

Although not a specific programme, and without any specially trained staff, dolphin tours, such as the ones being part of this research, can act as a therapy as well, maybe even more than a therapy with captive dolphins. This is well underlined by a respondent on a tour in Paihia, who wrote:

Our seven year old son, Peter, is autistic. I was very pleased with the way he responded to the dolphins. Normally he pays little attention to animals or other people. He has seen dolphins in captivity but he did not pay them much notice. Seeing so many dolphins in the wild swimming and jumping really excited Peter and held his attention for far longer than usual. He loves water and is very natural and relaxed when “swimming” – I think this is why he loved the dolphins so much, because he could relate to their action in the water and appreciate it.

This experience is confirmed by Smith of the South Florida Society for Autistic Children, who states that neurologically impaired children respond positively to close contact with free-swimming dolphins, that are kept in a one-and-a-half acre lagoon on Key Biscayne, Florida (Cochrane & Callen 1992). One other comment by a British female respondent in Kaikoura is noteworthy. She wrote: ‘I am dying of cancer and this has been one of my greatest dreams and the fact that I had so many swim underneath me was more than awesome’.

Surely only a very small minority of participants in dolphin tours in New Zealand are families with autistic children or terminally ill people, however, for these individuals the dolphin encounters are certainly an outstanding experience during their holidays.

3.3 Tourist satisfaction

_No greater challenge exists in the marketplace than for businesses to be responsible for providing satisfactory tourism and hospitality services._

Francis P. Noe (1999:xi)

Satisfaction has been defined as a congruence of needs and experiences, whereas visitors are aware of their needs and motivations, the kinds of experiences that satisfy those needs,
and that they can accurately judge when these needs are met (Mannell & Iso-Ahola, 1987). Roggenbruck (1992) identifies three main categories of impacts, which influence satisfaction on eco-tours. Firstly, ‘crowding’ is a main factor, in which the quality is dependent on the number of other people visitors saw during their experience. Secondly, Roggenbruck argues that a ‘conflict’ can reduce the experience. These conflicts are described as ‘incompatibility or animosity with other visitors’ (Roggenbruck, 1992:155). Lastly, environmental degradation can reduce the visitor’s experience. However, Lindberg and McKercher (1997) warn of the simplicity of this concept and suggest that results of such a model can be misleading. For example, visitors may report high satisfaction while still desiring improvement in facilities, activities, or conditions.

Dunn Ross and Iso-Ahola (1991) argue that tourists are motivated by an escaping force and by a seeking force. While escaping the everyday environment tourists are seeking for intrinsic psychological rewards. By escaping the everyday environment, tourists leave behind personal problems, troubles, difficulties, and failures. The rewards they seek by escaping the home environment can be personal rewards, such as self-determination, sense of competence, challenge, learning, and exploration. On the other hand, tourists are often seeking social contacts. The psychological benefits emerge from a simultaneous interplay of both forces, escaping the everyday environment and seeking psychological rewards (Dunn Ross & Iso-Ahola, 1991). The more those needs are met, the higher the satisfaction.

Reynolds (1997:71) suggests that satisfaction, for example, on nature-based boat tours at Yellow Waters, Australia is influenced by four main factors:

1. Biodiversity (Measured by the number and abundance rating of species able to be seen)
2. Climatic comfort (Measured by the inverse of $RSI^2$)
3. Vastness. The sense of enormity and spaciousness derived from being with a few people in a large open wilderness area. This is especially prevalent during the wet season when the area is flooded.
4. Personal space. Defined by number of other people on the boat (loading factor) and the number of other boats

All four factors have an effect on the satisfaction and should be recognised as a continuum. Satisfaction ratings are likely to be higher, the more the actual experience matches (or in

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2 $RSI = \text{Relative Stress Index, a combination of temperature and humidity.}$
fact exceeds) the expectations. However, this basic assumption can be influenced by the fact that many visitors have no or few experiences on which they can base their expectations (Reynolds & Braithwaite, 1997).

### 3.3.1 Standards of capacity and crowding

Overcrowding, particularly in natural areas like national parks, is not a recent phenomenon. It has been documented that in the early years of national parks overcrowding was already a problem. In 1967 crowding and congestion in Yosemite National Park, California, was identified: ‘...a number of national magazines and newspapers have run articles about over-use of national parks ... It has even been on TV ... Yosemite’s 1.7 million visitors are attracting the most attention of all because most of them are crammed into Yosemite Valley, which comprises only eight square miles’ (Johnson, 1967:4). National parks and other tourist hot spots often have to cope with times and areas of high demand and overcrowding is the result of this heavy use. Crowding can have significant impacts on the visitor experience (Cater, 1993; Cater & Goodall, 1992; Palmer, 1995; Roggenbruck, 1992). Burkart and Medlik (1981:246) define three forms of capacity:

- **physical capacity** (= the limits of, for example, a beach or historic building to absorb a given number of users)
- **social capacity** (= the degree of crowding users are prepared to accept before they seek alternative sites)
- **environmental capacity** (= the extent to which a site can be used before visual deterioration problems arise)

Other authors add one or more categories, for example Cater and Goodall (1992) argue, that there is an economic carrying capacity, which optimises the return on investment (ROI) and maximises net social benefits. The social carrying capacity has also been described as psychological or perceptual carrying capacity. Carrying capacity is concerned with the number of people using a given area without the loss of quality of the natural environment, the quality of life of the residents, and/or the visitor experience. Obee (1998) notes, that in British Columbia too many boats irritate Orcas and diminish the experience of seeing whales. Orams (2000) states that besides whale related issues on whale watching trips in Tangalooma/Australia, other factors are important influences on visitor enjoyment.
One of those factors is the number of passengers on board. Measuring this capacity is a problem as every individual perceives crowding at different levels and different sorts of settings have different levels of capacity. This difficulty increases for those regions in which wilderness and solitude are important components (Lawson & Baud-Bovy, 1977). Shelby et al. (1989) base the level of carrying capacity on the \textit{perceived} crowding and developed a nine-point scale (Figure 3.3).

![Figure 3.3: Nine-point scale for measuring crowding. Source: Shelby et al. (1989)](image)

Out of the nine points only the first two describe the area as uncrowded, while the remaining seven points indicate it as crowded to some degree. This wide range provides the advantage of being sensitive enough to pick even slight degrees of perceived crowding. This is important because the term ‘crowded’ has an undesirable connotation. On a smaller scale, people who are asked if they felt ‘crowded’ could just say ‘no’ for this reason (Heberlein & Shelby, 1977; Shelby et al., 1989). Higham et al. (1996) identify five intrinsically related key concepts related to this area: Social carrying capacity, crowding, encounter norms, expectations and preferences. Shelby et al. (1989) argue that crowding and density are two key terms often used synonymously, although they have different meanings. Density is an objective, descriptive term indicating the number of people in a given area. Crowding is a subjective, negative evaluation of a density, and therefore much more difficult to measure. Each individual perceives a given situation differently crowded and Patterson and Hammitt (1990) suggest that the term ‘perceived crowding’ should be used. According to them, 'perceived crowding occurs when the presence or behaviour of others interferes with attainment of goals (e.g., solitude)' (Patterson & Hammitt, 1990:261).

Normative theory has been introduced to recreation research in order to identify common standards (Patterson & Hammitt, 1990). While norms are rules that relate to what people generally should think, say, or do in specific circumstances, encounter norms focus on the number of people a person expects to see in a specific area. Encounter norms are closely related to expectations and preferences. Preferences represent a person's idealised number.
of encounters at the given area, whereas expectations mirror a more realistic picture of the situation (Higham et al., 1996).

Defining standards of capacity therefore depends mostly on the kind of area and the recreational use. For example the ideal standard for scenic driving on major roads was stated as one car every quarter mile, on minor roads every half mile; for the beach 440 people per mile (Burkart & Medlik, 1981:247), whereas the number of tolerable contacts for Fisherman and Canoers on the Brule River (USA) were stated as nine and seven, respectively (Shelby & Heberlein, 1986).

More recently, academic literature has found increasing problems associated with the concept of carrying capacity. Fennell (1999) reviews literature and notes that there is only a weak relationship between perceived crowding and satisfaction. He supports this argument with seven explanations. First, tourists select their destination and/or activities. Therefore a high level of satisfaction can be assumed, because people would select those activities they enjoy. Second, Fennell argues that there is a shift in the product definition. With increasing encounters, tourists might shift the definitions of their recreational experience and therefore might remain satisfied with increasing contacts. The third explanation is displacement. Here, according to Fennell, tourists might have been already displaced to areas with lower visitor density and thus would not be part of surveys in heavily used areas. Fourth, Fennell indicates that there are a variety of factors affecting tourist satisfaction, and therefore crowding cannot be singled out. Fennell’s fifth argument is rationalising. Here, he notes that tourists tend to ‘make the most out of a situation’. Hence, people might feel crowded in a particular situation or environment, but still feel that they have a good time. Argument six relates to the specific activities of recreationists and/or tourists. Someone might not feel crowded at all when he or she encounters four other hikers during a hike, but might feel crowded when he or she encounters four people in off-road vehicles. Lastly, Fennell argues that there are problems with the proper measurement of crowding. Methods appear to still be inadequate and some research even indicates that tourists can be satisfied and dissatisfied at the same time (Graefe et al. 1984, in Fennell 1999:116). Palmer (1995) and Newsome, et al. (2002) pledge for similar arguments as outlined by Fennell (1999).
The above arguments certainly bear a variety of valid points and it is widely accepted that carrying capacity is not the most effective tool to measure tourist satisfaction. However, in applying Shelby et al.’s (1989) nine-point Likert scale it is anticipated that this question can contribute to a better understanding about tourist satisfaction on dolphin tours, as one of a variety of indicators.

### 3.3.2 Satisfaction on whale and dolphin tours

There have been various studies on satisfaction and experience of participants in cetacean watching tours. These studies are, however, mostly conducted on whale watching tours. An early study on whale watchers was conducted in British Columbia, Canada, by Duffus (1988). His findings indicated that 26% of the respondents felt that their expectation were greatly exceeded, while 27% stated that their expectations had been exceeded. The expectations were met for 33% of the respondents, while 10% said that the experience fell below, and 4.4% greatly fell below expectations. Factors that had positive effects on the experience included learning, environment, scenery, and trip comfort. Negative influences on the other hand were environmental degradation, other traffic, whale harassment, restrictions, and trip problems (Duffus, 1988). In 1987, Tilt reports that three-quarters of whale watchers in California ranked their tour as ‘one of the most “fantastic” wildlife experiences they had ever participated in’ (p. 580).

Muloin (1998) conducted research on whale watchers in Hervey Bay, Australia, and Orams (2000) investigated satisfaction of whale watchers in Tangalooma, Australia. Finkler (2001) examined land based, boat based, and kayak based whale watchers in the San Juan Islands, USA. A study on ecotourism and wildlife tourism operators throughout New Zealand, including one whale watch and two dolphin watch operators, was conducted by Higham et al. (2001). Results of these studies will be discussed in detail and compared with the present study in Chapters Four and Five.

There has been detailed research on therapy programmes with dolphins (cf. Section 3.2.1.6). There have also been various studies on the management of dolphin feeding programmes (e.g., Green & Corkeron, 1991; Orams, 1994, 1995, 1997, 1997, 1998; Neil & Brieze, 1998), as well as research on the impacts of tourism on the dolphins (cf.
Section 2.2.3). Surprisingly, only one study on the satisfaction of participants in dolphin tours was conducted by Amante-Helweg in the Bay of Islands, New Zealand, in 1995. She investigated the cultural perspectives of participants in swim-with dolphin tours. Amante-Helweg’s (1995) findings were similar to those of Orams’ (2000) whale watch study.

3.4 Summary

It is recognised that measuring tourist experiences is a difficult task, because the experience consists of a variety of components and depends on a large number of factors. After reviewing relevant literature, the specific components of education and interpretation, and tourist satisfaction have been examined in more detail. It is clear that education and interpretation form a vital part of the ecotourism experience and are considered important from both the suppliers’ and the tourists’ perspectives. Two prominent models for education in a marine ecotourism context were introduced in order to explain classic theory and stress the importance of educational programmes on ecotours. A section on the use of dolphins for therapeutic programmes illustrated that although not a focus of this study, swimming with dolphins or watching dolphins in their natural environment can provide patients with illnesses an outstanding experience.

Visitor satisfaction also affects the overall experience and some aspects of satisfaction were reviewed. In particular, it was shown that carrying capacity as a measure for satisfaction has received a great deal of criticism in academic literature over the past years. On the other hand crowding still is one of the main factors that affect visitor satisfaction and has been applied in a variety of recent studies. Lastly, some studies on satisfaction on whale and dolphin tours were introduced, some of which will be looked at in considerable detail when analysing the data of the present study and comparing the results with those studies.
4 Methodology

We are only too well aware that the information base on which decisions are being made in tourism throughout the world is fragile and, in many cases, simply unreliable.


4.1 Introduction and review of objectives

As reviewed in the previous chapter, ecotourism in general, and wildlife viewing in particular, became an industry with rapidly increasing growth rates over the past two decades. This growth alone brings with it a number of challenges for planners and managers. These challenges are increasing when it is attempted to manage the resource bases in a sustainable way. It was shown that both the tourism industry and academia are still far away from a common definition or, as some researchers suggest, turn away from the attempt to define ecotourism and suggest that an operable framework for planners, managers, and operators could be much more useful. Whale and dolphin watching are no exception in this development and research showed that even in countries with fairly restrictive regulations, some negative impacts on the marine mammals are apparent. There have been a number of research projects in order to assess those negative impacts so as to gain a better understanding about the human-mammal interactions and to mitigate negative influences as much as possible.
On the other hand, a lack of research regarding the environmental values, attitudes, and behaviour of the tourists on marine mammal tours became apparent. Only recently, few research projects addressed various aspects of tourists on whale watching tours, most notable Orams’ (2000) study on whale watchers in Tangalooma/Moreton Island in Australia, and Finkler’s (2001) work on Orca watching in the Northwest of the United States. Although Orcas are the largest member of the dolphin family, they are commonly referred to as “killer whales”, and subsequently orca watching is described as whale watching tours, rather than dolphin watching. The only study conducted on dolphin tours appears to be Amante-Helweg’s (1995) research on cultural perspectives of participants on dolphin tours in the Bay of Islands, New Zealand. Thus, there seem to be a major gap in knowledge about who participants in swim-with-dolphins tours are. The present study is an attempt close this gap, and to gain a better understanding about participants in dolphin tours. In order to achieve this goal, the following objectives have been set:

1. To draw a demographic profile of participants in dolphin tours in New Zealand.
2. To examine environmental values, attitudes and behaviour of participants on dolphin tours. It will then be attempted to combine these three factors in order to measure ‘Environmentalism’, including values, attitudes, and behaviour.
3. To gain an understanding about factors that influence the tourist experience on dolphin tours, including satisfaction, crowding, and education/interpretation.
4. To identify a relationship between ‘Environmentalism’, the on-tour experience, and various demographic data.

Furthermore, a scale to measure the extent to which people agree with a new environmental worldview was developed by Dunlap and Van Liere in 1978. Their New Environmental Paradigm (NEP) scale has been reviewed and tested by various researchers over the past 20 years. Indeed, an in-depth review of relevant literature suggests that the NEP scale is the most widely used scale to measure environmental values. However, there have been relatively few studies that employed the scale in a tourism context, and most of them employed a modified NEP scale. While the NEP scale (among other tools) was used to achieve Objectives Two and Four, it was indeed interesting to single out the NEP scale and investigate its applicability in a tourism context, while employing the unmodified original 12 items of Dunlap and Van Liere (1978). Therefore, a fifth objective was set for the present study:
5. To investigate whether or not Dunlap and Van Liere’s (1978) New Environmental Paradigm (NEP) scale is applicable in a tourism context.

This chapter outlines the methodological approach to achieve those five objectives, including a justification of the research area, the questionnaire design, content, administration, evaluation, and deficiencies, ethical considerations, and sampling methods. It also includes a section on the records taken on site and concludes with notes on the data processing and analysis.

4.2 Justification of the research area

There are more than twenty tour operators in New Zealand, who are involved with dolphin watching or swimming with dolphins (Figure 4.1). For most of them, dolphin tours are the main business. However, there are a variety of operators where dolphins are an ‘additional incentive’ for their guests, for example, sea kayak operators. Due to financial and time constraints the number of operations studied had to be reduced, which still provides the opportunity to collect reliable data. Akaroa (Banks Peninsula), Kaikoura and Paihia (Bay of Islands) are the only townships in New Zealand, where more than one company offer tours, where swimming with dolphins is possible. In addition, with Dusky dolphins, Hector’s dolphins, Common dolphins, and Bottlenose dolphins, these three locations represent the four main species that are used for commercial swimming with dolphins in New Zealand. Within the three areas, those operators were chosen, whose main business concentrates on such tours. Some competitors are larger and offer additional harbour or bay cruises. In Kaikoura, the direct competitor offers a variety of other wildlife tours. The most appropriate ventures seemed to be Dolphin Experience in Akaroa, Dolphin Encounter in Kaikoura, and Dolphin Discoveries in Paihia. All three operators signalled co-operation for the survey after the initial contact, thus no alternatives had to be chosen.
Figure 4.1: Dolphin tour operators in New Zealand
4.2.1 Dolphin Experience, Akaroa

*Dolphin Experience* is a small business located in Akaroa on the Banks Peninsula. Their main business involves dolphin tours (swim and watch); however they also receive additional revenues from occasional *Outer Harbour Tours* and the sale of souvenirs. Two vessels are in operation for dolphin swim tours. *Dolphin Experience* is operating in direct competition with *Dolphins Up Close*.

The dolphin experience takes about three hours. This includes suiting swimmers up into wetsuits and fitting masks and fins, a briefing, the actual tour, as well as showers and hot drinks after the tour. Banks Peninsula is home of the endemic Hector's dolphin (*Cephalorhynchus hectori*). These dolphins often come into the Akaroa harbour, thus on most tours the travelling time is about 10 – 20 minutes until the first sighting of dolphins. Once dolphins are close to the boat, the skipper switches off the engines and passengers have a chance to see the dolphins up close and take photographs. If the dolphins stay around the boat and come back frequently, swimmers are allowed to enter the water and have the chance to swim with the dolphins. Depending on the dolphins, each tour comprises one or more drops. After the swimming experience and time permitting, the skipper drives close along the spectacular shoreline and provides information about the blowholes, the volcanic origin of Banks Peninsula and adds a few entertaining anecdotes about a sheep trapped on the rocks. Back in Akaroa, swimmers have the opportunity to enjoy a hot shower and hot drinks.

*Dolphin Experience* practises an unusual and generous price policy: Watchers pay in advance (as they are able to walk off the boat after the trip), but swimmers do not pay until they return. If, for whatever reason, a person was booked to swim but not having been in the water, passengers are charged with the watcher’s price only. If a swim was not possible due to the dolphins, participants are invited to come back for another trip and will be charged the difference between the watcher’s and the swimmer’s fares only.
4.2.2 Dolphin Encounter, Kaikoura

_Dolphin Encounter_ is the pioneer of swim-with-dolphins tours in New Zealand. Established in 1989, it is one of the major attractions in Kaikoura. While dolphin tours are the main focus of _Dolphin Encounter_, they also offer ornithological tours under the brand _Ocean Wings_. Additional revenues are gained from the sale of souvenirs in the shop. _Sea Adventures_ is the only other operator in Kaikoura that is licensed by the Department of Conservation to swim with dolphins. However, _Sea Adventures_ holds a permit for eight tours per week with one vessel, whereas _Dolphin Encounter_ holds permits for three tours daily for two vessels.

Several hundred Dusky dolphins (_Lagenorhynchus obscurus_) are at home in the Kaikoura waters. Occasionally Killer whales (_Orcinus orca_), Hector’s dolphins (_Cephalorhynchus hectori_) and Common dolphins (_Delphinus delphis_) can be observed. The famous Sperm whales of Kaikoura (_Physeter macrocephalus_) are further offshore and can usually not be seen on dolphin tours. The tours in Kaikoura take about three hours. This includes suiting swimmers up into wetsuits, fins and masks, a thorough briefing, the bus transfer from Kaikoura to South Bay and back, the tour itself, and hot showers afterwards. Depending on the season and day-to-day situation it takes from a few minutes up to an hour until the Dusky dolphins are found. The skippers observe the situation and decide whether or not it is a swim situation. Due to the large pod sizes, swimmers have the opportunity to literally swim with hundreds of dolphins. Some dolphins stay around a single swimmer for a while, while other dolphins just pass by. Depending on this, the tour requires between one and a few drops per tour. After the swim, on-board hot showers and hot chocolate help to warm up again. After the swim experience, passengers have plenty of time to observe dolphins from the boat and take photographs, while the guide gives detailed information about the Dusky dolphins. Back in Kaikoura, swimmers have another chance for a hot shower at _Dolphin Encounter’s_ base.

4.2.3 Dolphin Discoveries, Paihia

_Dolphin Discoveries_ is one of the two major dolphin watch/swim operations in the Bay of Islands. They operate two large vessels: _Discovery III_ is a specially designed boat, which
can carry up to 44 passengers. Discovery IV is a large jet engine powered vessel (74 passengers) and in use for the Discover the Bay tours. Those tours are not dolphin tours, but often dolphins are encountered and watched. There is no possibility to swim with dolphins during the Discover the Bay tours, however, Dolphin Discoveries holds a license for dolphin watching for Discovery IV. Fullers Northland is a direct competitor with the brand Dolphin Encounters.

The dolphin tours in the Bay of Islands take about four hours. Passengers have the opportunity to also board and/or disembark the vessel in Russell. The Bay of Islands provides a rich variety of marine life, including numerous marine mammals. Main focus of the tours is on Bottlenose dolphins (Tursiops truncatus) and Common dolphins (Delphinus delphis). But probably more than at any other area of New Zealand, other marine mammals are sighted, such as Killer whales (Orcinus orca), Bryde’s whales (Baklaenoptera edeni), Minke whales (Baklaenoptera acutorostrata), Sei whales (Baklaenoptera borealis), Blue whales (Baklaenoptera musculus), Humpback whales (Megaptera novaeangliae), False killer whales (Pseudorca crassidens) and Southern Right whale dolphins (Lissodelphis peronii). While Blue whales, for example, were spotted only three times in 1999, Bryde’s whales and Killer whales are frequent visitors to the area. Tours start in Paihia with a short pick-up in Russell (if required). Just a few minutes after leaving the wharf, the skipper shuts down the engines and the guide and skipper give a briefing about the tour, the marine life and safety issues. Due to the large area of the Bay of Islands dolphins can be found within a few minutes after departure, but it can also take up to two hours or even longer. The resident Bottlenose dolphins are estuarine/coastal dolphins and can usually be found within the bay area around the 144 islands, whereas the Common dolphins in the Bay of Islands are pelagic dolphins and can be found further offshore (Berghan, 1998). Once dolphins are sighted, the skipper approaches the pod and skipper and guide decide whether it is a swim situation. Only if swimming is possible, the guide prepares swimmers. Wetsuits and other gear are on board and after a quick change swimmers can enter the water and have a swim with the dolphins. Due to the large area and the resulting difficulties in finding dolphins and/or whales, Dolphin Discoveries is closely working together with its direct competitor Dolphin Encounters (Fullers) and local fishermen. If any vessel finds marine mammals, the operators are contacted via radio. The two swim-with-dolphins operators additionally have the same departure times and fares. If one operator has only two bookings for a tour, the other operator will take them along to keep tours
viable. If no marine mammals are sighted, *Dolphin Discoveries* provides passengers with a voucher for a free trip at any other time.

4.3 Questionnaire design

In order to achieve a better understanding of the tourists participating in swim-with-dolphins tours as discussed in Chapter One, a questionnaire was designed. The type of questionnaire used for this project is of an on-site visitor questionnaire survey format (self completion) (Booth, 1991).

4.3.1 Type of questions

To achieve maximum accuracy and to avoid misinterpretation during the data entry, all questions were carefully designed. The choice and design of questions and sections drew upon a variety of literature sources.

Almost all of the questions were designed in a scaled, multiple-choice format. According to Sproull (1988), these types of questions provide the researcher with specified responses and allows more items in the same time-span than open-ended formats. In addition, responses are easy and fast for the respondent and the data processing is relatively easy and fast for the researcher. Disadvantages are fairly small: scaled questions require thorough preparation to generate “good” items and, probably the biggest disadvantage is that respondents have no chance to be creative or to explain their responses (Sproull, 1988). Indeed, the appropriateness of Likert scales has been questioned as such scales do not allow the researcher to learn about the tourist’s perspective, but rather limits the respondent to the predetermined responses (McIntosh, 1998). Section Two of the questionnaire examines those factors that are important for the visitor in their decision making for a holiday destination. To overcome the problem indicated by McIntosh (1998), the researcher added two open-ended items (21 and 22 in the pilot survey), which gave the respondents the chance to indicate other important motivators. Some of those items having been mentioned by participants of the pilot survey were included in the final version of the survey. However, due to the rather small sample size of the pilot survey (72 returned
surveys), the researcher decided to add those two open-ended items in the final version (questions 24 and 25).

In addition, respondents were given the opportunity to comment on anything regarding the tour or the survey on the last page. 287 respondents took the opportunity to comment on the tours, the survey and environmental issues in general (all comments are displayed in Appendix II).

4.3.2 Design of the employed Likert scales

Lyberg et al. (1997) stress the importance of the decision of how many scale points to include, that must be made when designing a questionnaire using scales. There are reasons for and against both, larger and smaller scales. Smaller scales might not give enough alternatives and fix the respondent too much to certain predetermined categories. While larger scales provide a wider range of steps between the two extremes of a scale, they tend to confuse the respondent (Lyberg et al., 1997). Another important decision is whether to use a midpoint or not. 'Use of a middle alternative on bipolar dimension can be justified if one believes that some individuals truly have neutral positions and that forcing them to respond in one direction or the other will add to measurement error' (Lyberg et al., 1997:147). On the other hand, it is argued that most respondents have a slight tendency to one or the other direction, but take the easy option to choose the midpoint (Lyberg et al., 1997).

With regard to the above-mentioned arguments, it was decided to pilot test different versions of surveys, one with four-point Likert scales and one with seven-point Likert scales. From personal observation of respondents filling in the survey, it appeared that many respondents were not able to clearly distinguish between the two steps from the values ‘two’ to ‘three’ and from ‘five’ to ‘six’. No respondent felt that the four-point version failed to provide sufficient range. Regarding the midpoint, it was the researcher’s belief, that most of the questions do not require a neutral value. In fact, the third block in Section Three does not allow a neutral. This view was confirmed in the pilot survey, where only one respondent asked for a ‘neutral’ in the four-point version.
As explained in Section 4.4.3, the complete New Environmental Paradigm (NEP) scale was adapted for this survey. In order to receive comparable data, the original four-point scale used by Dunlap and Van Liere (1978) was considered for this survey.

The original scale of crowding by Heberlein and Shelby (1977) was also included (cf. Section 3.3.1). Heberlein and Shelby used a nine-point scale and, in order to receive comparable data, the nine-point scale was also considered.

The pilot test did not indicate varied response rates for the tested four-point and seven-point Likert scales. In fact, the numbers were exactly the same; 36 returned surveys for each version. After assessing the above mentioned considerations, reliability and validity (Lyberg et al., 1997), the researcher decided to implement a four-point Likert scale for the majority of the questions. However, for five more sensitive questions, including Heberlein and Shelby’s (1977) scale of crowding, it was decided to use nine-point Likert scales. It was anticipated, that the positive effects of a change in the size of the scales (comparable data) would outweigh the possible negative effects (confusion of the respondents).

4.4 Questionnaire content

The majority of variables in Sections One (about the particular dolphin tour) and Two (about the respondents’ holidays in general) stem from a variety of previous conducted research, such as Orams (1997a), Williams and Stewart (1997), Fulton, et al. (1996), Otto and Ritchie (1996), Manfredo and Larsen (1993), Shelby, et al. (1989), and Heberlein and Shelby (1977). From each study appropriate items were adopted and, where necessary, slightly changed. This allowed comparisons with the results of previous studies.

4.4.1 Section One: About the dolphin watching tour

Section One aimed to provide insight into the on-tour experience of the travellers. This included weather and sea conditions, observations of the swimmers and boats around the dolphins and an evaluation about the tour staff. Finally, questions 12 to 16 asked the respondents to indicate their personal opinion about enjoyment, crowding, and satisfaction
of the particular tour. Question 13 adapted the original measuring scale for crowding by Heberlein and Shelby (1977).

4.4.2 Section Two: About holidays in general

Section Two investigated the importance of general aspects regarding the respondents' holidays. The 23 items in this section were designed to give insight into the general travel motivations of the participants in dolphin tours. Along with the six questions in the second half of this section, the purpose was to achieve a better understanding of the travel behaviour of those tourists.

4.4.3 Section Three: Opinion about a variety of issues

Section Three consisted of three sub-sections. The first sub-section represents all twelve original items of Dunlap & Van Liere's (1978) New Environmental Paradigm (NEP) scale. This scale has been tested extensively by a number of researchers and proved to be generally sound (cf. Section 3.1.5). The NEP scale covers a range of opinions on the relationship between humans and the environment, including over-population, pollution, and economical growth.

The second and third sub-sections represent parts of the Environmental Concern Scale (EC) (Weigel & Weigel, 1978) and the General Measure of Ecological Behavior (GEB) (Kaiser, 1998), respectively. EC examines the respondents' opinion about a variety of issues regarding pollution. The items cover questions about the government, industry, environmental organisations, and the respondents themselves. While the NEP and the EC look into a broader, more general view of environmental values and attitudes, the GEB in the third sub-section asks for actual environmental behaviour of the respondents at home.

4.4.4 Section Four: Demographics

The last section asked respondents for a variety of demographic details, including travel group, gender, age, education and employment, residence, nationality, and membership in
environmental organisations. Sproull (1988) recommends placing demographic items at the beginning of the questionnaire because they are easy to answer and can function as “icebreaker questions”. Higham (1996) in contrast, suggests placing the demographic section at the end of the survey. Demographic questions do not require considered responses and therefore would not be compromised by a lack of concentration. It was decided to place the demographics at the end of the survey, because the first section of the questionnaire was easy to answer as it related directly to the just experienced tour. The length of the questionnaire, however, might cause a bias due to a lack of concentration.

Statistics New Zealand Te Tari Tatau uses age groups in five-year steps (15-19; 20-24; 25-29; etc.) (Statistics New Zealand Te Tari Tatau, 1998b, 2000). It was decided to use a smaller number of steps and aggregate two age groups into one (15-24; 25-34; etc.). The ‘usual job title’ was designed as an open-ended question. After data entry all job titles were re-coded after the ten groups defined by the New Zealand Standard Classification of Occupations 1990 (Department of Statistics, 1992b).

When collecting information about education, the categories used by Statistics New Zealand Te Tari Tatau (Statistics New Zealand Te Tari Tatau, 1998a) were not suitable for a survey of domestic and international visitors. The education systems in different countries vary considerably, thus the categories had to be simplified. It was decided to use seven categories, including ‘school certificate’, ‘higher school certificate’, ‘undergraduate degree’, ‘postgraduate degree’, ‘polytechnic diploma/degree’, ‘vocational or trade/professional qualification’, and ‘no qualification’.

Finally, two questions about membership in environmental organisations were added. Question 10 asked for membership in international organisations, where a choice of the four most known organisations (Greenpeace, World Wild Fund for Nature WWF, Sierra Club, Robin Wood) was given. In addition to those four organisations, respondents had the opportunity to add any other international environmental organisations in the space provided. Question 11 also was open ended and inquired about membership in local and/or national environmental organisations. Those two questions are not part of the standard demographic profile, however, it was important for this research to gain information about the support of environmental organisations as well, hence the inclusion into the survey.
4.5 Administration of the questionnaire

Due to the different operations and their procedures, the administration of the surveys had to be adapted to the daily routines of the operators. The operators were assured that the survey would have minimal possible negative impacts on the passengers as well as on the staff and operation.

In Akaroa the researcher, the owners of *Dolphin Experience*, and their staff saw the best opportunity for handing out the surveys after return to the shop. Passengers would have a shower and stay in the shop for a hot drink. This was the ideal time for them to fill in the survey. The researcher was either introduced by a staff member or introduced himself to the passengers and handed out surveys and pens. Some respondents wanted to take the form along, fill it in later and send it back with the provided freepost envelope. In cases where travellers were on board, who booked as watchers only, the researcher waited at the jetty for the return of the boat and asked those passengers to fill in a survey and mail it back with the enclosed freepost envelope.

*Dolphin Experience* operated 28 tours during the survey period (24.03.2000 – 03.04.2000). Swimming was not possible on five tours, which is a success rate of 82.1%. No tour had to be cancelled due to bad weather conditions, although there were rainy and cold days. However, there were a few days with two tours only due to a lack of demand. *Dolphin Experience* invited the researcher to participate in six trips for additional on-tour observations.

Kaikoura offered the best opportunity for distribution of the surveys during the short bus transfer back from South Bay to Kaikoura, which assured the possibility to reach all passengers. The researcher was introduced by a guide and added some background information about the project. During the bus ride he handed out pens and surveys and asked passengers to drop both off at the office either into the prepared box, to a staff member or to himself. Every survey was provided with a freepost envelope for those passengers, who wanted to move on as quickly as possible.

During the survey period in Kaikoura (07.04.2000 – 16.04.2000) *Dolphin Encounter* operated 25 tours. All three tours on the 11th April had to be cancelled due to bad weather
conditions and the last tour on the 8th April was cancelled due to a lack of bookings. The success rate for swimming with dolphins during the survey period was 100% (however, during the pilot survey period one tour was a watch-only tour due to strong winds and the resulting high swell). The researcher joined six tours for observations during that period.

In Paihia, the researcher encountered a different situation. Swimmers would change into wetsuits and back into dry clothes on board Discovery III and after arrival just walk off the boat. An additional problem was that passengers had the opportunity to disembark in Russell or in Paihia. The owner of Dolphin Discoveries therefore suggested that the researcher went on board for every trip and handed out surveys and pens during the last 20-30 minutes on the way back. This proved to be an ideal solution. Firstly, all passengers could be approached and secondly they had enough time to fill in the survey. However, some passengers asked if they could send the survey back later for various reasons. Some wanted to use a dictionary and others wanted to enjoy the scenery on their way back rather than concentrating on a survey. They were provided with a freepost envelope.

During the survey period (25.04.2000 – 07.05.2000) Discovery III operated for 21 tours. Three tours were cancelled due to a lack of bookings. On four tours out of the 21 tours no dolphins or whales were sighted. Swimming was possible on only three tours, which results in a success rate of 14.3%. Due to the temperate waters in the Bay of Islands, dolphins mate all year round, thus a large number of pods included juvenile dolphins (Constantine 200, pers. comm.). The Marine Mammals Protection Act (1992) does not allow swimming with any juvenile marine mammals, which is the reason for the low swim-rate. The researcher participated in all 21 tours plus one tour on Discovery IV for observations and administration of the surveys.

### 4.6 Ethical considerations

When research involves a survey, observation of visitors to an attraction or handing out questionnaires, certain ethical considerations have to be made. The University of Otago supports research and guarantees academic freedom. ‘The price of academic freedom is that the (Education) Act requires the University’s assurance that research and teaching are conducted in accordance with the highest ethical standards’ (Human Ethics Committee,
The policy distinguishes between research of the Category A and of the Category B. Amongst other criteria, research falling into Category A involves individuals or groups as the subject of experimentation or study. However, only if 'any information about an individual who may be identifiable from the data once it has been recorded in some lasting and usable format, or from any completed research' (Human Ethics Committee, 2000:1) has been collected, the research proposal is within Category A. Full confidentiality was explicitly assured in the covering letter of every questionnaire. All respondents were participating voluntarily. The personal information of those who participated in the prize draw were removed from the questionnaire and not used for any purpose other than the draw. The collected data were processed in aggregated form only, so that no respondent could be identified in the final results.

Therefore, this study falls under Category B according to the University Policy, which can be approved by the Head of Department without being processed by the ethical committee of the university. The proposal was submitted to Professor Geoffrey Kearsley, Director of the Centre for Tourism, and approved on January 25, 1999.

4.7 Questionnaire evaluation

Booth (1991) identifies two different pre-tests, the off-site questionnaire test and the pilot survey. Other authors distinguish the same sort of tests, however, call the off-site tests pre-tests and the on-site tests pilot surveys (Cook & Reichardt, 1979; Department of Statistics, 1992a; Sproull, 1988). Pre-tests are off-site tests that are often conducted within the department or organisation of the researcher. Colleagues are provided with some background information and asked to look for possible problems regarding comprehensibility, length of the questionnaire, the order of questions, clarity of instructions, and possible missed questions (Booth, 1991). Those problems can efficiently be identified before the researcher tests the survey in the field.
According to Sproull (Sproull, 1988:321), a pilot survey is a trial run of the main survey. It is a preliminary micro-research study, which uses the same research procedures as the major study and samples drawn from the same population but who will not be used in the major study. The purpose of this trial run is to assess the various research procedures prior to the major study so that modifications or estimations can be made, if necessary.

A pilot survey is highly recommended, because it can reveal important information about the feasibility of the sample selection plan, the variability in the target population, fieldwork procedures, response rates, processing procedures and estimates of costs (Department of Statistics, 1992a).

4.7.1 Pre-testing the questionnaire

After an extensive review of literature and defining the research area and objectives, a first draft of a questionnaire was developed and pre-tested within the Centre for Tourism and the Marketing Department (University of Otago) in mid November 1999. The responses resulted in changes and four versions of a preliminary questionnaire were designed. As discussed in Section 4.3.2, the considerations regarding the number of points of the Likert scales as well as the question if a midpoint is necessary should not only be discussed in theory, but also tested in the pilot survey. Therefore it was decided to test a version with four-point Likert scales and a version with seven-point Likert scales. Another outcome of the pre-test was the sophisticated nature of some items of the NEP scale. As a result the pilot survey was designed in two versions; one included the complete original NEP scale, the other did not include the NEP scale at all. With those two major differences, four versions of the pilot survey were finalised (a four-point and a seven-point version each with and without the NEP scale).

4.7.2 Pilot testing the questionnaire

It was planned to undertake the field research starting the 22 November, 1999 in Kaikoura and in Akaroa. Financial constraints did not allow a pilot test in Paihia. Upon arrival in Kaikoura the researcher encountered very poor weather conditions that had not been
anticipated. Although the summer season had started, there were strong winds causing rough sea conditions. Almost all tours during that week were supposed to be cancelled. A call in Akaroa showed that the conditions there were the same, although the Akaroa harbour is more sheltered. After discussing those problems with the owner of *Dolphin Encounter*, it was decided to start the pilot surveys a week later. The conditions at this time were still not good, however, most of the tours were running and the weather improved gradually. During the two days of the 30th November and the 1st December, 1999, 80 questionnaires were handed out to passengers on four tours. In Akaroa, 52 questionnaires were handed out to passengers on ten tours during the days 3rd, 4th, and 5th December, 1999. The response rates were 40.0% in Kaikoura and 79.9% in Akaroa.

4.7.3 Amendments to the piloted questionnaire

The 72 returned questionnaires (response rate = 54.5%) revealed some weak points and the need to modify the questionnaire. In addition, a decision on the final version from the four tested samples had to be made. On-site observations during the administration of the survey helped to identify further problems, including structure, wording, and administration.

4.7.3.1 Amendments to the structure and content of the questionnaire

The pilot questionnaire was structured in three major sections. It turned out that the second part of the first section was not related to the on-tour experience, but was still under the same headline. Thus, a fourth section was added in the final survey: *About your Holidays in General*. The last two blocks in Section Three were aggregated to one block, because they both cover environmental behaviour at the respondents’ homes.

Several sections of the piloted questionnaire needed modifications. Changes were made as follows:

Question one asked for the *kind of tour* the respondent participated in that day. In general, all tours offered are swim-with-dolphins tours. However, on all tours it is possible to book as a spectator only. Spectators were not sure what option to check, as they were booked on
a swim-with-dolphins tour, but as watchers only. To receive accurate data in that question, the wording was changed into ‘Were you booked to watch dolphins or swim with dolphins?’ Question Three asked for the location of the tour, because the questionnaires at all three locations were the same. As a control tool the researcher signed the covering letter with different coloured ink for each location. Results showed that quite a lot of respondents did not know where they were and some even ticked Paihia as location, although no piloting was done there. For that reason and to reduce the number of questions, it was decided to remove this question and use the coloured ink as sole tool to identify the location.

Question Seven of the second block was moved to Section Two, because this was a more general statement rather than a question about the actual experience.

During the administration, the researcher was asked by respondents if, in questions 11 and 12, he was referring to the crew on board or the whole staff of the operator. Therefore, the word crew was changed to dolphin tour staff.

As discussed in Section 4.3.1, the open-ended questions in Section Two were supposed to give respondents the opportunity to mention additional factors that are important for them when planning their holidays. Most responses could be subsumed under the already offered items. However, in the final version the researcher added ‘finding peacefullness and solitude’, ‘small and intimate accommodation’, and ‘feeling safe’ to the list.

Section Three was most interesting, because this section differed considerably between the two piloted versions. As already anticipated after the pre-test, the researcher observed some respondents talking about the NEP scale while filling in the questionnaire. Two respondents called this section ‘very philosophical’. However, there were very few problems in understanding the content of the questions, so a change was not necessary. The same applies to the second and third block that included items of the EC and GEB scales. There was only one exception: Question 15 asked whether respondents would ‘contribute time, money, or both to an environmental organisation’. Direct verbal responses and written remarks beside that question showed that travellers thought that they were supposed to contribute both (time and money). The wording was then changed to ‘I would contribute time or money, or both to...’ with the word “or” highlighted by using bold and
italic letters. Finally, the word ‘phosphate-free’ in Question Six of the third block was changed into ‘environmentally friendly’, because a number of respondents did not know whether their laundry detergent was phosphate-free or not.

The questions in the demographic section were well understood with one exception. A large number of respondents did not indicate the correct number of adults and children they were travelling with. After several different versions of re-wording it was finally decided to extend the first question (Who are you travelling with?) and renounce the party size.

In order to make the questionnaire more appealing to the respondents, it was slightly changed in its design. Instructions were not repeated, creating a less crowded look. Some respondents wrote quite extensive additional comments about various issues concerning their dolphin tour, environmental aspects or the survey itself. Therefore, the space for additional comments was extended in the final version.

4.7.3.2 Amendments to the administration procedures

The administration procedure in Akaroa as described in Section 4.5 proved to be ideal and no changes had to be made during the main survey period.

Due to the relatively cold water in Kaikoura, the swimmers (still dressed in wet suits) usually were feeling cold during the short bus trip back to Kaikoura and had problems filling in the form. This resulted in many travellers filling in the questionnaire at the base of Dolphin Encounter. They used the shelves in the shop and the front desk to write on, which proved to be disturbing for both other clients in the shop and the sales and check-in staff. Therefore it was agreed with the owner of Dolphin Encounter to change that situation during the main survey period. He suggested the design of a return-box, so that respondents could drop off the forms and pens, rather than handing them back to the staff. In addition, the researcher agreed to be in the shop after the tours and kindly ask respondents to use the benches outside the shop to fill in the survey.

During the pilot tests, the researcher was introduced by a staff member of Dolphin Encounter, handed out the questionnaires and pens and left the bus before it departed for Kaikoura. In order to increase the rather low response rate of 40%, it was decided that after
the introduction by a staff member, the researcher gave more information about the project and stressed the importance of everybody's opinion for the success of the research. He did this during the bus ride back to Kaikoura for two main reasons: Firstly, the giving additional information about the project before the bus leaves South Bay would delay the departure more than acceptable, and secondly the researcher could directly respond to possible questions on board. This method proved to be successful, and the response rate increased by more than 50%, compared to the pilot survey.

4.7.4 Questionnaire deficiencies

Although rigorously piloted, the main survey revealed a weakness that was not encountered during the pilot test. Forty-two respondents (mostly travellers in Kaikoura) filled in only parts of the questionnaire. Most of them filled in Section One completely and then either skipped Sections Two and Three and only filled in the demographic details, or filled in one section only. This might be explained by the length of the questionnaire, which was mentioned by a few respondents during the pilot survey. However, there was no case of partial completion during the pilot survey.

Another problem that was not anticipated was the number of passengers in Akaroa and Paihia. During the pilot period, Dolphin Experience in Akaroa operated four times daily and although it was still season during the main survey period, the 6am departure ceased. In Paihia, there was no chance for a pilot survey, but taking the size of the vessel and the indicated yearly visitor numbers by Dolphin Experience into account, as well as the fact that the Bay of Islands has an extended high season over the Easter break due to the milder climate, it was anticipated that visitor numbers were higher than they were. At both locations the researcher extended the survey time by a couple of days in order to receive as many responses as possible.

4.8 Sampling

The target population is the whole group from which the researcher ideally would like to gain information (Department of Statistics, 1992a). In this case, the target population was
defined as ‘all international and domestic visitors aged older than 14 years, who are participating in dolphin tours in New Zealand’.

4.8.1 Sampling method

When it lies beyond the means of the researcher to reach the total population, it is necessary to reduce this population to a reasonable size, without compromising the reliability and validity of the results. This process is referred to as sampling and there are a variety of sampling methods available to social scientists: Simple random sampling, stratified random sampling, cluster sampling, and quota sampling (Cannon, 1994). The method applied to this study is cluster sampling. ‘Cluster sampling is used to overcome the cost problems of geographic dispersion’ (Cannon, 1994:133). The disadvantage of this method is that a larger sampling error may result. The reliability of a cluster sample is determined by the compositions of the selected clusters. Cannon argues that the sampling error increases with high similarities of members within one cluster. The reliability is likely to be higher, the more dissimilar the members of each cluster are. Thus, cluster sampling can result in the need for a larger sample size than simple random sampling. Nonetheless, Cannon identifies a net gain in reliability with cluster sampling, because the chances are good that the increasing sampling error will be overcompensated by the increase of the sample size due to the use of this method (Cannon, 1994). There are more than thirty commercial dolphin operations in New Zealand (cf. Figure 4.1). This study concentrates on those operations offering tours with an opportunity to swim with dolphins; and out of those, a cluster of three operators was chosen (cf. Section 4.2). Although the total population includes children, it was decided to exclude children under the age of fifteen. Many children would not have the maturity level to understand a variety of the questions, and the age cut is in accordance with the age brackets of New Zealand’s Department of Statistics (Department of Statistics, 1992a).

4.8.2 Sample size

The size of the sample depends on different factors, such as resources (time, money, personnel, equipment), the level of confidence, and the margin of error the researcher is
prepared to accept (Booth, 1991; Department of Statistics, 1992a). In order to achieve high response rates and to have entire control over the survey process, the researcher decided to personally administer the complete survey. This caused certain time and financial constraints. The maximum time per site was estimated with 10 survey days, excluding travel days.

The level of confidence is the ‘specified probability that the confidence interval will include the true value of the parameter estimated’ (Sproull, 1988:120). A confidence interval of 95% is used as standard interval in social sciences (Frankfort-Nachmias & Nachmias, 1992; Sproull, 1988). The margin of error is dependant on the confidence interval, the sample size, and response rate. With a given confidence interval of 95%, it is calculated by

\[
\text{Error Margin} = 1.96 \times \frac{(P \times Q)}{n}
\]

where \( P = \) response rate; \( Q = 1-P; n = \) sample size

(Booth, 1991:15)

The pilot survey resulted in a response rate of 54.5%. With response rates of 50% and 60% and an acceptable error margin of 3.1% and 3.0%, respectively, the sample size would be \( n=1,000 \). Taken the group sizes and tour frequencies at the three participating tour operators, the target of 1,000 returned questionnaires was set, with 600 questionnaires in Kaikoura and 200 each in Akaroa and Paihia. A total of 1,035 questionnaires were distributed to all passengers on all tours during the survey season. Due to the reasons explained in Section 3.7.4, the actual totals of both distributed and returned surveys were lower than expected in absolute figures. However, compared to the pilot study, the response rates increased as shown in Table 4.1.
Table 4.1: Survey numbers and response rates

<table>
<thead>
<tr>
<th>Place</th>
<th>number of distributed surveys</th>
<th>number of returned surveys</th>
<th>response rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akaroa</td>
<td>171</td>
<td>140</td>
<td>81.87%</td>
</tr>
<tr>
<td>Kaikoura</td>
<td>678</td>
<td>425</td>
<td>62.68%</td>
</tr>
<tr>
<td>Paihia</td>
<td>186</td>
<td>168</td>
<td>90.32%</td>
</tr>
<tr>
<td>Total</td>
<td>1,035</td>
<td>733</td>
<td>70.82%</td>
</tr>
</tbody>
</table>

With 733 returned surveys and a response rate of 70.82%, the margin error is ± 3.29%, which is an acceptable margin for social sciences (Frankfort-Nachmias & Nachmias, 1992).

4.8.3 Non-sampling errors

Nonsampling errors occur when information cannot be collected from all units within the designated sample (Lyberg et al., 1997). Non-Response may occur for several reasons, such as sensitivity of the questions, fear of misuse of information, length of questionnaire, difficulty of questions, insufficient command of the language of the questionnaire, illness, inability of the respondent to provide the information requested, inability to contact the respondent, and inaccuracy in the sample frame (Department of Statistics, 1992a). The first five sources of non-response might be relevant for the present study.

Sensitivity of the questions was a minor problem. One respondent stated that she would not fill in the questionnaire, because the questions were worded too negatively. She indicated that she felt under pressure when reading the questions about the environmental behaviour at home (Section Three, Part Three). Another couple completed the questionnaire, but felt offended by the greeting ‘Kia Ora’ on the covering letter. They crossed out the words, replaced it with ‘Good Day’ and commented: ‘I find this offensive and patronising CRAP’.

The majority of respondents were supportive and some even explicitly expressed the importance of such surveys and welcomed the opportunity to partake in the survey.

Total confidentiality was assured in the covering letter. In addition, all surveys were anonymous and only those respondents who wanted to be included in the prize draw had to indicate their addresses for contacting purposes.
The length of the questionnaire was a problem. In order to receive sufficient data, it was not possible to significantly shorten the questionnaire. During the pilot survey some respondents mentioned the length of the survey, and it is assumed that this factor is the main reason for non-response.

The difficulty of the questions did not seem to be a major problem. Some questions adapted from the NEP, EC, and GEB scales were not understood completely by all respondents. This resulted in partial non-response rather than in a total non-response.

When surveying international visitors, part of the non-response results from an insufficient command of the language of the questionnaire. The majority of all participants in dolphin tours were native English speakers (British, New Zealanders, North Americans, Australians, and others). Only very few respondents refused to participate and indicated a lack of knowledge of the English language. With very high response rates in Akaroa (81.87%) and in Paihia (90.32%) there is a good chance of having covered reliable proportions of all nationalities. Amante-Helweg (1995) conducted a study of ecotourists participating in dolphin tours in the Bay of Islands. A comparison with the nationalities of the respondents in both studies indicates a similar distribution as shown in Section 5.2.1, Table 5.1 (Amante-Helweg, 1995).

4.8.4 Achieving high response rates

High response rates are crucial for accurate results, because the higher the number of non-respondents, the greater the likelihood of non-response errors. Therefore, a variety of tools were employed in this study to achieve sufficiently high response rates.

Due to the operation procedures in Kaikoura, the researcher expected the lowest response rates at this location. The respondents did not have enough time to complete the survey during the short bus ride from South Bay to Kaikoura. During this bus transfer respondents were still suited up in wetsuits and tend to feel cold, hence the willingness to complete a survey is rather low. Finally, back at the base, there was not enough seating available for all passengers. These three factors negatively influenced response rates. However, the larger amount of participants with Dolphin Encounter was anticipated to compensate for the lower rate. Nevertheless, a simple increase in absolute numbers with still the same
response rate is still at risk of a larger error, because the percentage of non-respondents stays the same, thus certain groups within the sample might be underrepresented.

The following tools were used to achieve higher response rates at all three locations, but specifically at Kaikoura. The survey method used is an interviewer-administered, self-completion on-site survey (Booth, 1991). The researcher administered all questionnaires personally. This was supposed to

- have the opportunity to correctly introduce the nature and goals of the survey
- stress that the study is a PhD study with an academic background, and not a commercial study
- point out how important each traveller’s opinion is for the study, no matter how unimportant they think their input might be
- be available for questions regarding the survey and possible translations/descriptions of unknown terms
- ensure total confidentiality
- personally thank for the support by filling in the questionnaire.

The personal administration of a project also shows how important the study is for the researcher and demonstrates that all responses and possible questions are taken seriously.

While handing out the surveys, respondents were strongly encouraged to fill in the questionnaire right away. But to achieve a higher response rate, respondents had the additional opportunities to either fill in the questionnaire later that day at their leisure and drop it back to the office any time the following day, or they were provided with a freepost-envelope and were encouraged to send the completed form back from any letterbox within New Zealand. Few visitors made use of the first option, but 128 questionnaires (17.49% of all responses) were returned by mail. One letter was filled in by a Japanese traveller with help of a dictionary after return to Japan, and sent back from there shortly after the survey period.

Another tool to encourage travellers to participate in the survey was the addition of a prize draw. All completed forms would go into a prize draw for a book about dolphins and two dolphin soft toys. 307 respondents (41.94%) participated in the draw.
4.9 Observations and records taken on-site

In addition to the survey data gained from the evaluation of the questionnaires, observational field notes were taken. For various reasons, these notes were not meant to be a complete survey in their own right, for example, due to the fact that the researcher did not have the opportunity to participate in all investigated tours in Akaroa and in Kaikoura. However, the field notes included records on distributed questionnaires, response rates, weather conditions during that day, marine mammal sightings, and other information.

The opportunity to take notes during the pilot survey proved to be particularly helpful in understanding possible problems respondents had with the survey and the administration of the surveys. Those notes were a vital part of determining the amendments of both the questionnaire design and the administration, as described in Section 4.7.3. On-tour observations also helped to understand tourist behaviour and satisfaction. More than once participants were observed who had very different experiences, although they were on the same tour. While one partner, for example, had a very good experience and enjoyed the tour, the other partner stated that it was not enjoyable at all, boring, and a waste of time and money (cf. Section 6.2.1).

4.10 Limitations of the study

The present study was set to achieve a number of outcomes both academically, but also for the involved tour operators. Although attempts were made to thoroughly plan and administer the survey, there are limitations to such a project, which have to be taken into consideration when attempting to generalise findings. Firstly, the sample might not be absolutely representative. Although high response rates and similar population structures in comparable studies indicate that the present sample does represent the whole targeted population, there are some factors that might have resulted in a distorted sample. One factor might be a few respondents who refused to participate due to language problems. Secondly, on request of the tour operators, the surveys were undertaken during the shoulder season and not, as originally planned, during high season. This might influence the outcome of the survey, because during high season the composition of the participants might be different, for example, more families with children could be present. Factors,
such as crowding might be influenced positively, because many tours in Akaroa and Paihia were not fully booked at this time, while factors, such as climate and cold water could have been rated better during the warmer summer months during high season. Finally, the results are specific to swim-with-dolphins tours in New Zealand. As discussed in Section 2.2.4, New Zealand has relatively restrictive regulations for operations that are involved with commercial marine mammal interaction. It was also discussed that in many other countries, developed and developing, such regulations are either not in place or not adequately enforced. Thus, participants in dolphin tours in those countries might have an entirely different experience. However, since this study was undertaken on tours at the only three locations in New Zealand where commercial swimming with dolphins is possible, it can be assumed that the results are representative for New Zealand.

All comparable studies were undertaken in relatively natural settings and/or at wildlife attractions. The limited variation in demographic data might result from this, because no matter what background participants in those tours have, they seem to have similar values and attitudes towards the environment. Thus, the use of the NEP scale in such a setting appears to be of limited use. It is therefore suggested that further research should be undertaken. This could include studies employing the NEP scale in different settings, for example at classic holiday resorts, such as the Spanish Islands, Australia’s Gold Coast or Florida. The variety of tourists there is expected to be much more diverse, and therefore demographic data of those might reveal significant differences when applying the NEP scale.

4.11 Data processing and analysis

During the development of the questionnaire, the procedures of data processing were considered. Very few open-ended questions were used in order to achieve a high accuracy of analysis and interpretation of the results. Only three questions (plus the space provided for general comments) in Sections One to Three were open-ended. Section Four (demographics) required some open-ended questions, however, and those were easily coded, for example, according to the procedures of Statistics New Zealand. Questionnaire responses were coded in March 2000, followed by data entry from March to July 2000. Questionnaires directly returned by the respondents were entered the same day during the
survey period. Surveys posted by the respondents were entered in the months after the fieldwork. The last questionnaire was mailed back on the 10th July 2000.

For data management and analysis, the Statistical Package for Social Sciences (SPSS for Windows 10.0.5) was employed. SPSS is a comprehensive system for data analysis and presentation and is suitable for a wide range from simple descriptive statistics to complex statistical analyses (SPSS Corporation, 1997). A variety of statistical procedures were employed in the analysis of data. For the analysis of most questions simple descriptive analyses, such as frequencies and cross-tabulations were used. Factor analysis was employed for the analysis of the subsets ‘Experience’ (questions b1 - b16), ‘Holidays in General’ (questions c1 - c23; d1 - d6), and ‘Environmentalism’ (questions e1 - e12; f1 - f11; g1 - g15). Factor analysis 'attempts to account for variation in a number of original variables using a smaller number of index variables or factors' (Manly, 1994:12). This grouping of large amounts of variables into meaningful units can ease further data analysis and reporting and displaying of results. For the subset ‘Experience’ four factors explained only 54.42% of variance. A mere 46.54% of variance was explained by five factors in the ‘Holidays in General’ subset. When the subset ‘Environmentalism’ was submitted to factor analysis, it was split into sets on the NEP, the EC, and the GEB. Two factors explained 43.56% of variance in the NEP set, three factors explained 52.36% of variance in the EC set, and 49.51% of variance were explained by four factors in the GEB set. Since the results of the factor analyses were very low (the highest percentage of variance explained was only 54.42% in the ‘Experience’ set), it was decided to use factor analysis solely for identifying items that did not fit into the data sets. Factor analysis was not further pursued in order to reduce the items and allocate them to a smaller number of factors. Due to the problems mentioned, the subsets were submitted to factor analysis for each three, four, and five factors. In addition, the NEP set was tested for two factors, the ‘Experience’ set, the ‘Holidays in General’ set and the GEB set were tested for six factors, and the ‘Holidays in General’ set for seven factors. During this procedure, several items continually loaded over two or more factors and therefore did not fit into the set. Those items were eliminated in order to gain sound subsets. The reduced sets were then tested for reliability. The test resulted in a reliability coefficient (Cronbach's Alpha) of 0.7666 for the ‘Experience’ subset, 0.8136 for the ‘Holidays in General’ subset, and 0.7935 for the ‘Environmentalism’ subset. All three coefficients suggest that the results are reliable. Finally, one-way analysis of variance (ANOVA) was used in order to gain overall means
for the subsets and relate them to demographic data of the respondents. The results of this procedure are presented in Chapter Seven.
5 Results

*Travel industry managers must have timely information about their changing travel markets in order not to be left behind by their rapidly growing industry.*

Fred Hurst (1994:453)

5.1 Introduction

This chapter documents the findings of all sections of the questionnaire. Univariate analysis (frequencies and means) was employed at this stage. The data presented embraces the first objective, outlining a detailed demographic profile of the respondents and comparing the results with relevant studies. The third objective is considered through the analysis of data in various sections of the questionnaire. The results of Section Three in the questionnaire provide a first indication about respondents' environmental values, attitudes and behaviour, partially addressing Objectives Two and Four of this study. In addition, the data presented in this chapter serves to prepare the detailed analysis and comparison in the following two chapters. The results presented in this chapter are organised in the following order:

1. Demographic profile (Section Four of the questionnaire)
2. Details about the dolphin tour (Section One of the questionnaire)
3. Details about the respondents' holidays in general (Section Two of the questionnaire)
4. Details about environmental issues (Section Three of the questionnaire)
Where possible, the results of this project will be compared with those of previous studies and those of general visitor statistics of New Zealand. This allows a view into the characteristics of participants in ecotours. There appears to be only one study addressing the tourists on dolphin tours, undertaken by Amante-Helweg (1995). More research has been undertaken on whale watching tours in different parts of the world. Whale watching tours are probably the activity most similar to dolphin tours, thus two studies on whale watching tours were selected for comparison, namely the study of Muloin (1998) on whale watching tours in Tangalooma, Australia, and the recent study of Finkler (2001) on Orca watching tours in the San Juan Islands/Puget Sound in the Pacific Northwest of America. These studies were used to compare data of studies on dolphin and whale watch tours. In order to achieve a comparison in a New Zealand context, the study of Higham et al. (2001) was chosen. These authors examined ecotourists at various attractions throughout New Zealand. Finally, comparative data were derived from the New Zealand Visitor survey (Statistics New Zealand Te Tari Tatau, 2001), reflecting general tourism figures of the 1999/2000 season.

5.2 Demographic profile

The following sections present the data of Section Four of the questionnaire. The results are compared with similar studies and are summarised with the demographic profile of the 'typical dolphin swimmer/watcher'.

5.2.1 Gender and age

Almost seventy percent of all respondents were between 15 and 34 years old, 21.2% were between 35 and 54 years old, and only 3.4% were 55 years old and older. 6.3% did not indicate their age (Table 5.1). This age distribution is very similar to the distribution of a study undertaken on swim-with-dolphins tours in Paihia by Amante-Helweg in 1995, where 71.6% were under 34 years old, 24.5% were between 35 and 54 years old, and 3.9% were older than 55 years old. Finkler (2001) used different age groups in her study on participants in orca-watching tours in Washington/USA, however it appears that on whale watching tours, the average age is higher. This assumption is confirmed by Muloin’s (1998) study on whale watch tours in Tangalooma, Australia. Higham et al. (2001)
conducted research at various ecotourism sites throughout New Zealand (including two dolphin and one whale watch operation). The age distribution in their study was more even, with 33.8% under 34 years old, 31.8% between 35 and 54, and 33.7% of the respondents older than 55 years.

Table 5.1: Age distribution of respondents

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 - 24 years</td>
<td>31.5%</td>
</tr>
<tr>
<td>25 - 34 years</td>
<td>37.7%</td>
</tr>
<tr>
<td>35 - 44 years</td>
<td>12.3%</td>
</tr>
<tr>
<td>45 - 54 years</td>
<td>8.9%</td>
</tr>
<tr>
<td>55 - 64 years</td>
<td>2.0%</td>
</tr>
<tr>
<td>65 years and older</td>
<td>1.4%</td>
</tr>
<tr>
<td>No age indicated</td>
<td>6.3%</td>
</tr>
</tbody>
</table>

Swimming with dolphins is an activity that requires a minimum level of physical fitness. In Akaroa and Kaikoura, the water is colder than in the Bay of Islands, and the tour requires the usage of wetsuit, snorkel, fins and mask. It is assumed that these are the reasons for the majority of younger participants in such tours. The whale watching tours in Finkler’s (2001) study included land-based, boat-based and kayak-based tours. Land-based and boat-based tours require a lower degree of fitness, as is the case of most ecotours investigated by Higham et al. (2001).

The majority of the sample was female (58.1%), with 35.7% male respondents and 6.1% of respondents who did not indicate their gender.

Table 5.2: Gender distribution on dolphin tours, whale watch tours, and ecotours

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>57.2%</td>
<td>58.1%</td>
<td>56.4%</td>
<td>55.6%</td>
</tr>
<tr>
<td>Male</td>
<td>42.8%</td>
<td>35.7%</td>
<td>43.6%</td>
<td>40.4%</td>
</tr>
<tr>
<td>No gender indicated</td>
<td>0.0%</td>
<td>6.1%</td>
<td>0.0%</td>
<td>4.0%</td>
</tr>
</tbody>
</table>

Compared with the other four studies (Table 5.2), it is clear that the gender distribution is similar. It can therefore be assumed that it is a common distribution on whale/dolphin watch tours and on ecotours.
5.2.2 Nationality

British (35.3%), North American (11.7%), and New Zealand (10.1%) travellers dominated the sample. Participants from Europe were mostly of German, Irish, Dutch, Danish and Swedish nationality (Figure 5.1).

![Figure 5.1: Nationality of participants in dolphin tours](image)

For better reading, some nationalities were clustered as shown in Table 5.3. The clusters are formed by geographic areas and/or by nationalities that are represented by very few respondents. These clusters will also be used for further analysis and discussion in Chapters Six and Seven.
Table 5.3: Geographic clusters of respondents

<table>
<thead>
<tr>
<th>Geographic Region</th>
<th>Nationality</th>
<th>Numbers (absolute)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Akaroa</td>
</tr>
<tr>
<td>Africa (incl. Middle East)</td>
<td>Israeli</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>South African</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Zimbabwean</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td><strong>Subtotal</strong></td>
<td>0</td>
</tr>
<tr>
<td>Asia</td>
<td>Afghan</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Chinese</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Fijian</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Japanese</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Malaysian</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Taiwanese</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Thai</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td><strong>Subtotal</strong></td>
<td>6</td>
</tr>
<tr>
<td>Central &amp; South America</td>
<td>Argentinean</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Brazilian</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Jamaican</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td><strong>Subtotal</strong></td>
<td>17</td>
</tr>
<tr>
<td>North America</td>
<td>Canadian</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>US American</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td><strong>Subtotal</strong></td>
<td>86</td>
</tr>
<tr>
<td>Northern Europe</td>
<td>Danish</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Finnish</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Norwegian</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Swedish</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>Subtotal</strong></td>
<td>60</td>
</tr>
<tr>
<td>Central &amp; Southern Europe</td>
<td>Austrian</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Belgian</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Czech</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>French</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Italian</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Swiss</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td><strong>Subtotal</strong></td>
<td>31</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td>204</td>
</tr>
</tbody>
</table>

Due to the relatively high response rate (70.82%) and a comparison with a previous, similar study of swim-with dolphins tours in the Bay of Islands (Amante-Helweg, 1995), it
is suggested that the distribution of nationalities is representative for swim-with-dolphin tours in New Zealand.

**Table 5.4:** Nationalities on dolphin watch and ecotours compared with general tourists in New Zealand (percentages)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>10.1</td>
<td>5.7</td>
<td>4.7</td>
<td>31.9</td>
</tr>
<tr>
<td>Asia</td>
<td>3.6</td>
<td>2.0</td>
<td>1.6</td>
<td>24.5</td>
</tr>
<tr>
<td>North America</td>
<td>11.8</td>
<td>11.7</td>
<td>19.1</td>
<td>12.6</td>
</tr>
<tr>
<td>UK &amp; Ireland</td>
<td>21.6</td>
<td>40.0</td>
<td>27.2</td>
<td>12</td>
</tr>
<tr>
<td>Central &amp; Southern Europe</td>
<td>23.2</td>
<td>14.4</td>
<td>12.3</td>
<td>7.3</td>
</tr>
<tr>
<td>Northern Europe</td>
<td>7.5</td>
<td>8.2</td>
<td>2.2</td>
<td>1.3</td>
</tr>
<tr>
<td>New Zealand</td>
<td>20.6</td>
<td>10.1</td>
<td>28.3</td>
<td>n.i.</td>
</tr>
<tr>
<td>Others</td>
<td>1.6</td>
<td>1.6</td>
<td>3.7</td>
<td>10.5</td>
</tr>
<tr>
<td>Missing</td>
<td>0.0</td>
<td>6.3</td>
<td>0.9</td>
<td>n.i.</td>
</tr>
</tbody>
</table>

n.i. = not indicated

However, when the nationalities are compared with those of ecotours in New Zealand (Higham *et al.* 2001), there are distinct differences. Three nationality clusters show the most prevalent differences. Compared with dolphin tours, there were significantly more participants from North America and from New Zealand on ecotours in general. On the other hand, there were almost 50% more British and Irish participants on dolphin tours in the present study, than there were on general ecotours (Table 5.4).

The data of Statistics New Zealand Te Tari Tatau (2001) do not include domestic travellers. This fact will distort the percentage figures, since there is certainly a fairly high share of domestic travellers in New Zealand throughout the year. However, some trends can be observed. Australians and Asians, for example, had a significantly lower share in dolphin and ecotours, than they had in the overall visitor numbers. In the case of Australia this could be explained with the fact that there are many opportunities in Australia to swim with dolphins in warmer waters, thus Australians travelling to New Zealand might not see a dolphin tour as a unique and ‘once in a lifetime’ experience specifically associated with New Zealand. Another reason could be the large number of Australians who come to New Zealand for a skiing holiday, and not for ecotours and wildlife watching. Asian tourists tend to travel in groups to a larger extent than Europeans, Americans or Australians. Since
the majority of participants in dolphin tours were ‘free and independent travellers’ (FIT), it is explained that Asians are under represented in those tours.

5.2.3 Education

Almost three-quarters of the respondents had university qualifications (40.9%) or other tertiary qualifications (Polytechnic 12.4%; vocational or trade/professional qualification 11.1%). Nearly one quarter possessed a school or a higher school certificate (7.8% and 15.3%, respectively) and only 2.3% had no qualification. 10.2% of the respondents did not indicate any level of qualification (Table 5.5).

Table 5.5: Level of education of respondents

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No qualification</td>
<td>2.3%</td>
</tr>
<tr>
<td>School certificate</td>
<td>7.8%</td>
</tr>
<tr>
<td>Higher school certificate</td>
<td>15.3%</td>
</tr>
<tr>
<td>Undergraduate degree</td>
<td>21.1%</td>
</tr>
<tr>
<td>Postgraduate Qualification</td>
<td>19.8%</td>
</tr>
<tr>
<td>Polytechnic diploma/degree</td>
<td>12.4%</td>
</tr>
<tr>
<td>Vocational or Trade/Professional qualification</td>
<td>11.1%</td>
</tr>
<tr>
<td>No qualification indicated</td>
<td>10.2%</td>
</tr>
</tbody>
</table>

The level of education on whale and dolphin watch tours generally appears to be relatively high. Forestell and Kaufman (1990) found that participants in whale watching tours in Hawaii were well-educated and relatively affluent, while Neil et al. (1996) state that most participants in whale watch tours in Queensland, Australia, had post-high school qualifications, which was also noted on swim-with-dolphins tours by Amante-Helweg (1995). Muloin (1998) found that 41% of respondents on whale watch tours in Tangalooma, Australia had completed secondary school, with 19% having completed a university degree. The level of education was even higher during Finkler’s (2001) study on participants in Orca watching activities in Northwest America. Finkler found that 67.3% and 64.7% of land based and boat based whale watching, respectively, had completed a higher degree, while this figure increased to 81.2% of the participants in kayak based whale watching tours.
5.2.4 Employment status and occupation

A large number of participants proved to be working either full time (35.5%) or part time (5.2%). Dolphin tours also attract a high number of students (21.2%, including students working part time). The high share of respondents not being currently employed (18.7%) can be explained with a large number of travellers who take six months or more off work and travel extensively around the world. The category 'other' includes 16 respondents who stated 'travelling' or 'taking one year off' and six respondents who stated that they are on a working holiday or working on organic farms ('woofers').

Table 5.6: Employment status of respondents

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working full time</td>
<td>35.5%</td>
</tr>
<tr>
<td>Working part time</td>
<td>5.2%</td>
</tr>
<tr>
<td>Self employed</td>
<td>5.9%</td>
</tr>
<tr>
<td>Home maker</td>
<td>1.8%</td>
</tr>
<tr>
<td>Not currently employed</td>
<td>18.7%</td>
</tr>
<tr>
<td>Retired</td>
<td>2.0%</td>
</tr>
<tr>
<td>Student</td>
<td>16.6%</td>
</tr>
<tr>
<td>Student &amp; working part time</td>
<td>4.6%</td>
</tr>
<tr>
<td>Other</td>
<td>3.4%</td>
</tr>
<tr>
<td>No status indicated</td>
<td>6.3%</td>
</tr>
</tbody>
</table>

The respondents indicated 353 different job titles. Those were allocated to the ten categories of the *NZ Standard Classification of Occupations 1990*, used by the Department of Statistics in Wellington (1992b). Table 5.7 shows these categories, as well as the share of students and respondents who have not indicated a specific job title.

While Muloin (1998) investigated the respondents' occupations, Higham *et al.* (2001) asked respondents for their current employment status. The other studies used for comparison (Amante-Helweg, 1995; Finkler, 2001; Forrestell & Kaufman, 1990; Neil *et al.*, 1996) did not look at those details. Whale watchers in Australia indicated a variety of occupations, with the most common type being of professional nature (23%), clerical or service positions (16%), and retired (16%) (Muloin, 1998).
Table 5.7: Classification of respondents’ occupations

<table>
<thead>
<tr>
<th>Occupation Class</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legislators, Administrators and Managers</td>
<td>12.6%</td>
</tr>
<tr>
<td>Professionals</td>
<td>18.7%</td>
</tr>
<tr>
<td>Technicians and Associate Professionals</td>
<td>21.7%</td>
</tr>
<tr>
<td>Clerks</td>
<td>5.6%</td>
</tr>
<tr>
<td>Service and Sales Workers</td>
<td>7.7%</td>
</tr>
<tr>
<td>Agriculture and Fishery Workers</td>
<td>2.2%</td>
</tr>
<tr>
<td>Trade Workers</td>
<td>2.5%</td>
</tr>
<tr>
<td>Plant and Machine Operators and Assemblers</td>
<td>0.5%</td>
</tr>
<tr>
<td>Elementary Occupations</td>
<td>1.1%</td>
</tr>
<tr>
<td>Armed Forces</td>
<td>0.3%</td>
</tr>
<tr>
<td>Student</td>
<td>16.6%</td>
</tr>
<tr>
<td>No job title indicated</td>
<td>10.6%</td>
</tr>
</tbody>
</table>

The distribution of occupations was found to be fairly similar on dolphin tours, however, the proportion of retired participants was significantly lower (2%). When the employment status was compared with ecotours in general, the trend shown in other demographic data is continued. Higham et al. (2001) observed a higher proportion of employed (40.0% full time and 8.7% part time) participants, as well as a significantly higher proportion of retired (21.5%) respondents. However, the number of students among the dolphin swimmers is about double of the general ecotourists (21.2% and 10.0%, respectively). In addition to this, 18.7% of the respondents on dolphin tours indicated that they were unemployed, compared to a significantly lower figure of 3.9% among the general ecotourists. Among the 18.7% are those respondents who take six months or more off work in order to travel extensively.

5.2.5 Travel groups

The majority of participants in dolphin tours are Free and Independent Travellers (FIT). Only 42 respondents (5.9%) indicated that they were travelling as part of an organised tour. Table 5.8 shows absolute numbers instead of percentages, because respondents were able to tick more than one category (e.g. with friends and family or alone and as part of an organised tour).
Table 5.8: Travel groups on dolphin tours

<table>
<thead>
<tr>
<th>Travel Groups</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alone</td>
<td>115</td>
</tr>
<tr>
<td>With partner (girlfriend/boyfriend)</td>
<td>252</td>
</tr>
<tr>
<td>With family</td>
<td>142</td>
</tr>
<tr>
<td>With friends</td>
<td>200</td>
</tr>
<tr>
<td>As part of an organised tour</td>
<td>42</td>
</tr>
</tbody>
</table>

Eighty-two respondents stated that they were travelling with one or more children. On all tours, there were 110 children, of which 8 children were not yet at school, almost three-quarters were either at primary or at secondary school and 14 children were at college or university. The category ‘other’ includes 2 children, that were already working and those that are taking a gap year between school and work or university (Table 5.9).

Table 5.9: Education status of children on dolphin tours

<table>
<thead>
<tr>
<th>Education Status</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not yet at school</td>
<td>8</td>
</tr>
<tr>
<td>At primary school</td>
<td>43</td>
</tr>
<tr>
<td>At secondary school</td>
<td>35</td>
</tr>
<tr>
<td>At college or university</td>
<td>14</td>
</tr>
<tr>
<td>Other</td>
<td>10</td>
</tr>
</tbody>
</table>

The relatively low number of 82 respondents stating that they were travelling with children indicates that dolphin tours are not a specific family activity. Relatively high travel costs are most likely the reason for this trend, which is illustrated by the nationality of the respondents travelling with children: 46 children were New Zealanders and 37 children were British. New Zealanders have the advantage of domestic travel and therefore save high airfares. British visitors very often have family connections in New Zealand and although paying high airfares, they often stay with friends and/or family (Statistics New Zealand Te Tari Tatau, 2001). In addition to the travel costs, the dolphin tour itself is a relatively expensive activity for a family. An average family with two adults and two children under 15 years would have to pay $NZ232 in Akaroa, $NZ330 in Kaikoura, and $NZ260 in Paihia for swimming with dolphins.
5.2.6 Membership in environmental organisations

A large number of travellers stated that they are members of one or more environmental organisations. In addition to the four provided organisations (Greenpeace, WWF, Sierra Club, Robin Wood), respondents were given the opportunity to state one or more international and/or national/local organisation. Here, respondents mentioned more than 80 different organisations in many countries all over the world. The three main organisations (WWF, Greenpeace, Sierra Club) and a selection of other groups are shown in Table 5.10. All other organisations had a count of only one or two, and are listed in Appendix IV.

Table 5.10: Membership in environmental organisations

<table>
<thead>
<tr>
<th>Organisation</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>WWF</td>
<td>67</td>
<td>9.1%</td>
</tr>
<tr>
<td>Greenpeace</td>
<td>64</td>
<td>8.6%</td>
</tr>
<tr>
<td>Sierra Club</td>
<td>15</td>
<td>2.0%</td>
</tr>
<tr>
<td>National Trust</td>
<td>11</td>
<td>1.5%</td>
</tr>
<tr>
<td>RSPB</td>
<td>8</td>
<td>1.1%</td>
</tr>
<tr>
<td>Nature Conservancy</td>
<td>4</td>
<td>0.6%</td>
</tr>
<tr>
<td>RSPCA (UK)</td>
<td>4</td>
<td>0.6%</td>
</tr>
<tr>
<td>Forest &amp; Bird</td>
<td>3</td>
<td>0.4%</td>
</tr>
<tr>
<td>Friends of the Earth</td>
<td>3</td>
<td>0.4%</td>
</tr>
<tr>
<td>Robin Wood</td>
<td>1</td>
<td>0.1%</td>
</tr>
</tbody>
</table>

* Percentage out of those respondents who indicated one or more organisations

Respondents mentioned a variety of organisations, that deal particularly with marine life and its protection, including Pacific Whale Foundation, Surfers Against Sewage, Dolphin Adoption Programme, Center for Marine Conservation, Save Our Seas (SOS), Whale & Dolphin Conservation, Yellow Eyed Penguin Trust, White Shark Research Organization of South Africa, and the Whale & Dolphin Society.

Compared with participants on whale watching tours, membership in environmental organisations of dolphin swimmers is relatively low, with 4.1% of the respondents stating that they are members of one or more international organisations, and 12.3% of one or more national and/or local organisations. Muloin (1998) observed that 23.7% of whale watchers in Tangalooma, Australia, were members of Greenpeace, 15.7% were members of other wildlife societies, such as the WWF, and 12.2% belonged to farming and landcare organisations. Finkler (2001) noted that 33% of the land based, 33.9% of the boat based,
and 25% of the kayak based whale watchers in the San Juan Islands belonged to one or more environmental organisations.

### 5.2.7 Summary

A variety of demographic data were collected and presented in the previous sections. The ‘typical dolphin swimmer/watcher’ in New Zealand can be described by the following characteristics: With an age under 35 years old, he or she is younger than the average traveller on whale watch tours or other ecotours, and much younger than the average tourist in New Zealand. But in line with those other tourist types, the majority of participants are female. Most of them are well educated and citizens of English speaking countries (UK, North America, Australia) or Central and Northern European countries. Most participants are free and independent travellers (FIT) who rather travel with friends than with family and/or children. The engagement in international and national environmental organisations is, compared to the other samples, relatively low.

### 5.3 About the dolphin tour

In the first section of the questionnaire respondents were asked for general information about the dolphin tour in which they participated, and about how they felt about the tour. The majority of all respondents were booked to swim with dolphins, although swimming was not always possible as discussed in Section 4.2. Only 16.8% of the respondents were booked as spectators on the boat.

#### 5.3.1 Previous experience

For 81.4% of the participants, this particular tour was their first experience of this kind. However, 18.0% of the travellers stated that they have participated in one or more dolphin tours before. Table 5.11 shows that the majority of those respondents have previously participated in dolphin tours in New Zealand.
Table 5.11: Previous experience with dolphin tours

<table>
<thead>
<tr>
<th>Australia/NZ/ South Pacific</th>
<th>Count</th>
<th>Americas</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Australia</strong>*</td>
<td>6</td>
<td><strong>USA</strong>*</td>
<td>1</td>
</tr>
<tr>
<td>Bunbury</td>
<td>3</td>
<td>Alaska</td>
<td>2</td>
</tr>
<tr>
<td>Byron Bay</td>
<td>2</td>
<td>California</td>
<td>2</td>
</tr>
<tr>
<td>Forster</td>
<td>1</td>
<td>Florida</td>
<td>9</td>
</tr>
<tr>
<td>Jervis Bay</td>
<td>1</td>
<td>Hawaii</td>
<td>2</td>
</tr>
<tr>
<td>Le Bow Bay</td>
<td>1</td>
<td>Massachussetts</td>
<td>1</td>
</tr>
<tr>
<td>Melbourne (incl. Sorrento)</td>
<td>2</td>
<td>Washington (incl. San Juan Islands)</td>
<td>2</td>
</tr>
<tr>
<td>Monkey Mia</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Port Stephens</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>New Zealand</strong>*</td>
<td>3</td>
<td>Bahamas</td>
<td>6</td>
</tr>
<tr>
<td>Akaroa</td>
<td>11</td>
<td>Cuba</td>
<td>1</td>
</tr>
<tr>
<td>Kaikoura</td>
<td>24</td>
<td>Mexico</td>
<td>1</td>
</tr>
<tr>
<td>Lyttleton</td>
<td>1</td>
<td>Venezuela</td>
<td>1</td>
</tr>
<tr>
<td>Paihia (incl. Russell)</td>
<td>28</td>
<td>Asia</td>
<td></td>
</tr>
<tr>
<td>Picton</td>
<td>1</td>
<td>Hong Kong</td>
<td>1</td>
</tr>
<tr>
<td>Punakaiki</td>
<td>1</td>
<td>Indonesia (Bali)</td>
<td>7</td>
</tr>
<tr>
<td>Whakatane</td>
<td>2</td>
<td>Japan</td>
<td>1</td>
</tr>
<tr>
<td>Tahiti</td>
<td>1</td>
<td>Eilat, Israel</td>
<td>1</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>100</td>
<td><strong>Subtotal</strong></td>
<td>28</td>
</tr>
<tr>
<td><strong>Europe</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Azores (Portugal)</td>
<td>2</td>
<td>South Africa</td>
<td>3</td>
</tr>
<tr>
<td>Gibraltar</td>
<td>2</td>
<td>Zanzibar</td>
<td>1</td>
</tr>
<tr>
<td>Ireland (Dingle &amp; Kerry)</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scotland</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tenerife/Spain</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Respondents did not mention a specific place in this country

Note: Some respondents mentioned more than one location, thus the total count (n=158) is higher than the count of respondents who ticked yes (n=132).

The amount of participants who have never been on a dolphin tour before is relatively high, when compared to whale watchers. While Muloin (1998) found a similarly high percentage (78%) of participants without previous experience, Finkler (2001) observed that only 34.5% of the land-based whale watchers had never been on a whale watching tour before. For 55.3% of the boat based, and 56.3% of the kayak based whale watchers the tour in the San Juan Islands was the first whale watching experience. In a study on visitors to Australian wildlife attractions, Ryan (1999) found that about nine percent participated in a
dolphin tour over the past twelve months. This is a lower percentage, however, in Ryan’s study respondents were asked for the last year only, while the other studies inquired if respondents ever participated in a dolphin or whale tour before.

5.3.2 Weather and sea conditions

The weather conditions during the survey period varied widely. Overall, the conditions were sufficient for operation and most tours were not affected by bad weather conditions (except one day in Kaikoura). The sea conditions varied considerably as well. Dolphin Experience has the advantage of being able to operate within the inner and outer harbour areas and therefore usually encounters relatively calm waters. Dolphin Encounter is operating in the unprotected open sea. The swell here can be considerable and on some tours passengers got seasick. Dolphin Discoveries has a mix of both situations: The Bottlenose dolphins can be found within the Bay of Islands in mostly sheltered waters. The pelagic Common dolphins require the skipper to go further offshore, where a high swell can cause rough conditions. There were rainy periods at all three locations; however, the rain did not affect the tours at all.

Table 5.12: Weather and sea conditions on dolphin tours

<table>
<thead>
<tr>
<th>Weather</th>
<th>sunny</th>
<th>partly cloudy</th>
<th>overcast</th>
<th>rainy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akaroa</td>
<td>48.9%</td>
<td>34.5%</td>
<td>13.7%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Kaikoura</td>
<td>47.5%</td>
<td>18.9%</td>
<td>31.2%</td>
<td>2.4%</td>
</tr>
<tr>
<td>Paihia</td>
<td>25.9%</td>
<td>62.0%</td>
<td>9.0%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Total</td>
<td>42.9%</td>
<td>31.7%</td>
<td>22.8%</td>
<td>2.6%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sea</th>
<th>calm</th>
<th>moderate</th>
<th>rough</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akaroa</td>
<td>56.1%</td>
<td>41.7%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Kaikoura</td>
<td>34.6%</td>
<td>55.3%</td>
<td>10.1%</td>
</tr>
<tr>
<td>Paihia</td>
<td>82.6%</td>
<td>17.4%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Total</td>
<td>49.7%</td>
<td>44.0%</td>
<td>6.3%</td>
</tr>
</tbody>
</table>

During the survey period, there was only one day (11th April) where all three tours in Kaikoura had to be cancelled due to high winds and too rough sea conditions.

5.3.3 Experience and satisfaction

The travellers' experience and satisfaction were divided into two main sections. In the first section respondents were asked to rank a variety of statements regarding their tour on a four-point Likert scale, including statements about safety, comfort, tour staff and an
educational part. The items in Table 5.13 are ranked by the mean value, starting with the score of highest agreement.

Table 5.13: The experience on dolphin tours

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>The dolphin tour staff was friendly and helpful</td>
<td>1.13</td>
<td>0.40</td>
</tr>
<tr>
<td>Overall, I felt comfortable during the tour</td>
<td>1.14</td>
<td>0.65</td>
</tr>
<tr>
<td>I felt safe during the tour</td>
<td>1.22</td>
<td>0.50</td>
</tr>
<tr>
<td>The dolphin tour staff had good knowledge about dolphins</td>
<td>1.35</td>
<td>0.56</td>
</tr>
<tr>
<td>It is important that we learn as much as we can about wildlife</td>
<td>1.39</td>
<td>0.60</td>
</tr>
<tr>
<td>The dolphin tour gave me a lasting and memorable impression</td>
<td>1.49</td>
<td>0.69</td>
</tr>
<tr>
<td>The dolphin tour was a unique experience</td>
<td>1.59</td>
<td>0.76</td>
</tr>
<tr>
<td>The dolphin tour was something new and different for me</td>
<td>1.66</td>
<td>0.82</td>
</tr>
<tr>
<td>I always wanted to go on a dolphin watch tour</td>
<td>1.67</td>
<td>0.71</td>
</tr>
<tr>
<td>The dolphin tour was a thrilling experience</td>
<td>1.74</td>
<td>0.85</td>
</tr>
<tr>
<td>The dolphin tour was an adventure</td>
<td>1.91</td>
<td>0.87</td>
</tr>
<tr>
<td>The dolphin tour was an educational experience</td>
<td>1.98</td>
<td>0.82</td>
</tr>
<tr>
<td>The dolphin tour was a 'once in a lifetime' experience</td>
<td>2.01</td>
<td>0.93</td>
</tr>
<tr>
<td>I have the feeling that on this tour I learned a lot about dolphins</td>
<td>2.26</td>
<td>0.83</td>
</tr>
<tr>
<td>The dolphin tour was a challenge for me</td>
<td>2.73</td>
<td>1.01</td>
</tr>
<tr>
<td>I have the feeling that on this tour I learned a lot about other marine life</td>
<td>3.07</td>
<td>0.84</td>
</tr>
<tr>
<td>I have the feeling that the swimmers disturbed the dolphins</td>
<td>3.31</td>
<td>0.81</td>
</tr>
<tr>
<td>I have the feeling that the boat disturbed the dolphins</td>
<td>3.36</td>
<td>0.78</td>
</tr>
</tbody>
</table>

Note: 1 = strongly agree; 2 = mildly agree; 3 = mildly disagree; 4 = strongly disagree

The results in Table 5.13 show that most participants highly rated the tours as safe, comfortable and the staff as being friendly and helpful. The educational factor, however, was not experienced as good enough. Although most respondents agreed that the tour staff had good knowledge about dolphins (mean = 1.35), they did not have the feeling that they learned a lot about dolphins (mean = 2.26). Although a variety of other marine life was encountered (Blue penguins, Orcas, seals, and a variety of birds, including mollymawks, shags, shearwaters, Australasian gannets, and many more), respondents indicated that they did not learn much about this marine life (mean = 3.07). It is remarkable that although most respondents hold high environmental values and endorse the New Environmental Paradigm to a large extent (cf. Section 5.5.1), they have the feeling that neither the boats nor the swimmers disturbed the dolphins (means = 3.36 and 3.31, respectively).

For the second section (questions 12 - 16 in the questionnaire) nine-point Likert scales were used. Figure 5.2 displays the results of the questions about the overall satisfaction, including enjoyment, recommendation, satisfaction, crowding, and perceptions of the tour.
Figure 5.2: Enjoyment, crowding, experience, satisfaction, and recommendation on dolphins tours

Overall, how much did you enjoy today's dolphin watch/swim tour?

<table>
<thead>
<tr>
<th></th>
<th>Yes, I enjoyed the tour very much</th>
<th>Yes, I enjoyed the tour</th>
<th>Neutral</th>
<th>No, I did not really enjoy the tour</th>
<th>No, I did not enjoy the tour at all</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>52.0%</td>
<td>18.0%</td>
<td>23.5%</td>
<td>1.4%</td>
<td>3.0%</td>
</tr>
</tbody>
</table>

Mean: 1.93; Std. Deviation: 1.23

Overall, how crowded did you feel during your dolphin watch/swim tour?

<table>
<thead>
<tr>
<th></th>
<th>Not at all Crowded</th>
<th>Slightly Crowded</th>
<th>Moderately Crowded</th>
<th>Extremely Crowded</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>41.3%</td>
<td>17.9%</td>
<td>21.2%</td>
<td>6.0%</td>
</tr>
</tbody>
</table>

Mean: 2.46; Std. Deviation: 1.71

Overall, is your experience with the dolphin watch/swim tour better or worse than what you expected?

<table>
<thead>
<tr>
<th></th>
<th>Very much better than expected</th>
<th>Better than I expected</th>
<th>As I expected</th>
<th>Not really as good as I expected</th>
<th>Very much worse than I expected</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>11.2%</td>
<td>11.1%</td>
<td>23.9%</td>
<td>9.2%</td>
<td>25.2%</td>
</tr>
</tbody>
</table>

Mean: 3.99; Std. Deviation: 1.87

Overall, how satisfied were you with the dolphin watch/swim tour?

<table>
<thead>
<tr>
<th></th>
<th>Very satisfied</th>
<th>Mildly satisfied</th>
<th>Neutral</th>
<th>Mildly dissatisfied</th>
<th>Very dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>37.1%</td>
<td>32.6%</td>
<td>16.5%</td>
<td>3.0%</td>
<td>5.6%</td>
</tr>
</tbody>
</table>

Mean: 2.28; Std. Deviation: 1.56

Overall, would you recommend this dolphin watch/swim tour to your friends and family?

<table>
<thead>
<tr>
<th></th>
<th>Yes, I would strongly recommend it</th>
<th>Yes, I would possibly recommend it</th>
<th>Neutral</th>
<th>No, I would not really recommend it</th>
<th>No, I would definitely not recommend it</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>49.7%</td>
<td>21.1%</td>
<td>20.4%</td>
<td>2.7%</td>
<td>4.1%</td>
</tr>
</tbody>
</table>

Mean: 1.98; Std. Deviation: 1.28
The overall satisfaction about the particular dolphin tour was remarkably high. In almost all cases the best possible mark (= 1) got the highest counts (between 37.1% and 52.0%). Question 14 is the exception. When the satisfaction is compared with the expectation of the tour, the results indicate that most travellers saw the dolphin tour close to what they had expected. The mark ‘5’ (‘as I expected’) received the highest score within the scale (25.2%) and the mean was 3.99, which is rather close to the middle point of ‘as I expected’, however, with a slightly positive tendency. Even if there were points of critique and on tours where no dolphins were sighted, passengers enjoyed the tour. A majority of 94.9% stated that they enjoyed the tour (marks 1 - 4), 3.0% felt neutral about it and only 2.0% indicated that they did not really enjoy the particular tour.

5.3.4 Summary

For the vast majority of participants, this was the first dolphin swim they had experienced. Weather conditions were generally good and even rainy days did not affect the experience in a negative way. Generally, participants were highly satisfied with the dolphin experience. While issues, such as friendliness of staff, safety, and comfort were rated very highly; the three operators received lowest marks for education and information during the tours. When asked specifically, the majority of all respondents indicated that the tours were as they expected it to be and that they enjoyed the experience. They were very satisfied and would recommend the operators to friends and family. Overall, crowding was not a major problem, apart from probably some tours in Kaikoura.

5.4 Details about the respondents' holidays in general

Section Two of the questionnaire asked respondents to indicate how important a variety of motivational factors and opinions are for them when going on holidays in general (Tables 5.14 a & b). Again, they were asked to rank the items on a four-point Likert scale. Tables 5.14 a & b show the results ordered by the mean scores, and the standard deviation.
Table 5.14a: About holidays in general (Part 1)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outstanding scenery</td>
<td>1.36</td>
<td>0.53</td>
</tr>
<tr>
<td>Learning new things/increasing my knowledge</td>
<td>1.37</td>
<td>0.55</td>
</tr>
<tr>
<td>Seeing and experiencing a foreign destination</td>
<td>1.40</td>
<td>0.62</td>
</tr>
<tr>
<td>Experiencing wilderness and undisturbed nature</td>
<td>1.48</td>
<td>0.63</td>
</tr>
<tr>
<td>Escaping from the ordinary</td>
<td>1.51</td>
<td>0.67</td>
</tr>
<tr>
<td>Meeting interesting and friendly local people</td>
<td>1.55</td>
<td>0.62</td>
</tr>
<tr>
<td>Having the chance to see wildlife and birds I usually don't see</td>
<td>1.58</td>
<td>0.69</td>
</tr>
<tr>
<td>Feeling safe</td>
<td>1.59</td>
<td>0.77</td>
</tr>
<tr>
<td>Wide open spaces to get away from the crowds</td>
<td>1.63</td>
<td>0.72</td>
</tr>
<tr>
<td>Seeing as much as possible in the time available</td>
<td>1.75</td>
<td>0.74</td>
</tr>
<tr>
<td>Seeing national parks and forests</td>
<td>1.75</td>
<td>0.71</td>
</tr>
<tr>
<td>Finding peacefulness and solitude</td>
<td>1.76</td>
<td>0.78</td>
</tr>
<tr>
<td>Being physically active</td>
<td>1.86</td>
<td>0.72</td>
</tr>
<tr>
<td>Inexpensive travel in the destination country</td>
<td>1.97</td>
<td>0.83</td>
</tr>
<tr>
<td>Exotic atmosphere</td>
<td>2.02</td>
<td>0.83</td>
</tr>
<tr>
<td>Finding thrills and excitement</td>
<td>2.06</td>
<td>0.85</td>
</tr>
<tr>
<td>Meeting people with similar interests</td>
<td>2.11</td>
<td>0.83</td>
</tr>
<tr>
<td>Trying new food</td>
<td>2.13</td>
<td>0.89</td>
</tr>
<tr>
<td>Being together with friends</td>
<td>2.18</td>
<td>0.92</td>
</tr>
<tr>
<td>Beaches for swimming and sunning</td>
<td>2.19</td>
<td>0.91</td>
</tr>
<tr>
<td>Small and intimate accommodation</td>
<td>2.22</td>
<td>0.83</td>
</tr>
<tr>
<td>Being together as a family</td>
<td>2.48</td>
<td>1.08</td>
</tr>
<tr>
<td>Going to places where friends have not been</td>
<td>2.85</td>
<td>0.97</td>
</tr>
</tbody>
</table>

Note: 1 = very important; 2 = somewhat important; 3 = somewhat unimportant; 4 = not at all important

Table 5.14 b: About holidays in general (Part 2)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>For me, money spent on travel is money well spent</td>
<td>1.40</td>
<td>0.59</td>
</tr>
<tr>
<td>Getting value for my vacation money is important to me</td>
<td>1.57</td>
<td>0.66</td>
</tr>
<tr>
<td>When visiting another country, I like to travel from place to place rather than spending my whole time in one place</td>
<td>1.60</td>
<td>0.69</td>
</tr>
<tr>
<td>I enjoy learning about wildlife during my holidays</td>
<td>1.63</td>
<td>0.65</td>
</tr>
<tr>
<td>I like to go to a different place on each new vacation trip</td>
<td>1.73</td>
<td>0.73</td>
</tr>
<tr>
<td>I usually use a travel agent to help me decide where to go on vacation</td>
<td>3.20</td>
<td>0.87</td>
</tr>
</tbody>
</table>

Note: 1 = strongly agree; 2 = mildly agree; 3 = mildly disagree; 4 = strongly disagree

The results show that scenery, wildlife and nature, as well as the educational factor and contact with local people are most important. At the other end of the spectrum, factors related to their immediate social surrounding (friends and family), are less important. This reflects the typology of travellers in New Zealand. Respondents were asked to think about their holidays in general and not for the current trip to New Zealand. However, most predominant items are applicable specifically to New Zealand, e.g., 'outstanding scenery', 'wilderness and undisturbed nature', 'seeing wildlife and birds', and 'wide open spaces to get away from the crowds'. The results in Table 5.14 b also show that the respondents like
to travel at the destination free and independently (FIT), rather than staying at one place
during the holidays or to book organised tours. Most of the participants strongly agree that
money spent on travel is money well spent (mean = 1.40), and only very few of them use
travel agents for destination decision making.

5.5 Environmental issues

Section Three of the questionnaire examined several environmental issues. Using three
different scales (cf. Section 4.4.3), information about environmental issues in general,
attitudes towards pollution, and information about environmental behaviour of the
respondents were gained.

5.5.1 The New Environmental Paradigm scale

Dunlap and Van Liere (1978) developed the NEP-scale to see to what extent respondents
endorse the ideas of the New Environmental Paradigm. In order to receive data comparable
with Dunlap and Van Liere's (1978) original study, scores had to be reversed, i.e. 1 =
strongly agree, 2 = mildly agree, 3 = mildly disagree, and 4 = strongly disagree. Also, due
to different formulation, some items had to be recoded as well (those items are marked
with an asterisk).

Table 5.15: The New Environmental Paradigm (NEP) scale

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Humans must live in harmony with nature in order to survive*</td>
<td>3.76</td>
<td>0.48</td>
</tr>
<tr>
<td>Mankind was created to rule over the rest of nature</td>
<td>3.64</td>
<td>0.62</td>
</tr>
<tr>
<td>The balance of nature is very delicate and easily upset*</td>
<td>3.59</td>
<td>0.59</td>
</tr>
<tr>
<td>Plants and animals exist primarily to be used by humans</td>
<td>3.59</td>
<td>0.63</td>
</tr>
<tr>
<td>The earth is like a spaceship with only limited room and resources*</td>
<td>3.48</td>
<td>0.67</td>
</tr>
<tr>
<td>Humans need not adapt to the natural environment because they can remake it to suit their needs</td>
<td>3.46</td>
<td>0.73</td>
</tr>
<tr>
<td>Humans are severely abusing the environment*</td>
<td>3.45</td>
<td>0.64</td>
</tr>
<tr>
<td>When humans interfere with nature it often produces disastrous consequences*</td>
<td>3.37</td>
<td>0.74</td>
</tr>
<tr>
<td>Humans have the right to modify the natural environment to suit their needs</td>
<td>3.30</td>
<td>0.73</td>
</tr>
<tr>
<td>To maintain a healthy economy we will have to develop a &quot;steady-state&quot; economy where industrial growth is controlled*</td>
<td>3.29</td>
<td>0.66</td>
</tr>
<tr>
<td>There are limits to growth beyond which our industrialized society cannot expand*</td>
<td>3.27</td>
<td>0.72</td>
</tr>
<tr>
<td>We are approaching the limit of the number of people the earth can support*</td>
<td>3.23</td>
<td>0.73</td>
</tr>
</tbody>
</table>

Note: 1 = strongly agree; 2 = mildly agree; 3 = mildly disagree; 4 = strongly disagree
Items marked with an asterisk (*) were recoded to reverse scorings.
Only three of the studies discussed in Section 3.1.5 presented the actual results of the surveys. Testing the scales for reliability, validity and dimensionality was prevalent. This is a clear indication for the importance of the suitability of the NEP scale as a valid measurement tool. Ryan (1999) also presented results, however, he used only seven out of the original 12 items and applied a five-point Likert scale instead of the original four-point Likert scale. Therefore, results are not directly comparable.

Table 5.16: Comparison: Mean scores

<table>
<thead>
<tr>
<th>Study</th>
<th>Sample</th>
<th>Mean*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dunlap &amp; Van Liere (1978)</td>
<td>GPS (Wash.)</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>EOS (Wash.)</td>
<td>3.7</td>
</tr>
<tr>
<td>Albrecht et al. (1982)</td>
<td>Farmers (Iowa)</td>
<td>2.9</td>
</tr>
<tr>
<td></td>
<td>Urban (Iowa)</td>
<td>3.2</td>
</tr>
<tr>
<td>Lück (2000)</td>
<td>Tourists (New Zealand)</td>
<td>3.4</td>
</tr>
<tr>
<td>Higham et al. (2001)</td>
<td>Ecotourists (New Zealand)</td>
<td>2.8**</td>
</tr>
</tbody>
</table>

* Means were calculated by summing the average scores for each of the 12 items and dividing by 12. Possible range is from 1 to 4, with higher scores representing greater acceptance of the NEP.

** Converted from a 5-point Likert Scale

Interpretation of these results is difficult and certainly bears the danger of error. One of the obvious reasons for that is the variety of samples. However, some trends might be elicited. If the EOS and the farmers samples are disregarded due to their special members with biased opinions, it can be seen that there is a constant increasing acceptance of the New Environmental Paradigm. While the mean score in 1978 was 3.0, it increased to 3.2 in 1985 and further to 3.4 in the year 2000. In particular, the score of 3.4 has to be read carefully, because participants in dolphin tours might be closer to the EOS sample than to the general public - especially as the respondents were asked to fill in the questionnaire right after the thrilling experience of a dolphin tour. The only sample not following this trend was Higham et al.’s (2001) study of ecotourists in New Zealand. Although the surveys were conducted at twelve ecotour operations/attractions throughout New Zealand, the respondents showed a lower overall mean (mean = 2.8). One would have thought that especially ecotourists would endorse the ideas of the NEP to a larger extent than tourists of the other samples.

The first two studies were conducted in the United States, and the respondents of the New Zealand study were a mixture of a number of nationalities. Traditionally, German, Dutch
and Scandinavian residents have higher environmental values and adopted pro-environmental behaviour, for example recycling, to their daily routines (Synergy, 2000). Therefore, one would assume that they are more likely to approve the NEP than other nationalities. However, when applying an analysis of variance (ANOVA) in order to compare the means of different nationalities, the results were surprising. There were only very slight differences with the lowest mean of 2.93 for the Asian respondents and the highest mean of 3.22 for the Germans. The American mean was at 3.14, which is a score that lies between those of the previous studies.

The NEP uses a four-point Likert scale, with four being the most positive value and one the most negative value. The results of the studies are remarkable with all mean scores being 2.8 or higher. This indicates that there is a high approval of the NEP and that people's environmental awareness has increased over the last 20 years.

5.5.2 The Environmental Concern scale

The Environmental Concern Measure (EC) was developed by Weigel and Weigel (1978) as an attitude measure capable of assessing an individual’s beliefs in relation to pollution and the environment. Not all items of the original scale were applicable for the aim of this research or for New Zealand, thus only a selection of eleven items was used. Like the NEP (see previous section), the scores were reversed and some items had to be recoded in the same way it was necessary with the NEP scale.

The results indicate that participants in dolphin tours are concerned about environmental issues. Their attitudes can be described as pro-environmental, with a lack of trust in the industry and governments’ ability to protect the natural environment. It is interesting to note that one of the lowest levels of agreement is to the statement that pollution is affecting the respondents’ personal lives. This suggests, that respondents see the danger of pollution in general, but have the perception that so far it does not reach their immediate surrounding.
Another interesting result is that respondents are more willing to make sacrifices, including an increase a yearly increase of family expenses of $100, than they are willing to support environmental organisations. This result supports the fact, that at this study, there are fewer members of environmental organisations than in comparable studies (cf. Section 5.2.6). Lastly, respondents strongly agreed with the idea of offering environmental courses at primary and secondary schools. This is an important result and will be discussed further in Section 6.1.2.

5.5.3 The General Measure of Ecological Behaviour

While the NEP and the EC deal with values and attitudes regarding ecology and the environment, the General Measure of Ecological Behaviour (GEB), developed by Kaiser in 1998, looks at the actual environmental behaviour of the respondents. Fifteen out of forty GEB items were selected for the present study and respondents were asked to state how often they undertake the particular activity. Again, some items had to be recoded in order to rank them.

Table 5.17: The Environmental Concern (EC) scale

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Courses focusing on the conservation of natural resources should be taught in primary and secondary schools*</td>
<td>3.70</td>
<td>0.50</td>
</tr>
<tr>
<td>Governments will have to introduce harsh measurements to halt pollution since few people will regulate themselves*</td>
<td>3.52</td>
<td>0.60</td>
</tr>
<tr>
<td>The benefits of modern consumer products are more important than the pollution that results from their production</td>
<td>3.42</td>
<td>0.72</td>
</tr>
<tr>
<td>We must prevent any type of animal from being extinct, even if it means sacrificing some things for ourselves*</td>
<td>3.42</td>
<td>0.82</td>
</tr>
<tr>
<td>I'd be willing to make personal sacrifices for the sake of slowing down pollution even though the immediate results may not seem significant*</td>
<td>3.40</td>
<td>0.65</td>
</tr>
<tr>
<td>I would be willing to accept an increase in my family's expenses of $100 next year to promote the wise use of natural resources*</td>
<td>3.35</td>
<td>0.75</td>
</tr>
<tr>
<td>Although there is a continual contamination of our lakes, streams, and air, nature's purifying process soon return them to normal</td>
<td>3.31</td>
<td>0.75</td>
</tr>
<tr>
<td>Because the government has such good inspection agencies, it's very unlikely that pollution due to energy consumption will become excessive</td>
<td>3.20</td>
<td>0.79</td>
</tr>
<tr>
<td>If asked, I would contribute time or money, or both to an organisation (eg WWF, Sierra Club) that works to improve the quality of the environment*</td>
<td>3.20</td>
<td>0.73</td>
</tr>
<tr>
<td>Pollution is not personally affecting my life</td>
<td>3.12</td>
<td>0.87</td>
</tr>
<tr>
<td>Industry is trying its best to develop effective anti-pollution technology</td>
<td>2.97</td>
<td>0.82</td>
</tr>
</tbody>
</table>

Note: 1 = strongly agree; 2 = mildly agree; 3 = mildly disagree; 4 = strongly disagree
Items marked with an asterisk (*) were recoded to reverse scorings.
Table 5.18: The General Measure for Ecological Behaviour (GEB)

<table>
<thead>
<tr>
<th>Description</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>In supermarkets, I buy fruit and vegetables from the open bins</td>
<td>1.6</td>
<td>0.7</td>
</tr>
<tr>
<td>I bring empty bottles to the recycling bin</td>
<td>1.7</td>
<td>0.9</td>
</tr>
<tr>
<td>I collect and recycle used paper</td>
<td>2.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Even if public transport was more efficient than it is, I would drive my car to town*</td>
<td>2.1</td>
<td>0.9</td>
</tr>
<tr>
<td>When possible in nearby areas, I use public transport or ride a bike</td>
<td>2.3</td>
<td>1.0</td>
</tr>
<tr>
<td>I use environmentally friendly laundry detergent</td>
<td>2.4</td>
<td>1.0</td>
</tr>
<tr>
<td>I use chemical toilet cleaners*</td>
<td>2.4</td>
<td>1.0</td>
</tr>
<tr>
<td>I buy beverages in cans*</td>
<td>2.4</td>
<td>0.8</td>
</tr>
<tr>
<td>I put dead batteries in the garbage</td>
<td>2.5</td>
<td>1.2</td>
</tr>
<tr>
<td>I use a cleaner made especially for bathrooms rather than an all-purpose cleaner*</td>
<td>2.6</td>
<td>1.0</td>
</tr>
<tr>
<td>I drive my automobile in the city*</td>
<td>2.6</td>
<td>1.0</td>
</tr>
<tr>
<td>If I am offered a plastic bag in a store, I will take it*</td>
<td>2.7</td>
<td>0.9</td>
</tr>
<tr>
<td>I contribute financially to environmental organisations</td>
<td>2.9</td>
<td>0.9</td>
</tr>
<tr>
<td>I buy milk in returnable bottles</td>
<td>3.1</td>
<td>1.1</td>
</tr>
<tr>
<td>I unwrap useless (i.e. nonfunctional) packages at the point of purchase</td>
<td>3.2</td>
<td>0.9</td>
</tr>
</tbody>
</table>

Note: 1 = always; 2 = often; 3 = occasionally; 4 = never
Items marked with an asterisk (*) were recoded to reverse scorings.

Simple environmental behaviour, such as recycling glass and paper are very common and most respondents participate in those activities. The last two items (‘I buy milk in returnable bottles’ and ‘I unwrap useless [i.e. nonfunctional] packages at the point of purchase’) have to be read carefully. A few respondents stated that returnable milk bottles are not available in their city or country and therefore they had to tick ‘never’. Also, very few countries (for example, Germany and Switzerland) have a legislation that obliges retailers to take back useless/nonfunctional wrappings and packages free of charge. In most countries, this is not possible, thus respondents state that they do not participate in such activities. Both items are therefore at the end of the ranked list. Regarding transport the results show diverging results. While most respondents stated that they use public transport or ride a bicycle for shorter distances, they also stated that they are driving their car in the city. Here again, the potential action is rated higher, than the actual behaviour, which is well illustrated by the two items about driving the car. While there is high disagreement to the item ‘Even if public transport was more efficient than it is, I would drive my car to town’ (potential action), most respondents indicated that they use their car in the city (actual behaviour). Another noteworthy result is that ‘easy’ environmental behaviour, such as recycling of glass and paper, and buying fruit and vegetables from the open bins have been adapted to the daily routine of most respondents. In contrast, taking re-usable linen bags or baskets to the shop (another action very easy to implement) is not common amongst most respondents. Lastly, similar to the EC scale, one item supports the notion...
that in this study, there are fewer respondents who support environmental organisations than in comparable studies (cf. Section 5.2.6). If, for the reasons discussed, the last two items will be disregarded, contributing financially to environmental organisations is the item that received the least agreement.

5.5.4 Summary

Participants in swim-with-dolphins tours endorsed environmental issues to a high degree. Most scores on both the NEP and the EC scales were very high and indicated that respondents hold high environmental values and attitudes. When asked for specific environmental behaviour, common actions, such as buying fruit from the open bins or recycling, were the most frequently actions taken in the respondents’ day-to-day lives. A surprising high number of respondents stated that they ride their bike for short distance trips. However, they also indicated that they would still use their cars, even if public transport were more efficient. Other easily achievable environmental actions are not taken, such as bringing their own basket or re-usable linen bags to the store. Instead, the majority of respondents stated that they are taking a plastic bag when offered.
6 Data analysis and discussion

For generations, the Maori people of Kaikoura [...] have marvelled at whales, dolphins, and New Zealand fur seals playing in the nutrient-rich, deep water close to shore.

Dwight Holing (1996:267)

6.1 The visitors’ experience

Clawson and Knetsch (1966) defined the recreation experience as a five-phase experience, including the phases of anticipation, travel-to, onsite, travel-back, and recollection. Hammitt (1980) argues that most research is able to measure travellers’ experiences only during the two phases just before or just after the experience. Thus, the important onsite phase, including the dynamics of the experience, is not recorded. The post-hoc satisfaction approach looks at the experience in retrospect, what needs were met and how satisfying the engagement was (Mannell & Iso-Ahola, 1987).

The current study is a typical post-hoc investigation. It took place between the ‘on-site’ and the ‘travel back’ phase of Clawson and Knetsch’s (1966) five-phase model and addressed a variety of elements discussed in the various approaches above.
Gilbert (1997) identifies a variety of components of the ecotourism experience, such as participant’s feelings, emotions and behaviour. They are influenced by the tour size, cost, itineraries, tour information (i.e. interpretation), challenge and enjoyment, and safety and comfort. In order to elicit an overall experience score (cf. Chapter Seven), a number of these influencing factors were addressed in the survey. Before aggregating the results into an overall mean score, these factors will be investigated separately.

6.1.1 About the dolphin tour

Gilbert (1997) notes that the typical ecotourist wants to be challenged and to discover cultures and nature. Question 4 a-g of the first section provided the respondent with a number of attributes regarding the dolphin tour. Although some of the items seem to be fairly similar, they deliberately have been selected in order to gain more detailed results (Table 6.1). Overall, the differences between the three locations were significant (Sig. = .000). Only three items show insignificant differences during the Post Hoc Test (Scheffe). These are all between Akaroa and Paihia, including “The dolphin tour was a unique experience”, “The dolphin tour was an adventure”, and “The dolphin tour was a ‘once in a lifetime’ experience” (Table 6.1).

Table 6.1: Attributes of the dolphin tour

<table>
<thead>
<tr>
<th>The dolphin tour…</th>
<th>Akaroa</th>
<th>Kaikoura</th>
<th>Paihia</th>
<th>Mean</th>
<th>SD</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>…gave me a memorable impression</td>
<td>1.8</td>
<td>1.33</td>
<td>1.66</td>
<td>1.49</td>
<td>.69</td>
<td>32.467</td>
<td>.000</td>
</tr>
<tr>
<td>…was a unique experience</td>
<td>1.85</td>
<td>1.43</td>
<td>1.78</td>
<td>1.59</td>
<td>.76</td>
<td>24.193</td>
<td>.000 *</td>
</tr>
<tr>
<td>…was something new and different for me</td>
<td>1.7</td>
<td>1.56</td>
<td>1.89</td>
<td>1.66</td>
<td>.82</td>
<td>10.233</td>
<td>.000</td>
</tr>
<tr>
<td>…was a thrilling experience</td>
<td>2.08</td>
<td>1.6</td>
<td>1.83</td>
<td>1.74</td>
<td>.85</td>
<td>18.580</td>
<td>.000</td>
</tr>
<tr>
<td>…was an adventure</td>
<td>2.11</td>
<td>1.76</td>
<td>2.13</td>
<td>1.91</td>
<td>.87</td>
<td>15.255</td>
<td>.000 **</td>
</tr>
<tr>
<td>…was a ‘once in a lifetime’ experience</td>
<td>2.3</td>
<td>1.81</td>
<td>2.28</td>
<td>2.01</td>
<td>.93</td>
<td>24.373</td>
<td>.000 ***</td>
</tr>
<tr>
<td>…was a challenge for me</td>
<td>2.77</td>
<td>2.61</td>
<td>3.03</td>
<td>2.73</td>
<td>1.01</td>
<td>10.456</td>
<td>.000</td>
</tr>
</tbody>
</table>

* Not significant between Akaroa and Paihia (Sig. = .755)
** Not significant between Akaroa and Paihia (Sig. = .983)
*** Not significant between Akaroa and Paihia (Sig. = .979)
The results displayed in Table 6.1 indicate that the dolphin tour was a memorable (mean = 1.49) and unique (mean = 1.59) experience, which was new and different for the majority of participants (mean = 1.66). Although ‘lasting and memorable impression’ received the highest score, the tour was not seen as a ‘once in a lifetime experience’ to the same extent (1.49 and 2.01, respectively). The relatively high mean scores for ‘adventure’ (1.91) and ‘challenge’ (2.73) can be explained with two main factors: A number of participants were inexperienced with swimming in the open sea, especially with equipment, such as mask, snorkels, and fins. Not being a confident swimmer and/or having problems was mentioned by 13 respondents. The open sea was a challenge for ten respondents who stated that they got seasick.

Overall, the three operators received very high marks for friendliness and helpfulness, safety, and for comfort (Table 6.2).

**Table 6.2: Friendliness, safety, and comfort**

<table>
<thead>
<tr>
<th></th>
<th>Akaroa</th>
<th>Kaikoura</th>
<th>Paihia</th>
<th>Mean</th>
<th>SD</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The dolphin tour staff was</td>
<td>1.21</td>
<td>1.14</td>
<td>1.05</td>
<td>1.13</td>
<td>.40</td>
<td>6.660</td>
<td>.001</td>
</tr>
<tr>
<td>friendly and helpful</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I felt safe during the tour</td>
<td>1.22</td>
<td>1.28</td>
<td>1.06</td>
<td>1.22</td>
<td>.50</td>
<td>12.499</td>
<td>.000</td>
</tr>
<tr>
<td>Overall, I felt comfortable</td>
<td>1.45</td>
<td>1.49</td>
<td>1.19</td>
<td>1.41</td>
<td>.65</td>
<td>13.615</td>
<td>.000</td>
</tr>
<tr>
<td>during the tour</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: 1 = strongly agree; 2 = mildly agree; 3 = mildly disagree; 4 = strongly disagree

When splitting these scores by operator, the results reveal that there were significant differences (Sig. = .000 to .001). A Post Hoc Test (Scheffe) revealed, that there was no significant difference between Akaroa and Kaikoura for the question “Overall, I felt comfortable during the tour” (Sig. = .799). All other results were significant (Sig. = .000 to .445). Overall, *Dolphin Discoveries* in Paihia received the highest scores. The lowest score for safety in Kaikoura seems to be a result of the slightly worse weather conditions, with a more choppy sea. In Akaroa, the team provides only a very short briefing, during which no safety issues are mentioned. Also, there are no life vests provided on board the two vessels in Akaroa. This was mentioned by a few respondents in the comments section, where one respondent wrote: ‘I thought the briefing of swimmers was too casual; was surprised there was no safety briefing on boat or no offer of life jackets. This needs to be done’. Another respondent participated in a tour in Kaikoura prior to the trip in Akaroa and compared the ‘excellent briefing’ in Kaikoura, and suggested that the tour in Akaroa would benefit from
a more thorough and explicit briefing. Some respondents in Kaikoura explicitly mentioned that they felt safe and that the briefing was excellent. Only one respondent expressed concern for the safety of both swimmers and dolphins due to the use of propeller driven vessels, rather than jet boats. In Paihia, no respondent addressed any safety issues in the comments section.

Generally, most participants felt comfortable and enjoyed the tour. The main problem was the water temperature, which was mentioned by 22 participants at all three locations. Only one respondent indicated that the seating on Discovery III in Paihia was uncomfortable, in particular during rough sea conditions.

All three operators received the highest scores for friendliness and helpfulness. Numerous comments in the comments section confirmed the ratings of question 10 in Section One. Attributes given for the crews reached from bubbly and congenial, to supportive, friendly, funny and knowledgeable, to excellent, child friendly, and caring. A respondent in Paihia summarised this feeling as follows: ‘The dolphins are the same tour to tour. The staff make the difference. This group was great.’ The overall mean of 1.13 for ‘friendliness and helpfulness’ mirrors this, and was the highest score for any of the items asked throughout the questionnaire. Observations on tours of all three operators confirmed that all staff were friendly and helpful, and represented the ‘host’ type of guides, as defined by Ham (1992).

6.1.2 Education on dolphin tours

The importance of an educational component on ecotours was discussed in Chapter Two. Questions about education on the specific tours and on holidays in general were part of various sections of the questionnaire. The results of these questions, and a number of comments in the open-ended part of the questionnaire, will be discussed in the following sections.

In Paihia, swimming with dolphins was often not possible, because there were juvenile dolphins within the pods. The tour guide not only indicated that swimming with juvenile dolphins is not allowed according to the Marine Mammals Protection Regulations (cf. Section 2.2.4.1), but also gave detailed information for the reasons why swimming with
them would even threaten their lives. Visitors had the perception that swimmers would
harass the young dolphins, however, that is not the primary threat for them. The guide
explained that dolphins are mammals and, like all mammals, young dolphins suckle.
Dolphins’ milk is extremely fat, so that the calves can build up the ‘blubber’ that is vital
for their protection against the cold water. Dolphins, and especially young dolphins, are
very inquisitive and playful, and if tourists were going to swim with juvenile dolphins, they
simply would get distracted and play with the swimmers, rather than staying with their
mothers and suckle. Dolphins feed about 40 times every hour, and playing with the
juvenile dolphins can easily result in them missing out on vital feeding and eventually even
dying of hypothermia. Having explained those reasons, the participants of the tours had a
much better understanding for the regulations and, of course, they did not want to threaten
a dolphin’s life. This attitude was reflected in the open section for comments of the
questionnaire. An American respondent stated that she was ‘extremely disappointed that
we didn’t get to swim, but I understand why’. An Australian mother wrote ‘some of my
children were disappointed that they didn’t get to swim with the dolphins, but they
understood the reasons’, and a New Zealander wrote: ‘shame we couldn’t swim with the
dolphins but I support no swimming with the calves.’ These are just three out of a larger
number of responses with basically the same content. Participants were slightly
disappointed, but understood the reasons for not being allowed to swim with the dolphins.

Only the enthusiastic and informative interpretation of the guide could result in those
responses. These results are supported by Ryan’s (1999) findings during a survey at
wildlife attractions in Australia. He concluded that ‘the more concerned people were, the
more willing they were to accept the likelihood of controls upon access to animals in
natural settings’ (p. 3).

6.1.2.1 Interpretation programmes on dolphin tours in NZ

In the Chapter Three (Sections 3.2.1.3 & 3.2.1.4), two accepted models of effective
interpretation on marine mammal tours were introduced. It was indicated that interpretation
is effective only, if well planned and organised, and that it should include a number of
stages. With this in mind, the three dolphin operators of this study were examined.
Personal observation and personal communication with staff and owners of the operators
were the main tools for this part of the research. None of the operators apply a
comprehensive interpretation programme, such as suggested by Forestell and Kaufmann (1990) and by Orams (1993).

Guides with *Dolphin Encounter* in Kaikoura receive in-house training for approximately three weeks, where they go out on tours and learn from senior guides and skippers. In addition, new guides receive a manual that *Dolphin Encounter* produced for all guides and skippers. *Dolphin Encounter* developed their own programme and state that "we are very specific about the interpretation of our tours and the level of knowledge and standard of service expected from our staff" (Buurman 2002, pers. comm.).

Both *Dolphin Experience* and *Dolphin Discoveries* did not state any specific educational or interpretation training of their guides, however, both operations provide a basic in-house training. In Paihia, the main guide has excellent knowledge about dolphins due to the situation that she shares a flat with one of New Zealand’s leading marine scientists. During the survey time, *Dolphin Experience* in Akaroa operated without guide and the tasks of the guide were taken over by the skipper. As can be seen from some participants’ comments, this was a non-satisfactory solution. It must be stated, however, that during peak season, *Dolphin Experience* also employs a skilled guide with good knowledge about dolphins and marine life in general.

6.1.2.2 Education on dolphin tours in New Zealand

Questions raised in the previous sections lead to the part of the survey, where respondents were asked about learning and education. The number of remarks in the comments section of the questionnaire underlines the importance of interpretation and education during the dolphin tours (cf. Appendix II). The survey included eight questions related to education and interpretation, four directly related to the dolphin tour and four addressing general statements.

A total of 50 respondents commented on interpretation and/or education during their dolphin tours. The issues addressed in these comments varied from very specific suggestions regarding the tour, to the desire to gain a wider knowledge not only about the dolphins, but also about the general environment. These comments reflect the different approaches to interpretation by the three tour operators (see previous section). The positive
comments outweighed the negative ones at Paihia, whereas the negative comments dominated in the Akaroa sample. In Kaikoura, positive and negative comments were balanced.

Table 6.3: Educational aspects on dolphin tours

<table>
<thead>
<tr>
<th></th>
<th>Akaroa</th>
<th>Kaikoura</th>
<th>Paibia</th>
<th>Mean</th>
<th>SD</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The dolphin tour was an educational experience</td>
<td>2.20</td>
<td>2.02</td>
<td>1.70</td>
<td>1.98</td>
<td>0.82</td>
<td>15.130</td>
<td>.000</td>
</tr>
<tr>
<td>I have the feeling that on this tour I learned a lot about dolphins</td>
<td>2.79</td>
<td>2.24</td>
<td>1.87</td>
<td>2.26</td>
<td>0.83</td>
<td>53.368</td>
<td>.000</td>
</tr>
<tr>
<td>I have the feeling that on this tour I learned a lot about other marine life</td>
<td>3.37</td>
<td>3.14</td>
<td>2.58</td>
<td>3.07</td>
<td>0.84</td>
<td>43.166</td>
<td>.000</td>
</tr>
<tr>
<td>The dolphin tour staff had good knowledge about dolphins</td>
<td>1.63</td>
<td>1.33</td>
<td>1.16</td>
<td>1.35</td>
<td>0.56</td>
<td>28.660</td>
<td>.000</td>
</tr>
</tbody>
</table>

*Note: 1 = strongly agree; 2 = mildly agree; 3 = mildly disagree; 4 = strongly disagree*

The results of these questions illustrate some respondents’ opinions about interpretation and education during the tours. Generally, respondents agreed that the tours staff had good knowledge about dolphins (mean = 1.35) and that the tour was an educational experience (mean = 1.98). However, when asked if they had learned a lot about the dolphins and about marine life in general, most respondents disagreed or strongly disagreed. Again, the differences were statistically significant at all three locations (Sig. = .000).

Particularly in Akaroa, the respondents felt that more information should have been provided. This is a direct result from the fact that *Dolphin Experience* operated without a guide during the survey period. The results shown in Table 6.3 are strongly supported by additional comments, such as ‘I would’ve liked more info about the dolphins and the ecosystem of this place’, ‘I think the tours should have more info about the dolphins and their lifestyles’, ‘more information about dolphins could have been provided’, ‘I would advise the tour brings in an element of education telling visitors about the dolphins, marine environment, restrictions & regulations by DOC, etc.’, and ‘I’d like to have more info about dolphin life & Hector dolphins in general’, to mention but a few (all Akaroa). *Dolphin Encounter* provides very detailed interpretation both during the briefing and the tours. Despite this, there were some comments suggesting that the educational part of the tours could be improved, such as ‘Would have been nice to know a bit more about the actual types of dolphins we would encounter before the swim’, ‘the information provided
of dolphins and their life in the area was quite limited', 'The commentary was a bit quiet so I didn't learn as much about the wildlife as I might have done', and 'They could mention the dangers of rubbish & pollution in the ocean with regards to dolphins & marine life' (all Kaikoura). The highest marks for interpretation and education were awarded to Dolphin Discoveries in Paihia, which can be explained by the enthusiastic and knowledgeable guide. Even after many tours, the guide is still very excited about the marine mammals and is able to transfer this enthusiasm to the passengers on board. She used to share a flat with a leading marine scientist, who conducted research on the Bottlenose dolphins in the Bay of Islands for more than five years. This situation provided her with excellent knowledge and passion about the marine mammals. Despite the high ratings, there were some comments suggesting improvements on the tours in Paihia as well: 'Apart from the dolphins, the guide can introduce a bit about coastal features (e.g. sea cave, sea arch...), trees and habitats on the outlying islands and mention something about marine lives in the waters nearby', 'Information & educational packs would enhance the experience', and 'better reading & visual information or orally'.

On the other hand, there were a number of positive aspects about the interpretational and educational parts of the tours at all three locations as well. In Akaroa, respondents commented: 'knowledgeable driver', and 'I appreciated the perseverance of skipper <name>, his encouragement & knowledge of dolphins'. The positive remarks of respondents in Akaroa where mostly complimenting the knowledge of skipper. However, there were three times as many suggestions, that the tours should provide more information about dolphins, the habitat and the general environment. Clearly, these comments underline the necessity of having a knowledgeable tour guide on board, since it is expected too much of the skipper to handle the vessel, take care of the swimmers, watch the dolphins, and provide adequate interpretation. In Kaikoura, 13 participants appreciated the knowledge of the crew and the education during the tour. Some comments were: 'The packs we received after the day look very informative about dolphins', 'staff friendly and knowledgeable', 'I appreciate what you are doing & the role of education in today's world', and 'informative (both on and off the water)'. The positive comments in Paihia mostly related to the knowledge of the crew and to the reading material that is on display on board. During the tours, passengers have the opportunity to read a variety of brochures and books about dolphins and the marine life in the Bay of Islands. Positive comments included 'I enjoyed reading the books about dolphins that were on board', 'very
knowledgeable and friendly staff’, ‘the knowledge and interaction was wonderful’, ‘the boat crew were helpful & ready to answer all questions’.

Respondents were asked four general questions regarding environmental education. These included two questions about the individual’s learning during their holidays, one question about environmental education in schools, and one general statement about learning. Responses to these questions were amongst the highest ranked throughout the entire survey (Table 6.4). Almost all respondents (98.2%) strongly or mildly agreed that courses focussing on the conservation of natural resources should be taught in primary and secondary schools (mean = 1.30). Similarly, 92.5% strongly or mildly agreed that it is important that we learn as much as we can about wildlife (mean = 1.39). Roggenbruck et al. (1990) report that when asked what kinds of satisfaction respondents derived from their favourite recreational activities, both men and women ranked ‘a chance to learn new things’ and ‘it gives me a chance to develop skills’ under the eight most important factors. The importance of this was underlined by Moscardo (1998), who found in two surveys in Queensland/Australia in 1994 and in 1996, that the motive ‘learn new things’ or ‘increase knowledge’ ranked on places four and one, respectively. Participants in dolphin tours seem to confirm this importance, but although 66.4% of the respondents indicated that learning new things and/or increasing their knowledge is very important and 30.5% somewhat important during their holidays in general (mean = 1.37), the enjoyment of learning is not equally strong (Table 6.4). 46.1% strongly agreed and 45.4% mildly agreed that they enjoy learning about wildlife during their holidays (mean = 1.63).

Table 6.4: Learning about wildlife and nature

<table>
<thead>
<tr>
<th></th>
<th>Strongly agree</th>
<th>Mildly agree</th>
<th>Mildly disagree</th>
<th>Strongly disagree</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Courses focusing on conservation of natural resources should be</td>
<td>72.2%</td>
<td>26.0%</td>
<td>1.6%</td>
<td>0.1%</td>
<td>1.30</td>
<td>.50</td>
</tr>
<tr>
<td>taught in primary and secondary schools</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning new things/increasing my knowledge (Importance for holidays in general)</td>
<td>66.4%</td>
<td>30.5%</td>
<td>2.9%</td>
<td>0.1%</td>
<td>1.37</td>
<td>.55</td>
</tr>
<tr>
<td>It is important that we learn as much as we can about wildlife</td>
<td>63.1%</td>
<td>29.4%</td>
<td>3.7%</td>
<td>0.8%</td>
<td>1.39</td>
<td>.60</td>
</tr>
<tr>
<td>I enjoy learning about wildlife during my holidays</td>
<td>46.1%</td>
<td>45.4%</td>
<td>8.1%</td>
<td>0.4%</td>
<td>1.63</td>
<td>.65</td>
</tr>
</tbody>
</table>

Note: 1 = strongly agree; 2 = mildly agree; 3 = mildly disagree; 4 = strongly disagree
At all three locations of this study, it was observed that the crews set positive examples through direct action. Several times during tours, skippers and/or guides spotted floating rubbish, stopped the vessel and retrieved the rubbish. This was acknowledged in a comment where a New Zealander said that ‘the staff knowledge and interaction was wonderful. If the plastic bag had not been retrieved that would have been what I remembered most about my experience, but because you went back and got it I remember your wonderful care for the dolphins and other wildlife’.

6.1.2.3 Summary

It was outlined in Chapter Three that interpretation and education are components of increasing importance on ecotours. Forestell and Kaufmann (1990) and Orams (1997a) acknowledged this importance and developed models for structured and successful interpretation on marine mammal tours. The data analysed in this chapter indicated that planned and structured interpretation programmes are absent at all three locations. *Dolphin Encounter* in Kaikoura appears to have the most advanced approach to education and interpretation on their dolphin tours. The data also supports the demand of Forestell and Kaufmann (1990) and Orams (1997a) for implementation of educational programmes. The majority of the respondents indicated that they rate environmental education in schools as very important, and that learning is an important ingredient of their holidays in general. Regarding the actual experience on the dolphin tours, it transpired that a number of participants would have appreciated more information about both the dolphins and the marine environment in general. *Dolphin Experience* in Akaroa is the operator that received the lowest marks for education, which was explained by the absence of a tour guide during the survey period and the resulting high workload for the skipper.

6.1.3 Crowding on dolphin tours in New Zealand

Shelby *et al.*’s (1989) nine-point scale was adapted for the survey in order to measure how participants on dolphin tours perceived crowding on the particular tour. Shelby and Heberlein suggest that if more than two thirds of participants perceived the tour as being crowded, the capacity has been exceeded. If between one-third and two-thirds indicate that
they felt crowded, they suggest additional data to be collected, because no clear judgement can be made (Shelby & Heberlein, 1986).

Table 6.5: Perceived crowding on dolphin tours

<table>
<thead>
<tr>
<th>Location</th>
<th>Not crowded (1-2)</th>
<th>Slight crowding (3-4)</th>
<th>Moderate crowding (5-7)</th>
<th>Extreme crowding (8-9)</th>
<th>Total (n)</th>
<th>Mean</th>
<th>Std Dev.</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akaroa</td>
<td>112 (15.5%)</td>
<td>18 (2.5%)</td>
<td>8 (1.1%)</td>
<td>0</td>
<td>138 (19.1%)</td>
<td>1.73</td>
<td>1.32</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Kaikoura</td>
<td>172 (23.8%)</td>
<td>159 (22.1%)</td>
<td>82 (11.4%)</td>
<td>6 (0.8%)</td>
<td>419 (58.1%)</td>
<td>3.09</td>
<td>1.79</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Paihia</td>
<td>143 (19.8%)</td>
<td>19 (2.6%)</td>
<td>2 (0.2%)</td>
<td>0</td>
<td>164 (22.8%)</td>
<td>1.47</td>
<td>0.87</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>427 (59.2%)</td>
<td>196 (27.2%)</td>
<td>92 (12.8%)</td>
<td>6 (0.8%)</td>
<td>721 (100%)</td>
<td>2.46</td>
<td>1.71</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6.5 illustrates that more than half of all respondents (59.2%) did not feel crowded and almost one-third (27.2%) indicated that they felt only slightly crowded. At the other end of the scale, 12.8% felt moderately crowded and only six respondents (0.8%) considered the tour as being extremely crowded. Therefore, it can be concluded that the dolphin tours in general were perceived as relatively un-crowded. However, it is interesting to separate the total responses into demographic sub-groups to see if there are any significant differences between the three locations, nationalities, or gender.

The high F-value (83.854) indicated that there were significant differences between the three locations (Sig. = .000). Cross-tabulation with the variable ‘location’ shows that 21% of the respondents in Kaikoura felt moderately or extremely crowded, 5.7% of participants in Akaroa felt moderately crowded and only 0.2% of the travellers on the tours in Paihia indicated that they felt moderately crowded. The number of swimmers on dolphin tours is limited by the regulations set by the Department of Conservation. Dolphin Experience in Akaroa is licensed for two vessels with 12 and 14 swimmers per tour (Toxward 2000, pers. communication), Dolphin Encounter in Kaikoura is also licensed for two vessels with 13 swimmers on each boat (Barber 2000, pers. communication), and Dolphin Discoveries hold one permit for 18 swimmers (Constantine 2000, pers. communication). These figures are rather similar at all three locations and do not seem to influence the perception of crowding. In fact, the operator licensed for the highest number of swimmers at any one time (Dolphin Discoveries) was perceived as least crowded. However, the main survey period was during the shoulder season in April and May 2000. Both Dolphin Experience
and Dolphin Discoveries often were not fully booked and therefore had less swimmers on board. Dolphin Encounter was fully booked on most of the tours and therefore took the maximum allowed number of passengers on board. Another factor influencing the perception of crowding was the provision of facilities. Dolphin Experience operates with two vessels, however usually not at the same departure and return times. If fully booked, 12 to 14 passengers share three showers at the base in Akaroa. In Kaikoura, Dolphin Encounter operates both vessels at the same time. The reason for this procedure is of logistical nature. Passengers have to be transferred by coach from Kaikoura to South Bay and share one coach. Even during the shoulder season most tours were fully booked, i.e. Dolphin Encounter had 13 swimmers on board of each vessel. Although they provide hot showers on board, most participants preferred to have a shower after return to the base. At the base, relatively small changing rooms and only four showers for 26 swimmers are provided, which might be the main reason for the higher number of passengers that indicated a feeling of crowding. The smaller vessel Dolphin Encounter in Kaikoura and both vessels Dolphin Watch and Dolphin Experience in Akaroa are relatively small and do not offer much space when fully booked (Figure 6.1).

![Figure 6.1: Crowding on dolphin tours: The smaller Dolphin Encounter (Kaikoura) does not offer much space on the bow. When mammals are sighted, like Orcas in this particular case, all passengers are on the bow at one time.](image-url)
The *Lissodelphis* in Kaikoura and the *Discovery III* in Paihia on the other hand offer sufficient space for swimmers and viewers inside the cabin and on a viewing deck on the bow of the boats. Therefore, it is assumed that mostly the passengers on the fully booked vessels in Akaroa and on the *Dolphin Encounter* in Kaikoura felt particularly crowded.

In addition, the crowding scale was cross-tabulated with the nationality clusters (Table 6.6). There are three clusters that differ from the general trend to some extent. While between 55% and 65% of the respondents of almost all nationalities indicated that they did not feel crowded, there were three exceptions. New Zealanders were the respondents that felt least crowded with 79.7% indicating that they did not feel crowded, whereas significantly less respondents of Northern Europeans (47.4%) and Asians (29.4%) felt not crowded. At the other end of the nine-point scale, one respondent each from Great Britain, Holland, Northern Europe, Germany, and Asia felt extremely crowded (rank 8 on the scale, with no respondent using the value 9). The fact that, at an average, Asian respondents felt more crowded than the participants from Western countries, is surprising. In other studies, it was found that the level of crowding, for example in the Dinghushan Biosphere Reserve in the Guangdong province, China, is “much more tolerable to Chinese visitors than to Western visitors” (Lindberg *et al.*, 1997:141).

**Table 6.6: Crowding and nationalities on dolphin tours**

<table>
<thead>
<tr>
<th>Nationality</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Zealand</td>
<td>1.80</td>
<td>1.20</td>
</tr>
<tr>
<td>Canada</td>
<td>2.11</td>
<td>1.33</td>
</tr>
<tr>
<td>Australia</td>
<td>2.12</td>
<td>1.37</td>
</tr>
<tr>
<td>Africa &amp; Middle East</td>
<td>2.33</td>
<td>1.97</td>
</tr>
<tr>
<td>Great Britain</td>
<td>2.37</td>
<td>1.64</td>
</tr>
<tr>
<td>USA</td>
<td>2.45</td>
<td>1.67</td>
</tr>
<tr>
<td>Holland</td>
<td>2.50</td>
<td>1.94</td>
</tr>
<tr>
<td>Ireland</td>
<td>2.59</td>
<td>1.84</td>
</tr>
<tr>
<td>Germany</td>
<td>2.83</td>
<td>1.96</td>
</tr>
<tr>
<td>Central &amp; Southern Europe</td>
<td>2.86</td>
<td>1.88</td>
</tr>
<tr>
<td>Northern Europe</td>
<td>2.88</td>
<td>1.94</td>
</tr>
<tr>
<td>Central and South America</td>
<td>3.00</td>
<td>2.16</td>
</tr>
<tr>
<td>Asia</td>
<td>3.24</td>
<td>1.92</td>
</tr>
</tbody>
</table>

*Note: 1-2 = not crowded; 3-4 = slight crowding; 5-7 = moderate crowding; 8-9 = extreme crowding*

The perception of crowding varies only slightly with gender. 61.4% of the female participants felt not crowded, 25.7% felt slightly crowded, 11.9% felt moderately crowded.
and only 1% stated that they felt extremely crowded. The pattern is very similar amongst the male respondents, with 58.7% stating that they felt not crowded, 27.4% felt slightly crowded, 13.5% felt moderately crowded and 0.4% felt extremely crowded.

6.1.3.1 Summary

Crowding is not a recent phenomenon at tourism attractions. It was noted that measuring crowding through the concept of carrying capacities is a difficult task. Firstly, there are various forms of carrying capacities, such as the physical, the social, the environmental, and the economic carrying capacity. While the physical capacity is the form most easy to measure, measuring the social carrying capacity is much more difficult. The social carrying capacity depends very much on perceptions and personal feelings. Shelby et al.’s (1989) scale to measure carrying capacity appears to be sensitive enough to pick even slight differences and therefore is a suitable tool that was employed for this study. Overall, crowding did not seem to be a problem on dolphin tours that affected the enjoyment and/or satisfaction of the participants. Travellers on the tours in Kaikoura felt slightly more crowded than those on the tours in Akaroa and Paihia. This was explained with an insufficient number of showers and space for changing at Dolphin Encounter’s base. Crowding was set in relation to nationality and the results reveal that there are no significant differences. New Zealanders felt the least crowded, while Asian participants felt most crowded of the sample. The gender distribution is almost equal on the crowding scale, which indicates that male and female participants did not have different perceptions of crowding during their dolphin tours.

6.2 Satisfaction

*I feel honoured and blessed to have had this amazing and wonderful experience.*

Respondent of the present study in Kaikoura (2000)

Various elements of the on-tour experience were analysed in the previous sections. Apart from these elements, there are a number of factors influencing tourist satisfaction. The overall satisfaction of the respondents was measured on a nine-point Likert scale and will
be compared with the results of similar studies. Some of the factors leading to this overall satisfaction will then be discussed, including expectations, the species and abundance of dolphins found at the particular location, the experience of the swim itself, and problems related to the vessels in use.

6.2.1 Satisfaction on dolphin tours

Orams (2000:62) related to classic theories, such as Maslow’s (1954) hierarchy of needs and Fishbein and Ajzen’s (1975) study of attitude, motivation and behaviour, when he concluded that ‘human motivation is dynamic, complex and seldom easily understood’. He conducted a study on whale watching tours in Tangalooma, Australia, and found that the presence of whales and their behaviour are influencing the satisfaction of whale watchers. However, he also proved that a high degree of satisfaction can be achieved through service and interpretation, even on tours without whale sightings (Orams, 2000).

Amante-Helweg’s (1995) findings were similar to those of Orams’ (2000) whale watch study and those of the present study: Out of the 306 respondents, 96% stated that they enjoyed the experience, although 53% of them did not get to swim with the dolphins. Lack of enjoyment was related to seasickness, rather than to the missed opportunity to swim with the mammals (Amante-Helweg, 1995). This result is supported by the findings of the present study, where 94.9% of the 733 respondents stated that they enjoyed the dolphin tour to some degree. A mere 3% felt neutral about the enjoyment and only 2% indicated that they did not really enjoy the tour, with no respondent using the lowest scores (8 and 9) on the scale.

Higham et al. (2001) conducted a study on ecotourism and wildlife tourism operators and attractions throughout New Zealand. The twelve investigated operations included two dolphin watch tours in the Bay of Islands and in the Marlborough Sounds, as well as a whale watch operator in Kaikoura. It is noteworthy that the satisfaction on all twelve ecotour operators revealed a very similar pattern to the three dolphin operations of the present study. The majority of 94.5% and 89.2% respectively indicated that they were satisfied with their experience (Figure 6.2).
Figure 6.2: Satisfaction on dolphin tours and on ecotours in New Zealand. Sources: Higham et al. (2001); Lück (2000)

The high degree of satisfaction resulted in a similarly high willingness to recommend the experience the respondents had achieved. In Higham et al.’s (2001) study, 96.8% indicated that they would recommend the tour, and a similarly high result of 93.9% of the participants of the present study stated that they would recommend the tour to their friends and relatives.

Mannell and Iso-Ahola (1987) note that in retrospect, tourists evaluate whether or not their needs were met and consequently how satisfying the recreational activity was. It is interesting to note that although the majority of participants were satisfied with their dolphin tour (mean = 2.28; SD = 1.56), this is not mirrored to the same extent in how much the tour matched the expectations. Here, 55.4% indicated that the tour was better than they expected, with 25.2% stating that it was as they expected. Compared to the satisfaction however, a relatively high share of 19.3% indicated that the dolphin tour was not as good as they expected. The mean of 3.99 (SD = 1.87) was much lower than the mean of the satisfaction. This result supports Oram’s (2000) theory that a high level of satisfaction can be achieved, even if the apparent most important factor of a tour cannot be matched, i.e. in his study whales were not sighted at all. Respondents naturally expected to see whales, but were still satisfied with tours without any sightings of whales.

The theory that satisfaction of passengers is very closely related to their expectations could be clearly seen during observation on various tours of all three operators. When talking with guides and shop staff, it often was mentioned that many visitors have very high and totally wrong expectations about what they will experience. A negative influence was certainly the release of the movie ‘Flipper’. Especially American visitors expect dolphins
acting like Flipper. They want to hold on to the dorsal fin and to be towed through the water. Often, people are not aware that those are wild animals, which are not trained to interact with humans. The enormous impact of 'Flipper' was already experienced after the original TV series in the 1960s. The dolphinaria industry expanded massively within a few years, because Flipper caught popular imagination (Hughes, 2001).

Satisfaction on the dolphin tours was also influenced by the species of dolphins. Hector's dolphins and Bottlenose dolphins live in small pods, whereas Common dolphins and Dusky dolphins are usually to be seen in pods of hundreds of animals. Thus, it is no surprise that Dusky and Common dolphins are much better to 'provide' a lasting impression. However, satisfied and unsatisfied people were observed at all three operations. In two cases (one in Akaroa and one in Paihia), a couple each had a very different experience, although they were on the same trip. As the researcher was on board during those tours, he could identify the reason. In the case of Akaroa it was the husband, who was on the boat and his wife had a swim with the dolphins. She repeatedly asked him to come into the water and have a swim as well. He replied that he was waiting for a good photo shot and then might come in. Once the swimmers (including his wife) got out of the water, he jumped in and the dolphins were gone. His comment on the survey:

I essentially paid $70 to go for a float in cold water. These dolphins may be rare, but dolphins at sea are not. Nor are curious and friendly dolphins. It was a complete waste of money. The dolphins, which did visit were close, but too far away in poor visibility water to gain anything more than a glimpse. Better go to the zoo.

His wife rated the tour much better, although she did not add any comment. In the case of Paihia, the husband spent almost the whole four hours inside on his seat. Even during the times when dolphins were around, he briefly went to the observation deck on the bow and then went back to his seat, while all other passengers (including his wife) spent a long time with the dolphins. His comment on the survey: 'Too long with little activity'.
Another factor that influenced passengers’ satisfaction was the experience of the swimming itself, especially with gear, including wetsuit, mask and snorkel. Not very confident swimmers at all three locations commented that the tours were very good and their disappointment was only due to their lack of experience with this gear. The researcher also very often observed swimmers who permanently held their head above the water. Dolphins were very close beside and under them, but they did not see any (Figure 6.3 a &
b). Although all guides repeatedly told people to keep their heads under water (at several occasions, such as the briefing, before entering the water and even while the swimmers were in the water), the lack of confidence made plenty of swimmers keep their heads above the water.

Other points of dissatisfaction were related to the vessels, such as the high noise level while travelling and, depending on the wind directions, the exhausts of the engines coming onto the passenger deck. In the few cases where no dolphins could be found, they seem to be a bit uncomfortable, as passengers tend to stay at their seats for the whole duration of the trip. This was particularly the case in Paihia, where the trip duration was the longest, as was the time until dolphins were found. The seats on Discovery III are hard plastic seats and not comfortable for extended times of seating, particularly during rough sea conditions.

6.2.2 Summary

A variety of factors have an influence on the visitor's satisfaction. This study showed that the overall satisfaction of the tours was very high, which was similar to general ecotours in New Zealand. This high satisfaction rate supports Orams' (2000) findings on whale watching tours, that even on tours where the prime goal (watching or swimming with marine mammals) was not met, participants on the tours were relatively satisfied with the tours. The high satisfaction translated into a similarly high willingness to recommend the particular tour to friends and family.

In cases of dissatisfied participants, the cause for this varied. It was noted by the tour operators that tourists arrive with wrong expectations, which were fostered by the TV series and the movie 'Flipper'. Other reasons of dissatisfaction were related to the location and species of dolphins and to a lack of the swimmers' experience with the equipment (mask and snorkel). Finally, some respondents raised some points of dissatisfaction regarding the vessels, for example, not enough comfort (especially for spectators) and the noise level and exhaust emissions of the diesel engines.
7 Linking Environmentalism to the on-tour experience (model)

New Zealand should be conserved as the last Shangri-la of the world.
John Banks, former Minister for Tourism and Sport (1991)

7.1 Introduction

In Chapter Two, three measures of environmental attitudes, values, and behaviour were reviewed. The New Environmental Paradigm (NEP) scale focuses on general values regarding environmental issues, the Environmental Concern (EC) scale on specific opinions about pollution and regulations (attitudes), and the General Measure of Ecological Behavior (GEB) on environmental activities of the respondents. The results for the three scales were presented in Chapter Four.

Objective Two, described in Chapter One, was to find an overall measure for general environmental values and attitudes, including general and specific opinions, and environmental behaviour. This new overall measure will be referred to as ‘Environmentalism’. Factor analysis was employed to identify items, which would not fit into the data set and therefore had to be eliminated (cf. Section 4.11). The items that were taken off the Environmentalism set are listed in Table 7.1.
Table 7.1: Items eliminated from the ‘Environmentalism’ and the ‘Experience’ data sets

<table>
<thead>
<tr>
<th>Environmentalism set:</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC scale:</td>
</tr>
<tr>
<td>7. Pollution is not personally affecting my life</td>
</tr>
<tr>
<td>8. The benefits of modern consumer products are more important than the pollution that results from their production and use</td>
</tr>
<tr>
<td>GEB scale:</td>
</tr>
<tr>
<td>7. I buy beverages in cans</td>
</tr>
<tr>
<td>9. If I am offered a plastic bag in store, I will take it</td>
</tr>
<tr>
<td>15. I contribute financially to environmental organisations</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Experience set:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I always wanted to go on a dolphin watch tour</td>
</tr>
<tr>
<td>13. Overall, how crowded did you feel during your dolphin tour?</td>
</tr>
</tbody>
</table>

The reduced data set was then tested for reliability. A Cronbach’s alpha of 0.7935 for the ‘Environmentalism’ set suggests that sufficient internal consistency is given. Objective Four aimed to find a relationship between the environmental values of participants in dolphin tours and the experience on tour. Therefore, the same procedure was employed for the first section of the questionnaire. The combined data set was named ‘Experience’ and resulted in a Cronbach’s alpha of 0.7666. The items taken out of the data set after factor analysis are also listed in Table 7.1. The crowding scale, however, was seen as an important part of the experience and although taken out of the ‘Experience’ data set, it was analysed separately in Chapter Six.

Finally, one-way analysis of variance (ANOVA) was employed in order to gain means for the ‘Environmentalism’ and ‘Experience’ subsets. Negative worded items have been recoded, as described in Section 5.5, in order to receive valid overall mean scores. Using these results, a relationship between the two sets was examined, as described in Objective Four. The overall means were also used to find a relationship between Environmentalism and demographics, and Experience and demographics. The results of these analyses are shown and discussed in the following sections of this chapter.
In order to investigate Objective Two, the mean for the subset ‘Environmentalism’ was related to demographic data. Fennell and Nowaczek (2002:2) suggest that the ‘use of a values-based typology in tourism research may be especially meaningful in drawing cross-cultural comparisons as tourists could potentially hold different, if not contrasting, values which are embedded in the specific culture or social structure’. Thus, specific interest was in nationalities, where it was assumed that participants from European countries, especially Germany and Scandinavia (Synergy, 2000), would show higher scores on the Environmentalism scale, than participants of North America (USA and Canada), Asia and less developed countries. New Zealand, with its ‘clean & green’ image, was expected to be amongst the highest scores. This assumption was explained by the following factors. Firstly, developing countries were anticipated to have lower environmental concerns. The reason for this is that people in those, mostly poor, countries have other priorities. Many of them struggle for survival and do not think about the natural environment as an asset other than a provider for income. For example, for many people it is more important to collect wood for fuel, rather than protecting the environment by not felling trees. Citizens of developed countries are generally financially better off and generate their income from other sources, so there is no direct benefit from the natural environment. However, there are other benefits from conserving natural resources, for example a stable climate and health. Secondly, residents of many developed countries already adopted pro-environmental behaviour, such as recycling, to their daily routine. This would increase the awareness for environmental problems and the positive attitudes towards conservation issues. Lastly, residents of developed countries usually receive a much higher degree of environmental education. This is achieved through various media, but also through pressure groups and courses at schools. In addition, it was suggested that there are fundamental differences in human-nature relationships between Western and Eastern cultures. Kellert (1996:140) suggests that Eastern cultures “tend to favour human manipulation of nature in order to enhance its appeal”, while Western culture prefer a pristine, untouched state of nature. It has also been argued that ecotourism is a Western construct, and that ecotourism in China, for example, caters mostly for domestic tourists (Lindberg et al., 1997). Thus, it has to be assumed that there is a bias due to these ethnocentric differences.
Figure 7.1: Environmentalism and nationality

Figure 7.1 shows the means of Environmentalism, set in relation with the nationality clusters. As described in Chapter Six, the ‘Environmentalism’ can range from the value 1 (low environmental dispositions) to 4 (high environmental dispositions). The clusters ‘Africa & Middle East’ and ‘Central & South America’ with six respondents and four respondents, respectively, are not large enough to assure reliable results. Disregarding these two nationality clusters, Figure 7.1 shows that there are only very small differences between the means of different nationalities. Germany scored highest (3.222), and Asia lowest (2.934), which represent the anticipated results. On the other hand, North American respondents are surprisingly high on the continuum (USA 3.144 and Canada 3.178), with Holland more in the middle of the range (3.113). New Zealand, however, yielded the most surprising result. After Asia, New Zealanders, with a mean of 2.994, are second lowest on the Environmentalism scale. This result is specifically surprising, because New Zealanders are well known as ‘outdoor’ people, who love to spend large parts of their leisure time in the ‘great outdoors’, with sports and physical activities being important parts of their lives.
Also, New Zealand has the image of being fresh, crisp, bright, protected and undisturbed (New Zealand Tourist Board, 1997).

However, the gap between the lowest mean (Asia with 2.934) and the highest mean (Germany with 3.222) is 0.288, which on the used four-point scale equals only 7.2 per cent. This means that the differences are only marginal and even the lowest score of 2.934 indicates, that Asian participants endorse environmental issues to more than 70 per cent. However, a tendency can be seen, which partly confirms the expected outcome.

When Environmentalism is related to age group, occupation, employment status, or education, the results are even closer. The highest score in the age groups (55-64 years) and the lowest score (65 years and over) are surprisingly the two oldest ages groups. However, the difference of 0.055 (1.4%) is only marginal. The second closest are the qualification groups with postgraduate (3.117) and undergraduate (3.116) sharing the highest score and respondents with no qualifications the lowest (3.053). Again, the difference of 0.064 (1.6%) is only marginal. Slightly larger are the differences within the occupation and the employment status groups. Self employed (3.216) and occupations in Agriculture and Fisheries (3.179) mark the upper end of the spectrum, while retired (2.989) and workers in elementary occupations (2.952) are at the lower end. The differences are still very small with 0.227 (5.68%) for both the employment status and the occupation groups.

7.3 Experience and demographics

In order to investigate Objective Three, the mean scores of the data set ‘Experience’ were related to demographic data. Again, main focus was set on possible nationality differences; however, other demographic data were examined as well. It was anticipated, that participants from more developed countries and from countries with a high population density would have a greater experience on wildlife tours like a dolphin tour. This was explained by the fact that people in countries with low population densities, such as Canada and New Zealand, are more familiar with the natural environment. Travellers from densely populated countries, for example city dwellers, see the natural environment as something special. The two clusters ‘Central & South America’ and ‘Africa & Middle East’ again were disregarded for the reasons explained earlier.
Figure 7.2: Experience and nationality

Figure 7.2 illustrates the relationship between the ‘Experience’ data set and the nationality clusters. Again, as described in Chapter Five, the ‘Experience’ can range from the value 1 (low/bad experience) to 4 (high/good experience). The graph clearly shows that the results are opposite to the predictions in almost all cases. Countries with high population densities, such as Germany, Holland and Asia, show the lowest levels of experience. Countries that are less densely populated, such as Canada, New Zealand and Australia, are at the upper end of the scale with the highest scores for the experience on the dolphin tour. Exceptions are Great Britain with a rather high score (3.016) and Scandinavian countries with a relatively low score of 2.942. Remarkable is the relatively large gap (0.104 = 2.6%) between Germany, Holland and Asia on the lower end, and the rest on the higher end of the spectrum.

As well as with the Environmentalism results, the Experience results have to be read carefully, because the differences are only marginal. The difference between the highest score for Canada (3.042) and the lowest score for Germany (2.803) with 0.239 (= 5.96%) is even lower than the difference between the two ends on the Environmentalism scale. Also similar to the Environmentalism results, respondents rated their experience on the tour with
an average higher than 70 per cent. This result indicates, that participants on dolphin tours in Akaroa, Kaikoura, and Paihia had a relatively good experience.

When the Experience was set in relation to other demographic data, the results were slightly different. The employment status and the qualification status with 0.191 (4.76%) and 0.093 (2.3%), respectively, showed similar low differences between members of the groups. There was, however, a larger difference between the age and the occupation groups. Not currently employed participants marked the lower end of the spectrum with a score of 2.932, while retired participants, with a score of 3.123, had the highest experience scores. A similar difference resulted in the occupation group, with plant and machinery operators and assemblers at the lower end (2.760) and respondents in elementary occupations at the upper end (3.194). The differences of 0.368 (9.2%) and 0.434 (10.85%), respectively, are much higher than those in other demographic subgroups.

7.4 Environmentalism and Experience

In the previous two sections, the overall scores for Environmentalism and for Experience were related to various demographic data. As described in the previous sections, the scores for ‘Environmentalism’ and the ‘Experience’ in the following analyses (including figures) can range from the value 1 (low environmental dispositions, low/bad experience) to 4 (high environmental dispositions, high/good experience). This two-dimensional analysis yielded interesting results, namely, that demographic data do not seem to have a major influence on either the environmental values or on the on-tour experience of participants in dolphin tours. The main aim of the present research, however, was to develop a model that shows the relationship between environmental values, attitudes, and behaviour, and the on tour experience, and how demographics affected this relationship (Objective Four). The expected outcome was that residents of countries with a reputation of high environmental values and attitudes (Germany, Holland, Scandinavia, New Zealand) would show lower scores for the on tour experience than residents of countries with traditionally lower environmental values and attitudes (North America, Asia, developing countries). This assumption was explained by the following perception: Environmentally conscious participants would enjoy the tour, but probably have second thoughts about those tours. Due to interpretation on the tours and direct observation of the mammals, it was anticipated
that those respondents would show some concern about the possible negative impacts of those tours on the marine mammals. On the other hand, participants with a lower environmental consciousness were expected to thoroughly enjoy the tour and not let the experience be marred by critical thoughts about possible negative impacts. Figure 7.3 shows the anticipated results displayed in a simplified model.

![Figure 7.3: Environmentalism, experience, and nationality (model predictions)](image)

It was examined if a significant correlation between the two data sets (Environmentalism and Experience) could be found. Two tests, namely Pearson’s and Spearman’s correlation coefficients, were employed, and both tests suggest that there is no significant correlation between the Environmentalism and the Experience data sets, as shown in Table 7.2. The results show that 1.6% ($r^2$ of Pearson’s) of the variability in subjects’ responses about their Experience is accounted for, or can be explained by their attitudes towards Environmentalism. This positive correlation is very weak, and does not support the hypothesis that respondents with high environmental dispositions would show lower scores for the on-tour experience.
Table 7.2: Correlations between the Environmentalism and Experience subsets

<table>
<thead>
<tr>
<th></th>
<th>Environmentalism</th>
<th>Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pearson's Correlation</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>703</td>
</tr>
<tr>
<td>Experience</td>
<td>Pearson's Correlation</td>
<td>.128*</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>703</td>
</tr>
<tr>
<td>Environmentalism</td>
<td>Spearman's Correlation</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>703</td>
</tr>
<tr>
<td>Experience</td>
<td>Spearman's Correlation</td>
<td>.116*</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.002</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>703</td>
</tr>
</tbody>
</table>

* Correlation is significant at the .01 level (2-tailed)

The two subsets were also tested for internal consistency (reliability). This test resulted in a reliability coefficient (Cronbach’s alpha) of .7666 for the Experience subset, and .7935 for the Environmentalism subset. Both coefficients are high enough to suggest that the results are reliable. Then, the results of the one-way analyses of variance (ANOVA) for both data sets were applied to the model. In addition to relating these two sets to nationality, other collected demographic data, such as occupation, employment status, qualification, and age groups, were applied to the same model. The results will be illustrated and discussed in the following sections.

### 7.4.1 Nationality

Firstly, the means for Environmentalism and Experience were set in relation to the nationalities of the respondents. Plotted into the model as described in the previous section, the results show a surprising picture. All nationalities, without any exception, were found in the upper right (second) quarter of the matrix, which indicates that on average, all participants scored high for Environmentalism and for the on-tour experience (Figure 7.4). The extremes, which were expected to be found in the first and in the fourth quarter of the model, could not be confirmed.
Disregarding a lack of extremes, the model still delivers some trends and can confirm parts of the anticipated outcomes. For further discussion, the second quarter is seen separately. This section alone provides a better insight into the results. Firstly, Germany and Holland could indeed be found in the upper left corner of the so reduced matrix. This indicates that they scored higher for Environmentalism, but lower on the tour experience than other nationalities, and reinforces the assumptions stated above. North Americans (USA and Canada) show surprisingly high scores for Environmentalism. Regarding the experience, the US American respondents are found in the middle of the respondents, while Canadians had very high scores for Environmentalism and the highest score for the on-tour experience. A similar pattern can be observed from Australian and British travellers. The ‘clean & green’ New Zealanders are second last on the Environmentalism scale, but show a relatively high score for the on-tour experience. Scandinavians are approximately in the
centre of both scales. Finally, Asians confirmed the expected lowest score for Environmentalism and, surprisingly, also a very low score for the on-tour experience. One explanation for this result could be the ethnocentric bias, as discussed in Section 7.2.

### 7.4.2 Other demographic data

When other demographic data was applied to the Environmentalism-Experience matrix, the results were similar. It is worth noting that age groups do have the least influence on Environmentalism. The age group '55-64 years' showed the highest score (3.137), while the age group '65 years and over' displayed the lowest score (3.082). The difference between the two is only 0.055 (1.38%), which illustrates how close the scores of respondents of all age groups are (Figure 7.5).

**Figure 7.5**: Environmentalism, Experience, and age groups (results)
The difference between the lowest (35-44 years) and the highest (65 years and over) scores on the Experience scale was relatively high ($0.369 = 9.23\%$), however, there is no particular pattern of the age groups on the Experience continuum. The oldest age group shows by far the highest score though. This could be explained with that fact, that the majority of the older participants were not swimming with the dolphins, but joined the tours as spectators. They did not have the high expectations of a thrilling swim, but enjoyed to be around the dolphins and being in beautiful scenery. The comment of an elderly lady in Akaroa confirms this assumption: 'I enjoyed the beautiful scenery more than the dolphins though we saw plenty of them and they seemed quite happy to be followed around the boat and swim with'.

Regarding the Environmentalism, the occupation and the education/qualification seem to have only a minor influence on the extent of environmental values as well (Figure 7.6). The range between the highest scores is fairly small with $0.227 (= 5.68\%)$ and $0.064 (= 1.60\%)$ for occupation and qualification, respectively. Qualification also does not seem to have a significant influence on the experience. The difference between the lowest score (2.940 for undergraduate degree) and the highest score (3.034 for no qualification) is only 2.33\% (0.094). However, the occupation of the respondents does have a larger influence. The difference of $0.434 (= 10.85\%)$ is the highest of all recorded data in this study. It is, however, not possible to draw conclusions to what sort of occupations influence the results. Elementary occupations and plant and machinery operators are both occupations that require a relatively low level of training and education; however, they marked the ends of the spectrum on both sides with the highest score (3.194) and the lowest score (2.760), respectively.
Finally, the employment status was set into a relationship with the Experience and the Environmentalism sets. Again, the results show a similar picture (Figure 7.7). On both axes of the graph, the differences are of average nature.
The lowest score of 2.989 (retired) and the highest score of 3.216 (self employed) on the Environmentalism axis yield a difference of 0.227 (= 5.67%). On the Experience axis, not currently employed participants marked the lower end of the spectrum with a mean score of 2.933, while at the higher end retired travellers rated their experience with a mean score of 3.124 (difference: 0.191 = 4.76%).

**Figure 7.7: Environmentalism, Experience, and employment status (results)**

7.5 Summary

The results reveal some expected outcomes, however, other outcomes were very surprising and in contrast to the anticipated results. The assumption, that respondents with high environmental values would have low scores for the on-tour experience cannot be
confirmed generally. For German travellers, this seems to be the case, since they showed the highest scores for Environmentalism and the lowest scores for the on-tour experience. But a look, for example, at Canadian participants reveals a different picture: They have very high environmental values (the second highest score), but also showed the highest scores for the on-tour experience. British and Australian respondents demonstrated a similar pattern. Asian participants confirmed the expected low scores for Environmentalism, but surprised with a very low score for the on-tour experience.

When other demographics were compared, there were a few cases that support the expected outcomes. The age group '65 years and older' and 'retired' respondents had the highest scores for the on-tour experience, but the lowest for Environmentalism. The same is valid for travellers with elementary occupations and those that have no qualifications. On the other hand, respondents with university qualifications (undergraduate and postgraduate) have the lowest scores for the on-tour experience, but showed the highest scores for Environmentalism.

7.6 The New Environmental Paradigm (NEP) scale in a tourism context

In Chapter Three, the NEP scale was introduced in detail. It was shown, that the scale has been applied and tested in various studies with the result that it is a reliable and valid measure. However, regarding the dimensionality, the studies revealed various numbers of factors. All of these studies suggested that the NEP scale is not uni-dimensional, as suggested by Dunlap and Van Liere in their original study in 1978. It can be concluded that the NEP scale has been widely tested, but only to a small extent in a tourism context. The current study attempts to contribute to the discussion whether or not the NEP scale is a useful instrument for tourism research. For the present study, the NEP scale was applied in its original form, including all twelve items.

The collected data was submitted to the statistical tests, similar to those discussed in Chapter Three (Section 3.1), in order to elicit information about reliability and dimensionality. The NEP items revealed a Cronbach’s alpha of .7756, which indicates that the data is reliable. In fact, apart from Dunlap and Van Liere’s (1978) GPS sample (.813), it was the highest alpha achieved of the subsequent studies discussed in Chapter Three.
Factor analysis applied to this New Zealand sample on three dolphin tours revealed two factors: One factor is similar to Uysal et al.'s (1994) and to Higham et al.'s (2001) studies, and can be described as ‘Humans over Nature’. This factor includes four items shown in Table 7.3. In contrast to the present study, this factor in both previous studies did not include the item ‘Humans need not adapt to the natural environment because they can make it to suit their needs’.

Table 7.3: Factor ‘Humans over Nature’

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plants and animals exist primarily to be used by humans</td>
<td>.831</td>
</tr>
<tr>
<td>Humans were created to rule over the rest of nature</td>
<td>.828</td>
</tr>
<tr>
<td>Humans have the right to modify the natural environment to suit their needs</td>
<td>.640</td>
</tr>
<tr>
<td>Humans need not adapt to the natural environment because they can make it to suit their needs</td>
<td>.510</td>
</tr>
</tbody>
</table>

While the factors with three items explained 34.7% and 14.5% of variance in Uysal et al.'s (1994) and in Higham et al.'s (2001) studies, respectively, the four-item factor in the current study explained 43.6% of variance. An increase of factors resulted in only small improvements regarding the variance. Three and four factors explained 51.42% and 58.89% of variance, respectively. Two factors as in Dunlap and Van Liere’s (1978) original work, explained only 43.56% of variance in the present study.

Uysal et al. (1994) identified two more factors (‘Balance of Nature’ and ‘Limits to Growth’), which comprised three items each. They eliminated the remaining three items from the scale. The study of Higham et al. (2001) also resulted in two more factors with the same headings, however, in their work, the factor ‘Balance of Nature’ consisted of four items, while the factor ‘Limits to Growth’ comprised only two items. They too, eliminated three items from the original set of twelve items. In both studies, the eliminated items were ‘The earth is like a spaceship with only limited room and resources’, ‘Humans need not adapt to the natural environment because they can remake it to suit their needs’, and ‘There are limits to growth beyond which our industrialized society cannot expand’. The second factor of the present study comprised all remaining eight items, with factor loadings between .495 and .692, and no items were eliminated. This result is similar to Noe and Snow's (1990) outcome of two factors and also confirms the multi-dimensionality of the NEP scale.
Uysal et al. (1994) investigated how the three NEP factors related to demographic data. Their findings suggested that demographic data have a limited influence on the environmental values, measured by the NEP scale. The exception in all three factors was gender, where it was shown that female respondents appeared to be more pro-environmentalist than their male counterparts. In addition, Uysal et al.’s (1994) findings suggest that with increasing age, the agreement with the ‘Balance of Nature’ factor increases as well.

Ryan (1999) used 18 items in order to identify environmental awareness and attitudes. Only seven items out of the 18 were original items of Dunlap and Van Liere’s (1978) NEP scale. Cluster analysis was applied with the result of the identification of five different clusters: The ‘Après Moi’, the ‘Optimists’, the ‘Very Concerned’, the ‘Less Pessimistic’, and the ‘Nebulous’. Ryan found only little relationship between cluster members and the rates of visitation to wildlife attractions. He states that those who do visit wildlife attractions are mostly ‘sensitive to and appreciate messages relating to environmental issues’ (Ryan, 1999:8). The only demographic variable significantly differing was children under the age of 10 years. Here, it was shown that visits to wildlife attractions were much more likely. Ryan (1999) also noted that younger and higher educated respondents showed the highest levels of environmental concern. Connected with this, he could confirm that the higher the level of concern was, the more respondents were willing to accept controls upon the access to wildlife. However, overall these results cannot be seen as directly comparable to the other studies discussed in this study, because Ryan’s scale employed only seven of the original NEP items, but added another eleven items that were not part of Dunlap and Van Liere’s (1978) NEP scale. Niefer et al. (2002) used only six NEP items in a survey in Superagüí National Park (Brazil). However, they conclude that due to a very low Cronbach’s alpha of .4983, the use of the reduced six-item-scale is not appropriate.

In the present study, the NEP means were related to various demographic data. The results confirm the findings of Uysal et al.’s (1994) study: Demographic data seem to have little influence on the environmental values of the participants on dolphin tours. The highest acceptance of the NEP was shown by German respondents (mean = 1.50), while Asian respondents showed the lowest score (mean = 1.90). The difference between occupation groups is even less, with the lowest mean score of 1.42 (Military) and the highest mean of
1.83 (Plant and Machinery Operators). The employment status yielded similar results, with a mean score of 1.43 for self-employed respondents, and a mean of 1.85 for retired participants. Uysal et al.'s (1994) findings that female respondents are more pro-environmentalist than their male counterparts is supported by the results of the present study, however, the differences are marginal (female: 1.59; male: 1.67). Ryan (1999) found that younger and higher educated respondents showed a higher level of concern. This cannot be confirmed in the present study. The results for both demographics show no particular pattern. For example, the two highest age groups are at both ends of the results (55-64 years: 1.47; older than 65 years: 1.79). In fact, the younger age groups tend towards higher scores (i.e. less environmentalist). Results are similar for the level of education. In contrast to Ryan's findings, vocational and trade qualifications indicated the highest level of pro-environmentalism (mean = 1.58) and postgraduate qualifications are in the middle with a mean of 1.59. However, the respondents with no qualifications are, similar to Ryan's findings, at the end of the spectrum (mean = 1.81).

In the original study, Dunlap and Van Liere (1978) used two samples, one of which comprised members of environmental organisations (EOS). They proved the validity of the NEP scale by predicting that the EOS sample would show a higher concern for environmental issues than members of the general public sample. It was therefore interesting to see to what extent this could be confirmed more than twenty years later. It could be argued, that there has been a general rise in environmental awareness, thus it might be assumed that members of environmental organisations would not necessarily show a significantly higher concern for the environment.

**Table 7.4: NEP and membership in environmental organisations**

<table>
<thead>
<tr>
<th></th>
<th>Greenpeace</th>
<th>WWF</th>
<th>Sierra Club</th>
</tr>
</thead>
<tbody>
<tr>
<td>Members</td>
<td>1.45 0.31</td>
<td>1.44 0.34</td>
<td>1.38 0.27</td>
</tr>
<tr>
<td>Non-members</td>
<td>1.64 0.41</td>
<td>1.65 0.41</td>
<td>1.63 0.41</td>
</tr>
</tbody>
</table>

Note: 1 = strongly agree; 2 = mildly agree; 3 = mildly disagree; 4 = strongly disagree

The figures in Table 7.4 show that members of environmental organisations (Greenpeace, WWF, Sierra Club) all indicated a higher concern for environmental issues. Interestingly, the figures for Greenpeace and WWF are very similar, although the organisations are very different in nature. Greenpeace is much more radical and deals with more issues
concerning the environment in general. This includes wildlife, but is not restricted to it. WWF is mostly concerned about wildlife and its habitat, and in actions much more sensitive and less radical. Still, the members of both show almost exactly the same mean score (Greenpeace: 1.45; WWF: 1.44).

7.6.1 Summary

The New Environmental Paradigm scale has been employed in a number of studies since its introduction by Dunlap and Van Liere in 1978. Only a limited number of research programmes employed the NEP scale in a tourism context. There are some interesting results in all studies that seem to underline the validity of the scale, for example the fact that predicted outcomes are mirrored in actual results. Also, it seems to be a fair statement that the majority of the respondents support the ideas of the NEP, which confirms the notion that people have indeed shifted from an anthropocentric to an ecocentric worldview. However, there seem to be some shortcomings regarding the use of the NEP as well. The few tourism studies using the NEP found some similarities, but it is suggested that demographics do not seem to have a major influence on travel behaviour (Uysal et al., 1994) or on the choice of wildlife attractions in Australia (Ryan, 1999). The present study confirms those results and also show that demographics have only very little influence on the environmental consciousness. Higham et al. (2001) also used the NEP scale in a tourism context, however, did not relate the results to specific demographic data.

In the light of these findings it appears that the NEP scale is only of limited use in a wildlife or ecotourism context. Since all previous studies were conducted at relatively natural environments, such as national parks (Uysal et al., 1994), wildlife attractions (Ryan 1999), ecotours and eco-attractions (Higham et al., 2001), and on dolphin tours at the present study, it seems that tourists at those places do indeed have high environmental values and are concerned about negative impacts on the environment. Thus, it is suggested that the NEP scale is further tested in other tourism areas, for example mass-tourism resorts, such as Australia’s Gold Coast or the Spanish island of Majorca. The types of tourists and their demographic profile is expected to be much more diverse and the NEP scale is expected to reveal fundamental differences in environmental consciousness amongst those visitor groups.
8 Recommendations and conclusion

This programme of research was designed to provide a comprehensive understanding of participants on dolphin tours in New Zealand. It has been noted that tourism in general is still a growing industry, with particularly high growth rates a notable feature of the marine tourism sector (Hall, 2001). There has been significant research conducted which addresses this growth and the associated implications (for example, Berghan, 1998; Cater & Goodall, 1992; Robinson, 2001). However, to a large extent, these research projects investigated the impacts tourism has on the marine mammals and on the marine environment (cf. Section 2.2.3). While there have been few studies that profile tourists interacting with whales (Finkler, 2001; Muloin, 1998; Orams, 2000;), fewer still investigate participants on dolphin tours (Amante-Helweg, 1995). This study, in essence was designed to profile this tourism market in the New Zealand context. Understanding the audience on dolphin tours is an important step in providing satisfactory visitor experiences. Satisfaction on tours varies with different visitor profiles (Noe, 1999). Thus, in order to provide tours tailored for specific visitor groups, it is necessary to develop detailed insights into the demographics, demands, values, and behaviours of those visitor groups.

One crucial component of such tailored tours should be interpretation and education. In academic literature, there is strong advocacy for an educational component on ecotours (Fennell, 1999; Gilbert, 1997; Orams, 1995d; Weaver, 2001a). While most researchers
agree with this, some argue that ecotourists are environmentally sensitive already, and education on ecotours is therefore ‘preaching to the converted’ (Beaumont, 2001; Higham & Lück, 2002). However, Higham and Lück (2002) note that, especially on ecotours in urban settings, there are a large number of ‘general’ tourists who add an ecotour component to their general holidays, because it is easy to access and promises to be interesting and exciting. These tourists, however, are not dedicated ‘specialised ecotourists’, but rather ‘soft’ massmarket visitors (Laarman & Durst, 1987). These issues underline the importance of having a clear picture about the demographics and the needs of participants on such tours. The proliferation of dolphin tour operations on both of New Zealand’s main islands supports the need for more information about the visitors who are participating in those tours.

8.1 Key research findings

**Objective One: To draw a demographic profile of participants on dolphin tours in New Zealand**

The collected data indicated that participants in swim-with-dolphins tours come from a variety of backgrounds. The demographic profile shows that the majority of participants are younger than 35 years old, well educated, and mostly from English speaking countries. It was also shown that the majority of participants were booked to swim with dolphins, rather than just watch them. Fennell (1999) argues that there is an increasing overlap between adventure tourism, ecotourism, and cultural tourism. The results of this study confirm Fennell’s argument, because swim-with-dolphins tours include some adventure components, such as the experience of using a snorkel, mask, and wetsuit, swimming in the open sea, but also encountering dolphins in their natural habitat. These findings have implications for both the tour operators and for future research. Tour operators need to recognise this and should emphasise the adventure component in their marketing.

In confirming Fennell’s (1999) suggestion that there is an increasing overlap between ecotourism and other forms of tourism experience, the results of this study support the view that ecotourism is not a ‘stand alone’ concept. Tourism concepts are not exclusive of each other, and many tourism activities can be subsumed under a variety of tourism concepts. Swim-with-dolphins tours, for example, can be placed into the categories of
ecotourism, wildlife-based tourism, nature-based tourism, educational tourism, and adventure tourism. Reynolds and Braithwaite’s (2001) model of wildlife-based tourism (cf. Section 2.1.3.2) supports this view.

**Objective Two:** To examine environmental values, attitudes and behaviour of participants on dolphin tours. It will then be attempted to combine these three factors in order to measure 'Environmentalism', including values, attitudes, and behaviour.

One factor that may assist profiling and, therefore, understanding tourist types on dolphin tours is environmental consciousness. General environmental values, attitudes, and behaviour could influence the experience on swim-with-dolphins tours, and provide an indication for the desired scope of interpretation programmes on such tours. While previous research focused on either of the three aspects, this study successfully combined environmental values, attitudes, and behaviour in order to establish a general measure for 'Environmentalism'. This Environmentalism measure reflects a more general disposition towards the environment. Many visitors display environmental sensitivity only on such ecotours, or probably during the whole of their holidays. However, after their holidays at home will most likely go back to their normal pre-holidays day-to-day patterns (Shepperd, 2003). Thus, this combined scale was set to determine general environmental consciousness, rather than environmental aspects of the dolphin tours. Results show that participants on dolphin tours do have high dispositions towards the environment. The majority of respondents showed high scores on the NEP and the EC scales, and only slightly lower scores on the General Measure for Environmental Behaviour (GEB). These slight differences between values and attitudes on the one hand, and environmental behaviour on the other, confirm the argument that people tend to have higher aspirations and dispositions towards the environment, but that this does not translate into behaviour to the same extent (Diekmann & Preisendörfer, 1998). Environmental education could raise awareness, and stimulate a more environmentally conscious behaviour. The role of education and interpretation on dolphin tours was addressed in Objective Three (following section).
Objective Three: To gain an understanding about factors that influence the tourist experience on dolphin tours, including satisfaction, crowding, and education/interpretation.

The tourist experience is complex, a reflection of cognitive processes, and often private and subconscious in nature (Holbrook & Hirschman, 1982; Manfredo et al., 1983). A large number of factors influence the tourist experience, including education and interpretation on tours. There is a school of thought that is critical about educational aspects in tourism. These researchers suggest that tourists are nothing but consumers that want to be entertained (Butler, 1992a; Pleumarom, 1993; Wheeller, 1991, 1994a). On the other hand, it is argued that interpretation can indeed increase environmental sensitivity, and ultimately foster pro-environmental behaviour (Aldridge, 1989; Fennell, 1999; Orams, 1996a). It is important to know, however, whether tourists want to be educated. This knowledge, specifically about tourists on dolphin tours, has practically been non-existent. This study investigated how participants perceived interpretation on dolphin tours, and whether they would have liked to engage in more or less interpretation on the tours. The results of this part of the survey portray a clear picture. Overall, respondents were satisfied with the interpretation provided by the dolphin tours staff. However, the presented data also supports the need for the implementation of structured educational programmes. It was most apparent that participants in dolphin tours expect high quality interpretation and education. In fact, the results indicate that particularly on the dolphin tours they would have liked to get more information about the marine mammals, but also about the marine environment in general. This desire seems to be even more important, because many respondents used the open-ended section at the end of the questionnaire for those suggestions, i.e. the general view that learning more during the particular tour was desirable was unprompted. Higham and Carr’s (2002) study at various ecotourism operations and sites throughout New Zealand yielded similar results, which reinforce the findings of the present study.

These findings have significant implications for the business operations in this sector. Effective interpretation provides natural area managers with the unique opportunity to raise awareness and educate tourists about environmental problems in the particular setting (Weiler & Davis, 1993). The audience on dolphin tours it seems is very receptive for those issues, because despite relatively good interpretation being already in place, many
participants would have liked to receive even more detailed information. The information provided on board the three tour operators addresses the dolphins to a large extent; comments of many respondents however indicate that there is a demand for information about the wider environmental issues and regulations associated with the visited area (Higham & Carr, 2002). Interpretation programmes, such as those suggested by Forestell and Kaufmann (1990) and by Orams (1997a), are vital for effective interpretation and should be adopted by dolphin operators. In fact, New Zealand’s Marine Mammal Protection Regulations (1992) state in section 6(h) about requirements for licensing that “the commercial operation should have sufficient educational value to participants or to the public”. This increase in knowledge could benefit the tourists on board by providing them with the desired information (and thus increases satisfaction). The increase in knowledge and the discussion of environmental issues could also benefit the environment: Ideally, participants translate this information and concern for the environment into action, either through financial support of environmental organisations, or through actions taken at home, such as recycling.

Crowding was measured by using Shelby et al.’s (1989) nine-point Likert scale. While the concept of crowding is debated, it can give an indication of how tourists respond to levels of social interaction, and if crowding does influence the experience. Overall, tourists on the dolphin tours at all three locations did not feel crowded. Only few respondents indicated crowding to some extent (cf. Section 6.1.3). It can be concluded that crowding on those tours did not have a major influence on the visitor experience.

In this study, various aspects of the visitor satisfaction were investigated. Although not initially planned, it became clear that the on tour observations, as well as the open ended comments on the questionnaire were the most important tools to gain a better understanding about the tourists’ satisfaction on dolphin tours. Results clearly showed that overall, participants on the dolphin tours were very satisfied with their experience (cf. Section 6.2). The results are in line with the results of previous on whale watching tours (Orams, 2000), dolphin tours (Amante-Helweg, 1995), and on ecotours in New Zealand in general (Higham et al., 2001). This study also showed that factors affecting satisfaction are diverse and range from too high expectations, to individual perceptions, and to problems in the use of the snorkeling equipment.
This research strongly supports the argument of Manfredo et al. (1983) and Otto and Ritchie (1996) that the visitor experience is very complex, and thus difficult to measure. It also underlines McKercher’s (1997) warning of misinterpretation of such results, because respondents might indicate high satisfaction, although they still desire improvements in facilities, activities, or conditions (cf. Section 3.3).

**Objective Four: To identify a relationship between 'Environmentalism', the on-tour experience, and various demographic data.**

The main goal of the present research programme was to investigate the extent to which demographic data may explain the relationship between ‘Environmentalism’ and the ‘Experience’. The research design was developed to test whether participants with higher scores for Environmentalism would have lower scores on the Experience scale. This was explained by the assumption that more environmentally conscious people would have second thoughts about swim-with-dolphins tours and consider the possible negative impacts of those tours on the marine mammals. On the other hand, people with lower environmental awareness were expected to just enjoy their dolphin encounter and not let environmental concern impair their experience. The results were plotted into a simplistic model with the Experience mean scores on the x-axis and the Environmentalism scores on the y-axis (Figure 7.3). When dividing the model into four quarters, it was anticipated that respondents from countries with traditionally high environmental values reporting low experience scores would distinguish themselves from those with low environmental awareness reporting higher experience scores. The separate examination of the two sets as described in Objective Three indicated that those predictions could not be confirmed.

When the data set was applied to the proposed model, all nationalities, without any exception, could be found in the top right (second) quarter of the model, i.e. showed high mean scores for both Environmentalism and the Experience. Furthermore, a similar picture was apparent when the nationality was replaced by other demographic data, such as age groups, occupations, education, and employment status. In all cases, it was not possible to identify any significant differences between demographics that would influence either the environmental consciousness or the on-tour experience. In fact, overall all respondents indicated very similar scores for both sets.
Objective Five: To investigate whether or not Dunlap and Van Liere’s (1978) New Environmental Paradigm (NEP) scale is applicable in a tourism context.

This thesis also provides insights into issues associated with researching environmentalism and measuring environmental values. Part of the ‘Environmentalism’ measure was adopted from Dunlap and Van Liere’s (1978) New Environmental Paradigm scale, which has been thoroughly tested throughout the years (Albrecht et al., 1982; Geller & Lasley, 1985; Noe & Snow, 1990) (cf. Section 3.1.5). In a tourism context, however, it has been applied only in very few studies (Higham et al., 2001; Ryan, 1999; Uysal et al., 1994). The present study set out to contribute to the discussion whether the NEP scale is a useful instrument, particularly for tourism research. The findings of the present study underline those of previous studies, undertaken by Uysal et al. (1994) and Ryan (1999). It seems to be clear that there is an increasing acceptance and support for environmental issues. All three studies showed high scores for the items of the NEP scale, which suggest a large degree of acceptance. However, the studies also showed that demographic data do not seem to have a significant influence on the acceptance of the items of NEP scale. Variations in demographics were only marginal and often without any clear pattern. For example, the two highest age groups (‘55-64 years old’, and ‘65 years and over’) showed the highest and the lowest scores, respectively, on the Environmentalism scale. It was assumed that the main reason contributing to those results is the homogeneity of the samples at tourism attractions in natural areas. However, even if the samples were not as homogeneous as they appear, it is assumed that the attitudes towards the survey sites (natural and wildlife attractions) influenced the survey results. These results may have implications for the survey design. The research objectives were not stated in a deliberate step intended to reduce possible bias. However, due to the content of many items it was clear that environmental issues formed an important part of the study. Thus, despite these efforts, respondent bias may have been introduced into the dataset as a response to the content of the survey.

In addition, the NEP scale was developed more than twenty years ago, and the items appear to be out of date and not to reflect today’s environmental issues. It is now generally more accepted that some form of environmental protection is necessary in order for humans to survive (O’Neill, 1997). An updated NEP scale would benefit from more detailed and specific items. This is supported by the fact that in recent studies, researchers
used only a selection of the NEP scale items and added a variety of new items (for example, Uysal et al., 1994; Ryan, 1999, Niefer et al., 2002). Thus, it is concluded that the NEP scale needs to be updated and, once again, tested to assess its utility as an instrument in measuring overall environmental values. The scale seems to be less useful in identifying specific demographic groups and their relationship towards environmental values, when applied at ecotours or wildlife-based attractions.

8.2 Future research

The results of this study have various implications for possible future research. Firstly, the results strongly support Forestell and Kaufman’s (1990), and Orams’ (1995d) proposal to implement structured interpretation programmes on marine mammals tours. Participants appeared to consciously consume interpretation and overall would like to receive more information on the marine wildlife and the surrounding natural areas. In order to design appropriate interpretation programmes for swim-with-dolphin tours, it is suggested that further research is undertaken in order to investigate in detail what participants on dolphin tours would like to learn. In particular, the qualitative data of this study offers a basis for the design of future research, which may be pursued by researchers in this field.

The developed Environmentalism-Experience-model of this study revealed some interesting aspects, but also some weak points. If this model is to be validated, a number of details have to be addressed. Firstly, due to the similarity of both the Experience and the Environmentalism across all demographics, it is necessary to investigate if there are other factors, which might influence the Experience and/or Environmentalism, such as general destination preferences, and main interests during holidays.

Secondly, a second ‘test-population’ in a different setting, for example, a beach holiday resort, should be chosen and the results be applied to the same model. The outcome of such a test can help determine whether participants particularly on dolphin tours are indeed as homogeneous as they appear. If however, results of the test-population are similar to the results of this study, it must be assumed that this model has to be largely modified, with other items measuring Environmentalism and Experience. Another test is recommended to
be undertaken at a dolphin tour in a different setting. All three locations of this study are in relatively remote areas, at least one and a half driving hours away from the main centres of Christchurch and Auckland. In September 2000 (four to five months after the field season of the present study), the newly established *Dolphin Explorer* started with two daily operations from Pier 3, downtown Auckland (*Dolphin Explorer*, 2000). Since these tours operate directly from downtown Auckland, it can be assumed that the visitor profile of *Dolphin Explorer* varies significantly from those at the three operators of the present study (cf. Section 2.1.2.2.2).

Thirdly, it is suggested that the same questionnaire should be administered during various times of the year. The particular season might have significant implications on the Experience results, because factors such as weather, mammal sightings, and crowding can vary significantly throughout the year. The visitor structure could also vary, with more families present during high season (school holidays), and more singles and couples, as well as retired travelers during the off season.

Lastly, the present study investigated the situations at New Zealand locations only. As illustrated in Section 2.2.4, New Zealand has already comprehensive guidelines for marine mammal tourism in place, although Higham (2003, pers. comm.) argues that the effectiveness of dolphin watch guidelines remains fraught with difficulty. Similar research at other destinations, especially in developing countries, is most likely to yield different results. Legislation and regulations in many developing countries are either not in place, or are not enforced. Thus, the visitor experience might vary significantly, for example, due to crowding.

With those modifications in place, the proposed Environmentalism-Experience-model (cf. Figure 7.3) could greatly assist wildlife tour managers to develop comprehensive and structured educational programmes for their respective tours. Positive aspects can be elicited and proposed to be implemented at other locations, while negative aspects help identify critical issues and provide the opportunity to mitigate those.
8.3 Concluding remarks

The review of a plethora of literature on ecotourism, wildlife tourism, and marine tourism confirms that these sectors of the tourism industry have received much attention from researchers all over the world (for example, Duffus & Dearden, 1990; Fennell, 1999; Orams, 1999). Contentious issues are commonly associated with ecotourism, and in terms of the issue of definition it appears to be clear now, that an all-encompassing definition is not possible, and probably not necessary (Bottrill & Pearce, 1995; Buckley, 1994). It is rather suggested that frameworks are more useful to conceptualise ecotourism and make it operable. However, there is still the need for dedicated research, which is underlined by the recently launched academic *Journal of Ecotourism*, early in 2002. Although Fennell (2002:5) notes that there is some level of comfort regarding ecotourism and its operationalisation, he also suggests that ‘we have only seen the tip of the iceberg’. Whilst a good general understanding about the aims and nature of ecotourism has already been gained, research is now exploring more specialised areas of ecotourism. Marine ecotourism is one of those specialised areas, that only recently has received more attention. Garrod and Wilson’s (2003) book appears to be the first one that addresses specific aspects of marine ecotourism. So far, marine tourism has not been recognised as a tourism sector in its own right. Research has been conducted in various disciplines, such as tourism, marine biology, economics, marketing, social psychology, and environmental studies. While whale watching has received the most attention amongst marine wildlife tourism, research on tours targeting other species, such as dolphins, penguins, manatees, seals, and pelagic birds, is sparse and mostly focussed on the impacts of those tours. There is a need for further research on the participants of those tours. In order to maximise benefits for the tourists, the tour operators/attractions, the local residents, and the species in question, it is strongly suggested that closer collaboration of marine scientists and tourism researchers will be nurtured and expanded. Combined research findings can greatly assist to develop a sustainable marine (eco)tourism industry. The new journal *Tourism in Marine Environments* is further evidence of this need. It aims to provide a forum for research from various disciplines, in order to gain a better understanding of the interrelationship of those disciplines.

Marine scientists have responded to pressing biological and ecological management issues associated with the growth of dolphin tours, and much research has investigated the effects
that tourism operations have on marine mammals (For example, Barr, 1999; Bejder, 1997; Corkeron, 1995). However, there still seems to be a major gap in understanding the tourists on marine mammals tours. Interpretation and environmental education is most effective, when it is tailored for the specific target groups. It is therefore necessary to further investigate the demographic profile of the participants, as well as their opinion on various aspects regarding the dolphin tours, including the experience on those tours (seen post-hoc), the degree to which participants desire education and interpretation, and environmental sensitivity in general. The present study employed prominent scales (NEP, EC, GEB) in order to investigate environmental values, attitudes, and behaviour as a means of gaining this insight. The results show that, overall, the respondents on tours at the three locations hold high environmental values and support environmental activities. Furthermore, a relatively high proportion of the respondents clearly indicated that they would have liked more information during the tours. Interpretation programmes are generally seen to be a central feature of any dolphin watch operation. In collaboration with marine scientists, comprehensive programmes and regulations for dolphin tours need to be developed. The successful implementation of such programmes would be for the benefit of all stakeholders.
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Toxward, Sarah  
Department of Conservation, Canterbury Conservancy, fax 30.05.2000
Kia Ora!

My name is Michael Lück and I am a Ph.D. student from the University of Otago in Dunedin. My research is about people participating in wildlife watching tours. I would like to ask you to take a few minutes of your valuable holiday time and fill in this questionnaire. Please answer all questions and return the completed questionnaire either to me, the office of the tour operator or send it back with the enclosed freepost envelope from any letterbox within New Zealand.

If you wish to go into the draw for a fluffy dolphin and a book about dolphins, fill in your name and address at the end of the questionnaire.

All collected data will be treated with strict confidentiality and used in aggregated form only. No respondent will be able to be identified.

Your time and co-operation in completing this questionnaire are very much appreciated. I hope you had an exciting dolphin encounter and you enjoy your holidays in this enchanted land.

Thank you!
Ka kite

Michael Lück
Ph.D. student

It was one of those days so clear
So silent, so still, you almost feel
The earth itself has stopped in
Astonishment at its own beauty.

Katherine Mansfield (1888 – 1923)
Section One: About your dolphin watch tour

1. On your dolphin tour today, were you booked to: □ Watch Dolphins  □ Swim with Dolphins?

2. Have you participated in a dolphin tour before? □ Yes: Where? □ No

3. The weather on the tour was generally □ Y □ T □ ☀

4. The sea was □ calm □ moderate □ rough

Please indicate how much you agree or disagree to the following statements by circling one number!

Example: I love dolphins .................................................... 1 ....... 2 ....... 3 ....... 4

<table>
<thead>
<tr>
<th>1 = strongly agree</th>
<th>2 = mildly agree</th>
<th>3 = mildly disagree</th>
<th>4 = strongly disagree</th>
</tr>
</thead>
</table>

1. I always wanted to go on a dolphin watch tour .................................................... 1 ....... 2 ....... 3 ....... 4
2. I have the feeling that the boat disturbed the dolphins ........................................ 1 ....... 2 ....... 3 ....... 4
3. I have the feeling that the swimmers disturbed the dolphins ................................ 1 ....... 2 ....... 3 ....... 4
4. The dolphin watch/swim tour ...
   a) gave me a lasting impression ................................................................. 1 ....... 2 ....... 3 ....... 4
   b) was a ‘once in a lifetime’ experience ................................................... 1 ....... 2 ....... 3 ....... 4
   c) was a unique experience ........................................................................ 1 ....... 2 ....... 3 ....... 4
   d) was a thrilling experience ...................................................................... 1 ....... 2 ....... 3 ....... 4
   e) was an adventure .................................................................................... 1 ....... 2 ....... 3 ....... 4
   f) was a challenge for me .......................................................................... 1 ....... 2 ....... 3 ....... 4
   g) was something new and different for me ............................................... 1 ....... 2 ....... 3 ....... 4
   h) was an educational experience .......................................................... 1 ....... 2 ....... 3 ....... 4
5. I have the feeling that on this tour I learned a lot about dolphins ......................... 1 ....... 2 ....... 3 ....... 4
6. I have the feeling that on this tour I learned a lot about other marine life ............. 1 ....... 2 ....... 3 ....... 4
7. It is important that we learn as much as we can about wildlife .......................... 1 ....... 2 ....... 3 ....... 4
8. Overall, I felt comfortable during the tour .................................................. 1 ....... 2 ....... 3 ....... 4
9. I felt safe during the tour ............................................................................ 1 ....... 2 ....... 3 ....... 4
10. The dolphin tour staff was friendly and helpful ........................................ 1 ....... 2 ....... 3 ....... 4
11. The dolphin tour staff had good knowledge about dolphins .......................... 1 ....... 2 ....... 3 ....... 4
12. **Overall**, how much did you **enjoy** today's dolphin tour? *(please circle one number)*

<table>
<thead>
<tr>
<th>Yes, I enjoyed the tour very much</th>
<th>Yes, I enjoyed the tour</th>
<th>Neutral</th>
<th>No, I did not really enjoy the tour</th>
<th>No, I did not enjoy the tour at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

13. **Overall**, how **crowded** did you feel during your dolphin tour? *(please circle one number)*

<table>
<thead>
<tr>
<th>Not at all crowded</th>
<th>Slightly crowded</th>
<th>Moderately crowded</th>
<th>Extremely crowded</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

14. **Overall**, is your experience with the dolphin tour **better or worse than what you expected**? *(please circle one number)*

<table>
<thead>
<tr>
<th>Very much better than expected</th>
<th>Better than I expected</th>
<th>As I expected</th>
<th>Not really as good as I expected</th>
<th>Very much worse than I expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

15. **Overall**, how **satisfied** were you with the dolphin tour? *(please circle one number)*

<table>
<thead>
<tr>
<th>Very satisfied</th>
<th>Mildly satisfied</th>
<th>Neutral</th>
<th>Mildly dissatisfied</th>
<th>Very dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

16. **Overall**, would you **recommend** this dolphin tour to your friends and family? *(please circle one number)*

<table>
<thead>
<tr>
<th>Yes, I would strongly recommend it</th>
<th>Yes, I would possibly recommend it</th>
<th>Neutral</th>
<th>No, I would not really recommend it</th>
<th>No, I would definitely not recommend it</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

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Section Two: About your holidays in general

Now please think about your **holidays in general** and NOT about your current New Zealand **trip** or the dolphin experience. Please indicate **how important or unimportant** the following items are for you by **circling one number**.

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Number Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seeing as much as possible in the time available</td>
<td>1 = very important</td>
</tr>
<tr>
<td>Finding thrills and excitement</td>
<td>2 = somewhat important</td>
</tr>
<tr>
<td>Seeing and experiencing a foreign destination</td>
<td>3 = somewhat unimportant</td>
</tr>
<tr>
<td>Learning new things/increasing my knowledge</td>
<td>4 = not at all important</td>
</tr>
<tr>
<td>Going to places where friends have not been</td>
<td></td>
</tr>
<tr>
<td>Trying new food</td>
<td></td>
</tr>
<tr>
<td>Being physically active</td>
<td></td>
</tr>
<tr>
<td>Being together as a family</td>
<td></td>
</tr>
<tr>
<td>Being together with friends</td>
<td></td>
</tr>
<tr>
<td>Meeting people with similar interests</td>
<td></td>
</tr>
<tr>
<td>Escaping from the ordinary</td>
<td></td>
</tr>
<tr>
<td>Seeing national parks and forests</td>
<td></td>
</tr>
<tr>
<td>Meeting interesting and friendly local people</td>
<td></td>
</tr>
<tr>
<td>Having the chance to see wildlife and birds I usually don’t see</td>
<td></td>
</tr>
<tr>
<td>Experiencing wilderness and undisturbed nature</td>
<td></td>
</tr>
<tr>
<td>Outstanding scenery</td>
<td></td>
</tr>
<tr>
<td>Wide open spaces to get away from crowds</td>
<td></td>
</tr>
<tr>
<td>Finding peacefulness and solitude</td>
<td></td>
</tr>
<tr>
<td>Exotic atmosphere</td>
<td></td>
</tr>
<tr>
<td>Inexpensive travel in the destination country</td>
<td></td>
</tr>
<tr>
<td>Beaches for swimming and sunning</td>
<td></td>
</tr>
<tr>
<td>Small and intimate accommodation</td>
<td></td>
</tr>
<tr>
<td>Feeling safe</td>
<td></td>
</tr>
<tr>
<td>Others [please specify]</td>
<td></td>
</tr>
</tbody>
</table>

And how much do you **agree or disagree** with the following statements?

<table>
<thead>
<tr>
<th>Number Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = strongly agree</td>
</tr>
<tr>
<td>2 = mildly agree</td>
</tr>
<tr>
<td>3 = mildly disagree</td>
</tr>
<tr>
<td>4 = strongly disagree</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statement Description</th>
<th>Number Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>When visiting another country, I like to travel from place to place rather than</td>
<td>1 = strongly agree</td>
</tr>
<tr>
<td>spending my whole time in one place</td>
<td></td>
</tr>
<tr>
<td>I like to go to a different place on each new vacation trip</td>
<td>2 = mildly agree</td>
</tr>
<tr>
<td>Getting value for my vacation money is important to me</td>
<td>3 = mildly disagree</td>
</tr>
<tr>
<td>I usually use a travel agent to help me decide where to go on vacation</td>
<td>4 = strongly disagree</td>
</tr>
<tr>
<td>For me, money spent on travel is well spent</td>
<td></td>
</tr>
<tr>
<td>I enjoy learning about wildlife during my holidays</td>
<td></td>
</tr>
</tbody>
</table>
Section Three: Your opinion about a variety of issues

In this section your opinion about a range of issues is of importance. For each of the following statements please indicate the extent to which you agree or disagree by circling one number.

1 = strongly agree 2 = mildly agree 3 = mildly disagree 4 = strongly disagree

1. We are approaching the limit of the number of people the earth can support...... 1........ 2........ 3........ 4
2. The balance of nature is very delicate and easily upset........................................ 1........ 2........ 3........ 4
3. Humans have the right to modify the natural environment to suit their needs...... 1........ 2........ 3........ 4
4. Humans were created to rule over the rest of nature........................................... 1........ 2........ 3........ 4
5. When humans interfere with nature it often produces disastrous consequences... 1........ 2........ 3........ 4
6. Plants and animals exist primarily to be used by humans...................................... 1........ 2........ 3........ 4
7. To maintain a healthy economy we will have to develop a "steady-state" economy where industrial growth is controlled .................................................. 1........ 2........ 3........ 4
8. Humans must live in harmony with nature in order to survive ............................. 1........ 2........ 3........ 4
9. The earth is like a spaceship with only limited room and resources ...................... 1........ 2........ 3........ 4
10. Humans need not adapt to the natural environment because they can remake it to suit their needs ................................................................. 1........ 2........ 3........ 4
11. There are limits to growth beyond which our industrialised society cannot expand ......................................................................................................... 1........ 2........ 3........ 4
12. Humans are severely abusing the environment ..................................................... 1........ 2........ 3........ 4

1 = strongly agree 2 = mildly agree 3 = mildly disagree 4 = strongly disagree

1. Governments will have to introduce harsh measures to halt pollution since few people will regulate themselves................................................................. 1........ 2........ 3........ 4
2. Courses focusing on the conservation of natural resources should be taught in primary and secondary schools ......................................................... 1........ 2........ 3........ 4
3. Because the government has such good inspection and control agencies, it's very unlikely that pollution due to energy production will become excessive .......................... 1........ 2........ 3........ 4
4. I'd be willing to make personal sacrifices for the sake of slowing down pollution even though the immediate results may not seem significant.......................................... 1........ 2........ 3........ 4
5. I would be willing to accept an increase in my family's expenses of $100 next year to promote the wise use of natural resources ..................................................... 1........ 2........ 3........ 4
6. If asked, I would contribute time or money, or both to an organisation (eg WWF, Sierra Club) that works to improve the quality of the environment ............. 1........ 2........ 3........ 4
7. Pollution is not personally affecting my life ........................................................... 1........ 2........ 3........ 4
8. The benefits of modern consumer products are more important than the pollution that results from their production and use ..................................................... 1........ 2........ 3........ 4
9. We must prevent any type of animal from becoming extinct, even if it means sacrificing some things for ourselves ................................................................. 1........ 2........ 3........ 4
10. Although there is a continual contamination of our lakes, streams, and air, nature’s purifying process soon return them to normal........................................... 1........ 2........ 3........ 4
11. Industry is trying its best to develop effective anti-pollution technology .............. 1........ 2........ 3........ 4
Now, please indicate how often you undertake the following activities in your every day life by circling one number.

<table>
<thead>
<tr>
<th></th>
<th>= always</th>
<th>2 = often</th>
<th>3 = occasionally</th>
<th>4 = never</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I put dead batteries in the garbage</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I collect and recycle used paper</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I bring empty bottles to a recycling bin</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I use chemical toilet cleaners</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I use a cleaner made especially for bathrooms rather than an all-purpose cleaner</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. I use environmentally friendly laundry detergent</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. I buy beverages in cans</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. In supermarkets, I buy fruit and vegetables from the open bins</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. If I am offered a plastic bag in a store, I will take it</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. I buy milk in returnable bottles</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. I unwrap useless (i.e. nonfunctional) packages at the point of purchase</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. I drive my automobile in the city</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. When possible in nearby areas, I use public transport or ride a bike</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Even if public transport was more efficient than it is, I would drive my car to town</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. I contribute financially to environmental organisations</td>
<td>1 2 3 4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Section Four: About yourself

1. Who are you travelling with today? [more than one box may apply]

   - Alone
   - With partner (girlfriend/boyfriend)
   - With family
   - With friends
   - As part of an organised tour

   [if you are not travelling with children, please proceed to question 3]

2. If you are travelling with children, are they [more than one box may apply]

   - Not yet at school
   - At primary school
   - At secondary school
   - At college or university
   - Other [please specify]:

3. Please specify your gender: Male
   Female

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4. What is your age?

- 15 - 24 years .................
- 25 - 34 years .................
- 35 - 44 years .................
- 45 - 54 years .................
- 55 - 64 years .................
- 65 years & over .............

5. Which of the following best describes your current employment status?

- Working full time ............
- Working part time ............
- Self employed ...............
- Home-maker .....................
- Not currently employed ....
- Retired .........................
- Student .......................
- Student & working part time ....
- Other ...........................
  [please state] ________________

6. What is/was your usual job title? ________________________________

7. What is your Nationality? ________________________________

8. If you are living in New Zealand, where do you reside? ________________

9. What is your highest level of education?

- No qualification ....................
- School certificate ............
- Higher school certificate .............
- Undergraduate degree .............
- Postgraduate Qualification ....
- Polytechnic diploma/degree ..... 
- Vocational or Trade/Professional qualification .........................

10. I am a member of the following international environmental organisation(s):

   Yes ☐ No ☐

   Greenpeace ................................. ☐ ☐
   World Wildlife Fund for Nature (WWF) ....... ☐ ☐
   Sierra Club .................................. ☐ ☐
   Robin Wood ................................ . ☐ ☐
   Other(s) .................................... ☐ ☐
   [If yes, please state] ________________________________

11. I am a member of one or more local and/or national environmental organisations

   Yes ☐ No ☐

   [If yes, please list]: ________________________________
   ________________________________
   ________________________________
12. Do you have any other **comments** about your dolphin watch/swim tour?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Thank you very much for your help in completing this questionnaire!

Please return your completed questionnaire by:

1. Handing it back to me
   
   or

2. Handing in back to the office of your dolphin watch operator
   
   or

3. Sealing it in the freepost envelope and send it back from any mailbox in New Zealand (no stamp required!)

☐ Yes, I do want to go into the draw of a fluffy dolphin and a book about dolphins!

Name: ____________________________________________
Address: _________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

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Appendix II: Results of the comments section of the questionnaire

At the end of the questionnaire, the respondents had the opportunity to express further opinions, comments and remarks regarding their dolphin trip. The following comments were not edited and are listed in the order of returned questionnaires.

Dolphin Experience, Akaroa

- Like: Untrained dolphins, came to us, not allowed to touch them, no dolphin-calling devices on boat, knowledgeable driver, hot shower! (female, USA)
- I really appreciated that the dolphins weren’t shut into the harbour or disturbed if eating, or breeding. I would’ve liked more info about the dolphins and the ecosystem of this place. I also really appreciated only interacting with dolphins if they initiate + not bribing + interfering with them in other ways. I would’ve loved to hear about other wildlife in the area as well, including threats to the wellbeing of the ecosystem and negative impacts. It’s really important to spread awareness whenever possible + if people have a personal experience they are more likely to attach value to that resource and be active in its preservation. (female, USA)
- The line between disturbance + interaction is a fine line. I think the large engine boats are more disturbing than the interaction in the water. For me to say I am disturbing “nature” is to say I am disturbing myself as well. I think the tours should have more info about the dolphins + their lifestyles, or what we think about it at least. Also eco tours should talk to the tourists about interaction/disturbance line. (male, USA)
- The only reason I did not enjoy the tour as much as I had hoped was because I am not a very confident swimmer. The tour was very well run. (female, UK)
- Great! (male, UK)
- Brilliant! However, more information about dolphins could have been provided on the boat. Also socks/booties for the wetsuit – my feet were freezing! (female, UK)
- Very interesting + other wildlife was also pointed out to us as we passed them. (female, Ireland)
- Very friendly staff. Good facilities. (female, Holland)
- Because of the milky water it is very difficult to see the dolphins under water. Great to see them from the boat. (female, Holland)
- I’d like to have more info about dolphin life & Hector dolphins in general. Did whale watching Kaikoura and was very impressed with the amount of information they kept telling us about the whales (3 hrs non stop – like a university course!). Great. I looked for a book with all that info in it, couldn’t find it. (female, Holland)
- I felt the tour price at $29 for non-swimmers was very fair & reasonable. Office staff was very congenial, bubbly & made us feel very welcome. She was lovely. The boat operator – ditto the above. (female, New Zealand)
- Magical experience seeing the dolphins in their environment rather than in an aquarium where they are ‘performing’ for their audience. In this environment I felt privileged that they are allowing me to see them. I would have liked to hear more about them as there was very little input from the boat driver. Feel that the tour + this questionnaire have made me more aware of the importance of being environmentally conscious + responsible. (female, Ireland)
• It would've been good to see one in the water while swimming in the water – or to touch one. (female, New Zealand)

• Thought it was a very different experience & enjoyed it very much. Great to have the hot showers & cuppa on your return. Very well organised. (female, Australia)

• Excellent – Have to come back & do it again. Thanks! (male, Australia)

• Great experience especially seen as I cannot swim. Felt safe at all times. Very friendly staff, with good equipment provided. Very good value for money even though there were not that many dolphins. (female, Ireland)

• Good experience, well worth a look – it's a shame we couldn’t get closer to the dolphins. (male, Ireland)

• It was a great experience and I would recommend my friends and family to do it sometime. (female, Ireland)

• It was brilliant! (female, Ireland)

• It was a good day out. It’s just a pity that we didn’t get closer up to the dolphins. (female, Ireland)

• I wish the dolphins were around us for a longer time because you could entertain them more. Otherwise I had a great time. (female, Ireland)

• Had a wonderful time. Boat operator was very careful around the dolphins. (female, USA)

• Very exciting – shame the dolphins didn’t want to play! Next time maybe?! Enjoyed the experience nevertheless!! (female, UK)

• We had a briefing for the Kaikoura trip which was excellent, mentioning more thoroughly how to use snorkels, swim in wet suits, not put out arms etc. Having watched the briefing here & seen the swimmers they would have benefited from a more thorough + explicit briefing. Take tips from the guys in Kaikoura – there is no harm in it! Overall a good trip. (female, UK)

• It was a little disappointing that the dolphins did not come out in force and we were unable to swim with them. But I enjoyed the experience all the same. (female, Australian)

• More dolphins swimming closer to us would have been nice, the dolphins seemed to like the boat, but when we jumped in the water, they had a tendency to swim away, although one did brush up against me. (male, Australia)

• I think there should have been an announcement about safety features on the boat & what to do in an emergency. Overall, the trip was very good value for money & well run. (female, UK)

• It was great. (female, New Zealand)

• I appreciated the perseverance of skipper <name>, his encouragement & knowledge of dolphins, also his attitude of respect for them & willingness to follow professional territorial agreements. The dolphins were curious & playful, interested in my camera – not so much the wet suit zipper. (female, USA)

• I'm a bit concerned that it may scare them sometimes. I really care about animals and nature (I’m vegetarian as a result) and would like to find out more about this. (female, UK)

• I felt a bit weird about invading their space, but I really wanted to. I would have liked more educational material. (female, New Zealand)

• An enjoyable experience even though we didn’t get to swim with the dolphins (female, UK)

• Brilliant! Worth coming to NZ to do it! (female, UK)
• Unfortunately it was the 2nd time we didn't swim with the dolphins. That's wildlife. And it is ok as it is! (female, Germany) <translated from German>
• We also saw a blue penguin. (female, USA)
• Unfortunately we didn't have luck for the 2nd time. Nevertheless we saw lots of dolphins; after all it is not a zoo. Accompanied by the good weather I enjoyed the tour. (male, Germany) <translated from German>
• A great experience, never to forget! (female, Holland)
• A fantastic experience! (male, Holland)
• It was a great experience, but it was a pity that my snorkel did not work the way it had to work!! (female, Holland)
• I essentially paid $70 to go for a float in cold water. These dolphins may be rare, but dolphins at sea are not. Nor are curious and friendly dolphins. It was a complete waste of money. The dolphins, which did visit were close, but too far away in poor visibility water to gain anything more than a glimpse. Better go to the zoo. (male, USA)
• We didn't see a lot of dolphins, but that is nature. Enjoyed the swim, just unfortunate it was so cold. (female, UK)
• It was a pleasure & a privilege to see such beautiful, rare creatures. Thanks. (male, UK)
• I swam with dolphins, but the dolphins didn’t come to swim with me. I’ve just only looked. I would like to swim very close to dolphins and touch them. (female, Thailand)
• I found it difficult to swim “normally” in the slightly choppy sea, because my legs were too buoyant unless my head was in the snorkelling position! (This meant the boat had to come to me rather than vice versa, which was a bit disconcerting and “infra-dip”!). It was good fun even though the dolphins did not want to come & play with us. (female, UK)
• Nice to be part of a small group – close to the water. <name> went out of his way to show us things, which was appreciated. Warm jacket also supplied – very good. I thought the briefing of swimmers was too casual; was surprised there was no safety briefing on boat or no offer of life jackets. This needs to be done. (male, New Zealand)
• I enjoyed the beautiful scenery more than the dolphins though we saw plenty of them and they seemed quite happy to be followed around in the boat and swim with. (female, New Zealand)
• I would advise the tour brings in an element of education telling visitors about the dolphins, marine environment, restrictions & regulations by DOC, etc. (female, USA)
• The dolphins did what they liked, weren’t interfered. (female, Holland)
• It would be better, if the organisations would use vessels, which are more quiet. (female, Germany)
• I don’t think the swimming is worth it. I am glad I watched, that was really nice. (female, Australia)
• I’m glad that I choose to watch them and not to swim. Because I think that that was not the money worth! Watching was wonderful. (female, Australia)
• Great place & idea, we just didn’t find any dolphins that wanted to play with us. However, we got our tickets back, and I’ll definitely be back! (male, New Zealand)
• I would have been nice to get more information about behaviour and life of the dolphins. The operator did not have a professional appearance. (female, Germany) <translated from German>
Dolphin Encounter, Kaikoura

- The dolphins seemed to sense when we had finished swimming & swam around the boat & played more (female, UK)
- Good value for $ compared to other attractions. (female, Australia)
- It was awesome. (female, New Zealand)
- Amazing! (female, Ireland)
- Tremendous!!! Unreal!!! (male, Ireland)
- Amazing – brilliant. (female, Ireland)
- It was better floating in the water than trying to snorkel; visibility was too poor. Overall, I found it well worth the money to see such amazing creatures. Their personality only seemed to come out once humans were back on the boat though. Very good! (male, UK)
- I learned that Japan and some other countries still hunt these beautiful animals. I’d like to see that stopped. Wonderful trip even though I was quite concerned about the cold water. Too bad the boat doesn’t have a clear bottom of some sort to see them swimming. (male, USA)
- Perhaps a little more context could have been provided between the differences of the swim versus boat only tour. Had I known how difficult/challenging it would be to interact with dolphins underwater, I would have opted for the boat sightseeing tour only. I found I was able to enjoy dolphin sightings much more above water. Of course, I acknowledge that nothing quite compares to a dolphin swimming past you…(my only wish would be that they stayed longer, but of course, they’re wild animals…something that easily gets forgotten). (male, Canada)
- It was something I always dreamed of! (female, Holland)
- Good fun but overpriced for what you get & learn. (male, New Zealand)
- Actual swimming time much less than 45 mins (time in water). Slightly over-priced, but still a worthwhile experience. (female, UK)
- I think it’s a good idea to have official & approved & regulated tours like this. People are naturally curious about sea life, especially dolphins & seals. If there were no official tours it would only encourage unregulated operators to stop in + provide the service. These would probably do more damage in the long run. (female, Ireland)
- I would have liked to see more dolphins – I only saw about 4-5. But it was good, good support from crew in finding them. The crew were caring about slow swimmers and cold people. Good fun people. (female, New Zealand)
- Lovely! Apart from I was sick! (female, UK)
- Far exceeded my expectations. Loved it! (female, Australia)
- I had a great time. The dolphins appeared to enjoy interacting with us and kept coming back. We did not chase them. It was a completely different and much more exhilarating than locked up in the zoo etc. (female, UK)
- Good value for money. Second trip for myself. Enjoyed both, would come again. (female, UK)
- It was fascinating being in such close proximity with such amazing & beautiful animals. (female, Canada)
- A Semi Submersible Boat would be an excellent addition. Generally the tour is well run, the staff are helpful and friendly and the equipment and boats etc. are of a high standard. (male, Ireland)
- It was very good, but maybe too cold in the water! (male, Sweden)
• It was fun! (male, Sweden)
• Highly recommended. (female, Ireland)
• Really enjoyable, plenty of time and plenty of dolphins. Fantastic. (female, UK)
• Amazing. I love dolphins and I want to be a dolphin, so I was very very very very excited and feel very privileged to have the chance to be so close to such incredible animals. Please please please let me win the fluffy dolphins & the book about dolphins. P.S.: I even have a dolphin tattoo + I ALWAYS dream about swimming with dolphins! (female, New Zealand)
• Dolphin watch to be recommended. (female, Ireland)
• Yes, it was lovely. (female & male, UK)
• Everyone needs to do their part to protect the environment. (female, USA)
• The water wasn’t very clear – but that’s not your fault. Staff outside office very helpful! Staff inside office a little off. (male, UK)
• I got really seasick, which destroyed the experience a bit. (female, Sweden)
• It was a great trip – I really enjoyed it, although it was a bit cold! (female, Sweden)
• How to put on the suits??? Some comments at the beginning, please. (female, Germany)
• I believe that this kind of tour can be very educating if emphasis is placed on the need to not disturb the natural environment too greatly. By understanding the natural world more we can learn how to preserve & protect it. (female, UK)
• It’s very cold in April but that didn’t spoil the enjoyment. It was a wonderful experience and the dolphins seemed to enjoy swimming with us. The packs we received after the day look very informative about dolphins. (female, UK)
• Absolutely fantastic! It’s just a pity it was so damn cold! Next year I’ll be back in summer + will go out every day. Only negative was amount of people, it was a little crowded at times + people were swimming into each other. (female, UK)
• I didn’t feel as though the tour interfered with the dolphins as they seem to have a natural curiosity & were interested in us. I hope that I am not wrong. I do not agree with helicopters chasing whales & therefore did not do a whale-watching tour! (female, Ireland)
• Make the groups smaller. Provide sea sick tablets beforehand if sea is rough. (male, UK)
• The money difference for watching + swimming with the dolphins was perhaps too much. Would have been nice to know a bit more about the actual types of dolphins we would encounter before the swim. (female, UK)
• It was terrific. (female, Australia)
• 1. Hot tea would be nice when final swim over. 2. Numbers of swimmers limited – less on bad weather days. 3. Briefing excellent, maybe the “Blue Sharks are harmless” would be helpful. 4. Maybe on board photographer for group photos with good camera – to maximise swimming time – at low cost, i.e. $5. (male, UK)
• Too overcrowded and too often a day. (female, Germany)
• Very cool. (female, New Zealand)
• The changing rooms need to be bigger – more showers. Can be quite crowded. There seemed a lot of people on the tour today, I hope all these people/boats don’t upset the natural environment of the dolphins. I do hope that the dolphins don’t get too used to people. If they do then we humans should stop our inquisitive behaviour. (female, UK)
• I had hoped to more dolphins than I did. It was quite an experience though. (female, Denmark)
- Enjoyed watching the dolphins from the boat, but the actual swimming was a bit disappointing – the water was so cloudy that I couldn’t see the dolphins and they seemed to swim away from us rather than towards us, so it did not live up my expectations. I was expecting more as everyone I have met whilst travelling told me that it was an amazing experience – feel it was too expensive. (female, Scotland & Australia)
- Not briefed properly when getting ready to go out, i.e. which clothes to put on in which order. (female, UK)
- Trip today was excellent, staff friendly knowledgable etc. Went on similar trip in Bay of Islands, which was a ‘rip off’. Did not get to swim with dolphins. Please do something about their false advertising!!! (female, UK)
- I feel honoured and blessed to have had this amazing and wonderful experience. It was great to see the Dusky Dolphins in their natural environment and not too many boats chasing them around (as experienced in Bali!). (female, UK)
- The piece on the front <of the questionnaire> by Katherine Mansfield says it all. I am dying of cancer & this has been one of my greatest dreams & the fact that I had so many swim underneath me was more than awesome. Just fantastic to swim in their environment on their terms without man being the dictator! (female, UK)
- Excellent! (female, UK)
- Nice. (male, Denmark)
- Could you make the sea warmer and the dolphins pay more attention! (male, UK)
- It was DA BOMB!! (female, New Zealand)
- I think there should be a trip for spectators only and a separate one for swimmers. (female, Ireland)
- Pretty good all around. (male, Ireland)
- Great afternoon. (female, UK)
- Fascinated by the quantity, but the visibility wasn’t great and the information provided of dolphins and their life in the area was quite limited. Also would have liked much more time after the swim to just sit and watch in wonder. (female, UK)
- Amazing! (female, USA)
- Was really amazing to get near to them, to feel and see where and how they live. (female, Austria)
- Well organized. Price could be brought down to make accessible to poorer families. Introduce more inner city kids to marine environments. (male, UK)
- Very well organised tour itself. Very exhilarating all round. The dolphin + whale watching tours companies could do more to stop whaling coming back to New Zealand. (female, New Zealand)
- I found all the gear too much to cope with in the water. (female, New Zealand)
- Well organized, excellent staff. Thank you. (male, New Zealand)
- Fabulous – safe – excellent – wonderful. Life experience. (female, New Zealand)
- If we had recycle facilities in Queenstown I would use them. The council has decided they are too expensive. (female, New Zealand)
- I really enjoyed it. It was radical. (female, USA)
- It was very nice! (female, New Zealand)
- Enjoyed it! Good to do with my family, also seeing my kids enjoy this & see the environment! (male, Australia)
- Bigger fins would be helpful. Amazing experience. Orcas were great. (male, UK)
- Was very well run. Always felt safe. Friendly people. Much better value than whale watch. Will suggest this trip to friends etc. (female, New Zealand)
Had I realised that the stationary rocking boat would make me feel sea-sick (and I was) I would have taken a preventative medication. Nevertheless, it was an amazing spectacle to see the dolphins and Orca. (female, UK)

Sea sick pills should be offered. (male, UK)

Absolutely lovely morning and so peaceful. (female, New Zealand)

It was well organised, friendly staff that tries to get the optimum for the people. Just my expectations were too high and I thought the dolphins were really interested in people, but they are just swimming their way and doing their own thing – and the are RIGHT! (female, Austria)

It was really fun but really really cold. (female, New Zealand)

I was surprised that I did not feel it disturbed the dolphins @ all. I hope a significant % of the money goes to the DOC. (male, UK)

The commentary was a bit quiet so I didn’t learn as much about the wildlife as I might have done – but maybe it’s deliberately not too loud – in that case it’s fine. Seeing the Orcas was an immense privilege – many thanks to the team for giving us so much time to see them. The quality of the equipment was the best I’ve used anywhere. (female, UK)

It was a very good experience, but the survey was too long. (female, UK)

It was a real good experience. I got sea sick the 2nd half. We need to protect all aqua habitat when possible. (male, USA)

Fuckin’ brilliant. (male, Denmark)

It was amazing. (male, UK)

Cold water. (male, France)

An experience I will never forget. I hope the dolphins are here for my children and grandchildren to enjoy! (male, UK)

I really enjoyed it. (female, UK)

I’d like to go again! (female, Denmark)

It was a bit expensive, really good though. (male, UK)

Excellent. (female, UK)

Great swim – better than thought. Afraid that dolphins get too used to it!! (male, Germany)

It was great watching them swim and play. It would be one of the greatest memorable experience of my life. (female, Thailand)

Great experience. (male, Thailand)

Excellent. Wanna come again. (male, Malaysia)

It was great fun mate. (male, Afghanistan)

All the staff are excellent, very friendly and helpful, this makes the trip so enjoyable. (female, New Zealand)

It was fun although the dolphins seemed to be on the move rather than playful. Still, I couldn't actually believe they were real, they were so beautiful. (female, New Zealand)

Great tour – awesome! (female, New Zealand)

Briefing at beginning excellent & funny + informative. Total consideration for dolphins welfare. If they are not happy you get out. (female, UK)

The briefing was very good and the guys on the boat obviously cared about the dolphins’ wellbeing rather than just letting us swim even if the dolphins weren’t happy. (female, UK)

Extremely well run + friendly staff from beginning to the end! Well done! (female, Canada)

Enjoyed the peace and beauty. (female, Canada)
• I loved the experience. I didn’t see dolphins when swimming + we all got a refund. I am going again tomorrow. (female, UK)
• I have seen whales/Kaskelotts <Norwegian for Sperm whales> in Lofoten, Norway and Killer Whales on a guided tour in Tysfjord, Norway. These were both stunning and amazing experiences, but this dolphin encounter beats it all! Going in the early morning also gives you the feeling of a magic awakening and I don’t think I’ve ever been this close to any wild animal in its natural habitat. (female, Sweden)
• Staff were very kind & helpful & caring. Hot drinks were nice. Lots of dolphins to see. Worth the money. Good work – keep it up. (male, New Zealand)
• All I had hoped for + more. As someone who has been working to protect the marine environment for the last few years, I appreciate what you are doing + the role of education in today’s world – cheers. (female, UK)
• Cold. (female, UK)
• It was fantastic + I feel very privileged. (female, UK)
• Sea sickness was a problem for some. This was not covered in the briefing, but I thought the staff did an excellent job of looking after the sick. The smell of Diesel from the engine didn’t do me any good. On safety, I would have thought the boats would be jet units to minimise risk. After all we invented them? (male, New Zealand)
• It was one if not the best thing I have ever done. It was absolutely amazing to get so close to the dolphins and to have the privilege to swim and play with them. All the staff were very helpful and friendly and they were well informed about everything. (female, New Zealand)
• Would like to go again in warmer water!! (female, Ireland)
• I got sick, so I wanted to have a rest after I took a shower with hot chocolate and biscuits…..Anyway, it’s true that I enjoyed today with dolphins and you!! Thank you very much indeed. I think it’s better that you could give us towels from after swimming to before taking a shower. (female, Japan)
• A truly magical experience! (female, UK)
• They could use reusable drink containers. They could mention the dangers of rubbish + pollution in the ocean with regards to dolphins + marine life. Excellent tour, very educational + good fun! (male, UK)
• Exhilarating – fantastic – cold – education. (male, Canada)
• Unfortunately the weather was bad, very cold, rough sea and bad visibility under water. Despite I enjoyed it very much. (male, Switzerland)
• It was a great experience for me. Fun also. I love dolphins. (female, New Zealand)
• I think they enjoyed it as much as we did. (female, UK)
• * organized, well planned journey + intro
  * punctual departure + arrival times
  * informative (both on and off the water)
  * humorous commentary
  * interesting info re: dolphins + their behaviour
  * awesome chance to see dolphins in their environment: truly was exhilarating!
  * Good tips on involving us in their play! (making sounds, funny movements etc.)
  * Considerate staff (of the sea-sick-os!)
  * Great guessers of the size of wet suits etc. to wear!
  * Thanks for the memories! Happy Day! (female, Canada)
• Better than I thought. I don’t really think that the dolphins cared about us being there at all, although I think they enjoyed themselves. They were probably laughing at us!! (female, UK)
* A wonderful experience  
  * Well organised and operated  
  * The dolphins appeared to be perfectly at ease with humans/boats  
  * The pack at the end, which included information about dolphins and conservation organisations was a good idea. But it tended to be a substitute for information not given by the operators. (Although to be fair, we did gain info about the particular dolphins we encountered)  
  * Tour should have used the trip out to sea to give more info about marine conservation issues generally. (male, UK)  

- Good that they use smaller boats. (female, UK)
- Thanks. (female, UK)
- Enjoyed it a lot! (female, USA)
- The staff was just awesome! They knew a lot of interesting things about dolphins. This was definitely a day I will never forget. (female, Germany)
- Very helpful even for large (HUGE) wetsuits! (male, UK)
- Well organised – good pre-swim information. Comfortable boat – good & friendly crew. As we didn’t get much of a swim with dolphins, it was excellent that a partial refund was made voluntarily – good P.R. (male, UK)
- I was weary of doing such a tour as I believe the experience is grander when + if it were to just happen. But dolphin swimming is something I have dreamed of + I figured it would also give me an opportunity to observe a wildlife tour (I’ve only done one before). The impact of this tour on the dolphins + natural marine life was a big issue for me. I don’t feel like the dolphins were bothered by the experience but then again I was really hight blown away from the experience + could have not been so aware. But then there are the issues of fossil fuels for the boat that are a serious problem. (female, USA)
- Good weather would be nice. (male, Germany)
- Mind blowing. The most amazing adventure I’ve ever experienced. Really mellow relaxing environment. Wonderful fun. (female, UK)
- Very co-operative dolphins we have. Couldn’t ask for more. But would have like to touch them very much. (female, Thailand)
- I wasn’t prepared for how hard swimming with mask/snorkel/flippers/wetsuit was. I am a generally good swimmer but I struggled a lot in the water + although I saw a few dolphins beside + under me I missed a lot + only went in once. After the first swim I couldn’t face it again. The briefing was excellent + I thought I was ready. They don’t tell you how hard it can be. I felt really pathetic sitting on the boat although the staff were lovely. My experience was marred by coping with breathing + swimming. I’d love to do it again in summer after practise with snorkelling. Please pass my comments to Dolphin Encounter. (female, UK)
- Great fun, a bit cold in the end! (female, Sweden)
- The dolphins seemed to enjoy the stimulation we provided. We seemed to entertain them more than they us. (male, USA)
- Showers needed to be hotter. Change rooms need to be bigger. Great experience. (female, Canada)
- It was unfortunate I could not enjoy it more because I was very seasick even though I used tablets to prevent seasickness. (female, Australia)
The dolphins were so free and playful in their natural habitat. It was truly an amazing opportunity to visit and swim with them. For me, it was a moment when time stopped and I felt hope and comfort knowing it is possible to exist in harmony with the natural world. The tour group was very professional and I think visiting the dolphins this way was not disturbing to them – but instead a chance for them to know their two-legged kindred spirits. A chance for us all to learn a little more about existence on this planet. (female, USA)

Not informative enough. Very cold. We went on the second swim of the day. Dolphins are too hassled. (female, Ireland)

Dolphin Encounter seem to have it sussed. They are environmentally aware and understand safety/limits on the wildlife. Very good knowledge of marine life and the staff are helpful and friendly. Very professional attitude, considering the amount of people who are seasick. This time I watched, but previously did a swim. Both were good tours, dolphins are magical and it’s an honour to be part of their environment! (female, UK)

Excellent – one of the best experiences I have ever had! (female, UK)

Amazing experience! (female, UK)

It was one of the best experiences I ever had. It’s almost not to describe, amazing! The dolphins were so funny, playful and gentle. The weather was perfect. I’ll never forget this! THANX to Dolphin Encounter! Perfect crew! (female, Holland)

It was a fantastic experience and I’m so glad I went on this tour. The only downside for me was the number of people in the water at the same time. This was at some times a bit much. Other than that I had a great time and I will never forget this trip! (female, Holland)

Great day! I really enjoyed the experience being up close with the dolphins. All the staff were really helpful and friendly. Thanks!!! (female, Australia)

It was a life enhancing experience. (female, UK)

It was very thought provoking. (female, UK)

It was wonderful to get such an up close & personal experience of these magnificent, graceful mammals. Appreciating the incredible beauty of the natural environment goes a long way toward getting people interested in conservation efforts. Hope more & more people who go on these types of “adventures” realise the role they themselves play in polluting the earth’s natural resources. (female, USA)
Dolphin Discoveries, Paihia

- I was extremely disappointed that we didn’t get to swim, but I understand why. (female, USA)
- Really great pity we could not swim because of pups, but it was good seeing the family group working together when feeding. Disappointed only 1 pod of common dolphins seen as we’d heard reports of Bottlenoses, Orcas & whales in the area. (male, UK)
- Excellent tour. I felt privileged to see so many dolphins in their own environment – much better than at a marine park. The dolphins didn’t seem to mind the boat at all. They enjoyed riding in the bow wave. Some of my children were disappointed that they didn’t get to swim with the dolphins, but they understood the reasons. I wasn’t disappointed as I was too cold! (female, Australia)
- I enjoyed reading the books about dolphins that were on board. I would like to learn more. (male, USA)
- I’d like to swim with dolphins! (male, France)
- Not complete satisfaction of this tour only due to not getting to go swimming with the dolphins, which had been the main purpose of taking the tour. (male, UK)
- My daughter was a little disappointed at not seeing dolphins. The staff were terrific. A pleasure to meet <name>. Thanks to you all. (female, Zimbabwe)
- Disappointment of trip is based solely on lack of sighting of dolphins – realise this is “luck of the draw”. Travelling is the best way to make people environmentally aware. When complete our 10 months trip there are many things we will do differently, which would (positively) affect the results of this questionnaire. (female, Ireland)
- The results today will reflect our disappointment at not seeing/swimming with any dolphins. The tour itself was well run and an enjoyable experience. (male, UK)
- I wish we had seen some dolphins – maybe next time! (male, UK)
- Shame we did not see any wildlife, but we will come back one day and try again. (female, UK)
- The scenery was magnificent – pity we did not see the dolphins, but I’ll come back again! (female, UK)
- Unfortunately we were unable to see any dolphins, I have heard & read about various environmental/wildlife tours + while I have an urge to see dolphins in their natural habitat I would refuse to partake in something which was exploitive. Therefore I’m intrigued as to how this is managed when people are naturally curious + often overzealous. Hopefully all will be revealed tomorrow!!! (female, UK)
- Great! (female, UK)
- Great time, pity we couldn’t swim with the dolphins due to lack of time. (male, New Zealand)
- Although we were booked to swim, the presence of babies prevented us from swimming. I’m glad we weren’t able to as I think the experience of watching them so closely was very exciting and exceeded my expectations. It was fantastic to watch them
in their natural environment and by the amount of interaction and swimming around the boat, they appeared to enjoy it, too. (female, UK)

• Amazing – still had a great time even though no swimming. Definitely would do it again! (female, UK)

• Loved it! (male, New Zealand)

• Brilliant – seeing dolphins so close up! (female, New Zealand)

• Apart from dolphins, the guide can introduce a bit about coastal features (e.g. sea cave, sea arch...), trees and habitats on the outlying islands and mention something about marine lives in the waters nearby. Anyway, it is a very good tour for tourists from all walks of life. (male, Hong Kong)

• Disappointed we were unable to swim with the dolphins. Otherwise good. (female, New Zealand)

• Very good. (male, UK)

• We were particularly fortunate with the number of delphinae were able to see and swim with. The sea was very calm and as a bonus there were only five of us. Well spoiled and loved every minute. (male, UK)

• Excellent – Informative = enthusiastic crew. Nothing could have been improved! (female, UK)

• Excellent crew, helpful and child friendly – that in itself makes holidaying with kids a pleasure as so many people treat them as if they were a nuisance. Better than the average. (female, New Zealand)

• First time not seasick – due to ginger tablets!! (female, Australia)

• Wanted to have swum with the dolphins? But, it was not meant to be. (male, Australia)

• The dolphins are the same tour to tour. The staff make the difference. This group was great! (male, New Zealand)

• Fantastic! (female, USA)

• Shame we couldn’t swim but I support no swimming with the calves. (male, New Zealand)

• It was very interesting and I think it is good to get close to understand nature more. Information & educational packs would enhance the experience. (female, UK)

• Sorry we couldn’t swim, though I completely understand why (babies). Lovely staff. Amazing experience! (female, Sweden)

• I am a little bit upset because I really would have liked to swim with the dolphins. (female, Switzerland)

• Lovely afternoon out in the islands. Enjoyed the scenery. Peaceful. (female, UK)

• Had a very nice time, well worth it. Thanks. (male, Canada)

• Would have been perfect if able to swim! (female, UK)

• I wish we could have swam with the dolphins – never mind….next time! (female, New Zealand)

• I wish we could have swam with the dolphins. (female, New Zealand)

• It was a great trip! (female, Denmark)

• Exciting but a shame that we couldn’t swim with the dolphins today. (female, Denmark)

• Would have liked the opportunity to swim with the dolphins. (female, UK)

• Today was a very enjoyable tour. The only thing wrong was the lack of swimming with the dolphins. Since they are wild animals this was not and could not be guaranteed. But it did mar the experience. (female, UK)

• It was a long day. No sightings at all. Disappointing. (female, New Zealand)
• Unfortunately we didn’t see any dolphins. (female, UK)
• Pity we didn’t see any. (male, UK)
• Very disappointed not to see any dolphins/whales – was expecting this to be one of the holiday highlights. Will try again sometime. (female, UK)
• Didn’t see any dolphins. (male, Norway)
• No dolphins to be seen on tour! (female, UK)
• Could do with something to keep people occupied when conditions + sightings not good. Better reading + visual information or orally. Seating very uncomfortable, not good when boat is rocky. Maybe need to have drinks available other than tea and coffee. Could provide more background info about wildlife, history, the area + the people. (male, UK)
• I have answered the questions in section One largely on a hypothetical basis as we didn’t see dolphins on this trip. However, had I been able to swim with the dolphins then the answers are what I imagine would be correct! My satisfaction on the trip was only impaired by our bad luck and not for any other reason. (female, UK)
• It would have been great if we saw anything. (female, USA)
• Unfortunately Israel is not recycling yet. (female, Israel)
• It was fun and I learned a lot! (male, Israel)
• Beautiful weather, next time I will bring my swimming costume, because I am not a good swimmer, but I was told that I could use a life jacket. Sorry about the writing because the boat is rocky. (female, Ireland)
• Enjoyable trip – if a bit chilly! (female, UK)
• It was great we had luck! (female, Germany)
• Initially I expected to swim with the dolphins, but found that to protect them it was not possible (because young dolphins were there). I was happy that the dolphins were not disturbed even though I would have liked to have swam with them in an ideal situation. (male, UK)
• We didn’t get to swim with dolphins, but hopefully next time we will. Two pod sightings is not so bad. (male, USA)
• Thoroughly enjoyable trip, it was great that the reasons why we couldn’t swim with the dolphins were explained. It was great to see the baby dolphins! (female, New Zealand)
• It was really great to see dolphins in the wild. The highlight was them swimming under the boat. (female, UK)
• Very knowledgable & friendly staff. (female, USA)
• Conflict between wanting to view dolphins in their natural environment & “chasing” them in boats. Now more arrived & need to be controlled internationally. (male, UK)
• Slightly disappointed due to not swimming with the dolphins. (male, UK)
• Very good. Excellent. Thank you. (female, UK)
• Very good & enjoyable. (female, UK)
• Absolutely fantastic day. (male, UK)
• An amazing experience again. Would come back. (male, UK)
• The staff knowledge and interaction was wonderful. If the plastic bag had not been retrieved that would have been what I remembered most about my experience, but because you went back and got it I remember your wonderful care for the dolphins and other wildlife. (female, New Zealand)
• It was fantastic. (female, New Zealand)
• I didn’t know how to use a snorkel so it made the swimming a bit difficult. But it was so very cool. I don’t mind. (female, New Zealand)
• Too long with little activity. (male, Australia)
• I felt the tour was very well organised with helpful, very well informed staff who answered all my questions and were especially good at putting things in a way my daughter would understand. A great trip. (male, New Zealand)
• Yes, brings to mind that something positive needs to be done by government legislation to reduce the number of dolphins being caught in nets each year. (male, New Zealand)
• Great tour, very enjoyable. (male, Denmark)
• I respect the fact that we could not swim with the dolphins as there was a juvenile in the pod. (male, UK)
• Wonderful, but I would have liked to swim with the dolphins. I will recommend the tour to others. (female, Denmark)
• The boat crew were helpful & ready to answer all questions. It was disappointing not to be able to actually swim with the dolphins, as it is something I have always wanted to do and not had the opportunity. (male, UK)
• It was disappointing to those who wished to swim with the dolphins. (female, UK)
• It was disappointing not to swim with the dolphins – but that’s life! The pod of Common Dolphins were great. (female, UK)
• Unfortunately most boats use styrofoam as cups and just spill out their waste-water into the ocean. (male, Germany)
• Although dolphin/whale watching is a wonderful experience not to be missed, it does make you worry about the bad effect it may have on the wildlife and their environment, i.e. 3 boats twice a day, year on year? (male, UK)
• We didn’t see any dolphins on our tour, if we had it would have been graded higher. (male, Sweden)
• Disappointed not to swim with dolphins, but thrilled to see large pod with babies - that we did. Felt it was a spiritual experience + more important for kids to experience than being at school. Do my best not to destroy noxious plants + animals/insects whenever I am, recently published letter concerning mothweed problems in local regions + to educate others concerning such pests. (male, New Zealand)
• We didn’t see any dolphins or whales, therefore I’m disappointed with the trip, but know that it would be much better if we did see them. My answers will probably be more positive on the next tour if I see dolphins! (female, Sweden)
• Thought the tour was very enjoyable. We saw a large number of dolphins who seemed entirely at home around the boat. They were jumping and racing, several babies were present so a swim was not possible, but this had been explained before we found the dolphins so although our daughter was disappointed she understood why she couldn’t swim. (female, UK)
• This is my third trial of swimming with dolphins since 2 and a half years ago. Once I could not see dolphins because of the rough weather. Twice I could not swim with dolphins as we found the baby dolphins. I have had several times of experience of swimming with dolphins in Japan. For these people, especially for the people from outside NZ, we appreciate if you gave us more chances by the following way: If we book the dolphin swim tour in succession, i.e. 1st, 2nd, 3rd days, the prices are going down; then we will have more and more chances to swim with dolphins. I appreciated if you give me reply before I visit Bay of Islands for the next time: The next new years holidays. Thank you. (male, Japan)
• I think it was very good. (male, New Zealand)
Responses regarding the survey

- Feel that the tour + this questionnaire have made me more aware of the importance of being environmentally conscious + responsible. (female, Ireland)
- Thank you for the awareness of your research and general info on environmental organizations. (male, USA)
- These questions are sometimes very difficult for a foreigner. (female, Holland)
- Please email me the results when you are done. (male, USA)
- Unfortunately I didn’t understand all questions, hence no answers there. Questionnaire is rather long. (2 x female, Switzerland)
- Comment on the greeting Kia Ora on the cover page of the questionnaire: I find this offensive and patronising CRAP (crossed out and written: Good Day) (male, New Zealand)
- Questionnaire too long (female, Ireland)
- Make the hole in your box bigger. <this referred to the return-box in Kaikoura> (male, UK)
- It was a very good experience, but the survey was too long. (female, UK)
- Excellent questionnaire. However the length may be off putting too many asked to participate. (female, Canada)
- This is too long, my holiday is nearly over, have to go. (no details given)
- Interesting survey. Made me realize my “good intentions” are not quite reflected in my practices nor in my pocketbook. Thanks! For raising my awareness. Good luck! (female, USA)
- I hope you can have a nice theory & I’d like to know about them. Good Luck. (female, Japan)
- Let one of your local children win the fluffy dolphin! (female, Canada)
- Reading this survey I feel guilty that I am not doing enough. I have noticed that environmental considerations are much more prominent in Australia + New Zealand, which is something I hope to take back with me + be more ecofriendly when I go home. (female, UK)
- Good luck and all the best with your PhD! (female, UK)
- Nice to meet someone doing research of this kind, as I feel very strongly about the environment. (female, Australia)
- Maybe you needed a question at the beginning as to why people booked to do the trip, i.e. to see dolphins or to swim with dolphins. (female, UK)
- I have answered the questions in section One largely on a hypothetical basis as we didn’t see dolphins on this trip. However, had I been able to swim with the dolphins then the answers are what I imagine would be correct! My satisfaction on the trip was only impaired by our bad luck and not for any other reason. (female, UK)
- Seeing/not seeing dolphins would have a big influence upon questions 12, 14-16. (male, UK)
- We didn’t see any dolphins or whales, therefore I’m disappointed with the trip, but know that it would be much better if we did see them. My answers will probably be more positive on the next tour if I see dolphins! (female, Sweden)
A letter accompanied with a questionnaire sent back from Japan: I am pleased to find from the questionnaire that they come from the stand point of preventing the nature from growing-up damages, and that your ideas of commerce seem to be nature-subordinated instead of economy-subordinated. I think that we should never forget that we human beings are the children of the nature, the cosmos; otherwise we human beings will be ruined sooner or later. (male, Japan)
## Appendix III: Company profiles of *Dolphin Experience, Dolphin Encounter, and Dolphin Discoveries*

<table>
<thead>
<tr>
<th></th>
<th>Dolphin Experience</th>
<th>Dolphin Encounter</th>
<th>Dolphin Discoveries</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Address</strong></td>
<td>61 Beach Rd.</td>
<td>58 West End</td>
<td>Cnr Marsden &amp; Williams Rds</td>
</tr>
<tr>
<td></td>
<td>Akaroa, Banks Peninsula</td>
<td>Kaikoura</td>
<td>Paihia, Bay of Islands</td>
</tr>
<tr>
<td><strong>Phone</strong></td>
<td>0508 - DOLPHINS</td>
<td>0800 - SEE DOLPHINS</td>
<td>09 - 402 8234</td>
</tr>
<tr>
<td><strong>Fax</strong></td>
<td>03 - 304 7726</td>
<td>03 - 319 6534</td>
<td>09 - 402 6058</td>
</tr>
<tr>
<td><strong>e-mail</strong></td>
<td><a href="mailto:dolphin.experience@clear.net.nz">dolphin.experience@clear.net.nz</a></td>
<td><a href="mailto:info@dolphin.co.nz">info@dolphin.co.nz</a></td>
<td><a href="mailto:dolphin@igrin.co.nz">dolphin@igrin.co.nz</a></td>
</tr>
<tr>
<td><strong>Established</strong></td>
<td>1991</td>
<td>1989</td>
<td>1991</td>
</tr>
<tr>
<td><strong>Owners</strong></td>
<td>Deana &amp; Nigel Irvine</td>
<td>Lynette &amp; Dennis Buurman, Ian Bradshaw</td>
<td>Glennis &amp; David Morgan</td>
</tr>
<tr>
<td><strong>Staff (fulltime/parttime)</strong></td>
<td>3/2</td>
<td>19/4</td>
<td>8 - 13</td>
</tr>
<tr>
<td><strong>Vessel(s)</strong></td>
<td>Dolphin Experience (p) 10/6</td>
<td>Dolphin Encounter (p) 13/4</td>
<td>Discovery III (p) 18/26</td>
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<tr>
<td>&amp; capacity (swim**/watch)</td>
<td>Dolphin Watch (j) 10/2</td>
<td>Lissodelphis (p) 13/25</td>
<td>Discovery IV*** (j) 0/74</td>
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<tr>
<td><strong>Passengers per year</strong></td>
<td>appr. 15,000</td>
<td>appr. 20000</td>
<td>appr. 20000</td>
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<tr>
<td><strong>Ratio intern./domestic</strong></td>
<td>80% / 20%</td>
<td>90.8% / 9.2%</td>
<td>66.6% / 33.3%</td>
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<tr>
<td><strong>Season and times</strong></td>
<td>Nov-Apr: 6am; 9am; 12pm; 3pm</td>
<td>Oct-May: 6am; 9am; 1pm</td>
<td>Sep-Apr: 8am; 12:30pm</td>
</tr>
<tr>
<td></td>
<td>May-Oct: 9am; 12pm</td>
<td>Jun-Sep: 9am; 1pm</td>
<td>May-Aug: 8am; 12:30pm on demand</td>
</tr>
<tr>
<td><strong>Duration</strong></td>
<td>appr. 3 hrs</td>
<td>appr. 3 hrs</td>
<td>4 hrs</td>
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<tr>
<td><strong>Price structure</strong></td>
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<tr>
<td>Swimmers adult/child****</td>
<td>$68 / $48</td>
<td>$85 / $80</td>
<td>$85 / $45</td>
</tr>
<tr>
<td>Watchers adult/child****</td>
<td>$29 / $15</td>
<td>$48 / $38</td>
<td>$85 / $45</td>
</tr>
</tbody>
</table>

* p = propeller / j = jet  
** usually the maximum number of swimmers allowed by the DoC permit  
*** permit for watch only  
**** under 15 years
Appendix IV: Membership in Environmental Organisations

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<tr>
<th>Organisation</th>
<th>Count</th>
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<td>WWF</td>
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<td>Greenpeace</td>
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<tr>
<td>Sierra Club</td>
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<td>National Trust</td>
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<td>RSPB</td>
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<tr>
<td>Nature Conservancy</td>
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<tr>
<td>RSPCA (UK)</td>
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<tr>
<td>Forest &amp; Bird</td>
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<tr>
<td>Friends of the Earth</td>
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<tr>
<td>Amnesty International</td>
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<tr>
<td>Born Free Trust</td>
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<tr>
<td>Earthwatch</td>
<td>2</td>
</tr>
<tr>
<td>National Wildlife Federation</td>
<td>2</td>
</tr>
<tr>
<td>Naturschutzbund</td>
<td>2</td>
</tr>
<tr>
<td>Natuurmonumenten</td>
<td>2</td>
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<tr>
<td>OXFAM</td>
<td>2</td>
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<tr>
<td>Pohutukawa Trust</td>
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<tr>
<td>Soil Association</td>
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<td>WDCS</td>
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<tr>
<td>Wildlife Trust</td>
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<tr>
<td>A Assn</td>
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<tr>
<td>Agenda 21 Globe Group</td>
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<tr>
<td>Alpen Verein</td>
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<tr>
<td>Appalachian Mountain Club</td>
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<tr>
<td>Bird</td>
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<tr>
<td>British Trust for Conservation Volunteers (BTCV)</td>
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<tr>
<td>Center for Agroecology &amp; Sustainable Systems</td>
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<tr>
<td>Center for Marine Conservation</td>
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<tr>
<td>Cesku Spolek Ochrancu Prirodu (Czech Rep.)</td>
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<tr>
<td>Dian Jersey Gorilla ??</td>
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<tr>
<td>Forest Action</td>
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<tr>
<td>FWAG (Farming &amp; Wildlife Advisory Group)</td>
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<td>Green Power (HKG)</td>
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<td>Groen Miljoe (Denmark)</td>
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<td>Organisation</td>
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<td>Robin Wood</td>
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<td>Somerset Wildlife Trust (UK)</td>
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<td>Tierschutzbund</td>
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<td>UK Cyclists Touring Club</td>
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<tr>
<td>University of Wisconsin Environmental Club</td>
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<td>Vermont Env. Activism &amp; Resource Center</td>
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<tr>
<td>Vermont Public Interest Research Group</td>
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<td>Wastebusters</td>
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<tr>
<td>Whale &amp; Dolphin Protection Soc. (UK)</td>
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<tr>
<td>White Shark Research Organization of South Africa</td>
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<td>Wiltshire Wildlife Trust</td>
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<td>Woodland Trust</td>
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