

# BEST PRACTICE AND INTERPRETATION IN TOURIST/WILDLIFE ENCOUNTERS: A WILD DOLPHIN SWIM TOUR EXAMPLE



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**WILDLIFE TOURISM RESEARCH REPORT SERIES: NO. 25**

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### **Wildlife Tourism Report Series, Editor: Dr Karen Higginbottom**

This series presents research findings from projects within the wildlife tourism subprogram of the STCRC. The subprogram aims to provide strategic knowledge to facilitate the sustainable development of wildlife tourism in Australia.

### **National Library of Australia Cataloguing in Publication Data**

O'Neill, Fleur.

Best practice and interpretation in tourist-wildlife encounters: a wild dolphin swim tour example.

Bibliography.

ISBN 1 920704 77 9 (pbk)

ISBN 1 920704 78 7 (pdf)

1. Wildlife watching industry - Western Australia - Koombana Bay. 2. Ecotourism - Western Australia - Koombana Bay. I. Lee, Diane. II. Barnard, Sam. III. Cooperative Research Centre for Sustainable Tourism. IV. Title. (Series : Wildlife tourism research report series ; no. 25).

338.47919412

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## PREFACE

This report was written with the cooperation and support of a number of organisations and people. We would like to acknowledge this support with very special thanks to the following people: Holly Smith, Elizabeth Kerr, Merrlyn Braden, Debra Slater, 'English' Karen, Liz Sharpe, Rhonda & Vicki of the Bottlenose Café, Rochelle Constantine, Amy Samuels, Lorna Kaino, Karuna Gurung, Roger Porter, Andrew Horan and Phil Coulthard.

The report would also not have been possible without the co-operation of the following organisations and groups:

- Department of Conservation and Land Management (license)
- 2000 Save Our Shores Board of Directors
- YHA Bunbury
- Naturaliste Charters
- BTG media
- Bunbury Tourism Board
- Murdoch University Tourism students
- Edith Cowan Bunbury Campus staff and students
- Bunbury TAFE staff and students.

And of course the Koombana Bay dolphins, including Sharkie, Thinfin, Slapper (Stumpy) & Lumpy, contributed immensely.

## SUMMARY

Tourism involving human/wildlife interaction appears to be increasing as people continue to seek authentic encounters with wild animals in their natural habitat. One such place where this occurs is the Dolphin Discovery Centre (DDC) in Koombana Bay, Bunbury, Western Australia. The centre is a non-profit organisation focused upon interaction with the wild and habituated bottlenose dolphins (*Tursiops spp*) that reside within Koombana Bay. Under licenses issued by the State Department of Conservation and Land Management (CALM), tourists are able to interact with the dolphins in a variety of ways including wild dolphin swim tours, boat-based dolphin watching tours and a shore based area where dolphins are hand fed a small offering, known as the Interaction Zone.

The increasing popularity of the dolphins has raised issues concerning the possible impacts that may be imposed on them by continual tourist activity. Although limited, results from recent studies are showing that interaction, mainly in the form of swimming and feeding, can have a detrimental effect upon targeted wild dolphin populations.

In theory, it is said that for wildlife tourist interactions to be sustainable, the activity must benefit both the wildlife and the tourist, as the wildlife will remain healthy and the tourist will remain happy, prolonging the life of the tourist operation. However, providing satisfying wildlife experiences whilst endeavouring to protect the species and/or its environment can become a difficult task. One method of doing this is to provide education about the wildlife, increasing knowledge and possibly appreciation leading to an increase in protection. Another is to employ best practice techniques by developing management guidelines, and to interpret guidelines to tourists with the aim of increasing understanding and acceptance, helping to reduce short-term impacts of the activity.

In order to achieve sustainable tourism, it is necessary for wildlife tour operators to know if their best practice techniques are both effective and satisfactory for the tourist. It is also necessary for the operator to know if their best practice techniques are benefiting the wildlife, however this is a much more difficult task, requiring intricate biological

knowledge and many years of study. The former, assessing tourist satisfaction, is less difficult to examine and is the focus of this report.

The use of education and interpretation has been viewed favourably as a 'solution' to the ever-growing 'problem' of sustainability regarding nature-based tourism, as it attempts to change tourists' behaviour in a positive way that results in tourist satisfaction as well as benefits to the animal or environment (Moscardo, 1998). This study focuses on the examination of tourist satisfaction to determine if the management (education and interpretation of guidelines implemented through a Code of Practice) changes the tourists' behaviour in a positive way that results in satisfaction. In order to do this, the study aims to:

- Examine visitor perception of wild dolphin characteristics and wild dolphin interaction before and after the tour;
- Analyse visitor motivation, expectation and satisfaction levels with various components of the swim tour, and
- Assess the effectiveness of, and satisfaction with, the management strategies (DDC Code of Practice) used to reduce the potential for tourist impacts upon dolphins. Education and interpretation form part of the management and are therefore examined in detail.

To conduct the study, both pre-swim and post-swim surveys were developed through funding by the Cooperative Research Centre for Sustainable Tourism (CRCST) under the wildlife tourism sub-program. Wild dolphin swim tour participants, 223, were surveyed during the summer months of February to April 2000.

Overall, survey results show a high level of tourist satisfaction with the DDC management procedures. This was surprising given results from pre-swim surveys that demonstrated people's distorted perceptions of wild dolphins, and the high expectations they have about swimming with these wild animals. Results show that specific guidelines within the Code of Practice, known as Minimal Impact Procedures were effective in reducing the tourist impacts (or presumed impacts as it is unknown exactly how swimmers impact dolphin populations) and successful in achieving tourist satisfaction. It is assumed that education, which interpreted management procedures prior to swimmers entering the

water, was somewhat responsible for participant acceptance of, and overall satisfaction with the Code of Practice.

To continue to improve expectation and satisfaction, tourists must be provided with factual and accurate information about wild dolphins. Education of this kind will help them understand that the dolphins are wild animals, and sightings along with the dolphins interest in humans, cannot be guaranteed. (In this particular study however, there were no instances where dolphins were not sighted, so satisfaction based on this factor cannot be measured.) DDC wild dolphin swim tour operators must continue to interpret guidelines and educate people about the potential impacts that swimming can have on the dolphins. This will aid compliance with management practices, and possibly assist future wildlife interactions, independent of the DDC wild dolphin swim tours.

Written in conjunction with this Technical Report is an industry focused Best Practice manual reporting specifically on the procedures of dolphin swim-tour operations. This manual is based on the ANZECC Best Practice guidelines also outlined in this report, and provides specific guidelines based on the principles of Best Practice in sustainable ecotourism with a strong focus on education, visitor satisfaction and safety. An educational video has also been produced from results of surveys and has been used by the DDC during wild dolphin swim tours.

This report focuses on one component of a wider study of tourist-dolphin interaction. The wider study consisted of a quantitative survey, with a sample of 1300 shore and boat-based visitors, and a population survey and 230 swim tour participants. It also included qualitative input from staff members at the DDC with regards to management issues, and the artistic input of 'Media Studies' Honours level students.



Tourism and the natural environment are two concepts that appear to have become closely associated due to the increasing desire for tourists to visit natural areas, and 'tourism, like the natural environment, needs to be managed to be sustainable' (WATC & CALM 1997, p2).

Unfortunately the natural environment often comes into conflict with an economy driven tourism industry that seeks to utilise natural resources for economic benefit, ultimately exploiting them in the process. However, stakeholders within the tourism industry are starting to take more conservation-based approaches to managing the increase in tourists seeking nature-based settings. The emergence of nature-based tourism, and particularly ecotourism, are products of this (Dowling 1996).

The focus of this study is based on a specific component of nature-based tourism, which is tourism involving interaction with wildlife. The wildlife in question is marine mammal species *Tursiops*, or the animal commonly known as the bottlenose dolphin. One way of managing wildlife/tourist interaction is the establishment of Best Practice guidelines. In order for a nature-based tourist operation to be managed effectively, social, environmental and economic goals must be set and methods of best practice implemented to ensure that these goals are met. In addition, according to Orams (1996) and Moscardo (1998) management of tourist-wildlife operations requires indirect techniques such as education and interpretation, which attempt to appeal to the tourists' 'caring' side, therefore encouraging them to take an active role in protecting the environment.

This study explored the issue of 'best practice' within the wild dolphin swim tour program at the Dolphin Discovery Centre (DDC) in Bunbury, Western Australia. In 1999 a Code of Practice was developed by the tour licensee to reduce the potential for negative impacts of swimmer activity upon the local dolphin population. Surveys (pre and post tour) were developed to examine tourist satisfaction of certain guidelines within the Code of Practice. This examination included assessing tourist expectation, satisfaction and effectiveness of the education

and interpretation methods used to manage the tour. The practical outcome will be to provide an Industry Manual and video of Best Practice guidelines for use by Dolphin Swim Tour operations.

## **1.1 Ecotourism**

Ecotourism is a concept that many tourists are familiar with, yet they may not fully understand its meaning. A number of attempts have been made to define the term, yet it can be said that the most accurate definitions of the term incorporate an educational and interpretive component (Ryan 1998). Dowling's definition is particularly useful when thinking about interpretation, he states: 'Ecotourism can be defined as nature based tourism that involves education and interpretation of the natural environment and is managed to be ecologically sustainable' (1997, p2).

While sustainable tourism proponents of ecotourism claim that it is tourism with the best interests of the environment at heart, some sceptical theorists suggest that it is simply nature-based tourism 'dressed-up', and 'may well be nothing more than a new marketing gimmick which dresses up existing tourism attractions in an attempt to increase market share' (Orams 1999, p94). With the inclusion of interpretation and educational strategies to complement the economical, ecological and social benefits of an ecotourism experience, the differences between an ecotourism product and a marketing gimmick for existing nature-based tourism can be highlighted (Fennell 1999). Such strategies may be implemented along with the provision of guidelines to portray the right messages to tourists and tour operators alike: messages that promote the well being of the environment through an understanding of the adverse affects of careless actions toward it and its wildlife.

## **1.2 Wildlife Tourism**

Worldwide, wildlife based tourism is one of the fastest growing forms of tourism (Muloin 1998; Reynolds & Braithwaite 1999). Globally, wildlife tourism is estimated to generate a revenue of US\$47-\$155 billion/year (Ceballos-Lascurain 1996). Wildlife tourism is a broad concept in that it incorporates relatively non-consumptive forms of tourism such as viewing and photography, to consumptive forms like

recreational fishing (Higginbottom, Rann, Moscardo, Davis and Muloin 2001). The opportunities for people to interact with wildlife are many, and the demand for these opportunities is predicted to increase dramatically over the next decade (Shackley 1997).

Higginbottom et al. (2001) suggest that a noticeable trend in wildlife tourism is the increase in the number of species being viewed in a wider range of environments. For example, species that were once only viewed in zoos are now accessible in their natural environment. This is a result of an increase in the demand to experience wild animals in their natural habitat, as opposed to those in captive or semi-captive situations (Duffus & Dearden 1990; Gauthier 1993; Kellert 1980; Pearce 1991). The trend in society to place greater value on wildlife in its natural habitat may be due to people's increasing awareness of the environment and interest in the concept of ecology (Sagoff 1986; Duffus & Wipond 1992).

### ***1.2.1 Marine tourism***

The marine environment provides many opportunities for tourists to view wildlife in a natural setting. Activities may range from small-scale beachcombing to large-scale luxury boat cruises. Tours may be dedicated to one particular species or may rely upon opportunistic sightings of a range of wildlife. According to Birtles, Valentine and Curnock (2001), the growth in recreation and tourism use of marine environments over the last part of the millennium has been rapid. Birtles et al. (2001) also point out that future growth of the marine recreation industry depends heavily on the continuing abundance and diversity of marine life, hence it is of utmost importance that this resource is maintained. Negative impacts upon marine life and habitats can be hard to assess as often little is known about the animals or their environment. The potential for impacts however must be taken into account, especially if the industry is experiencing rapid growth.

### ***1.2.2 Marine mammal tourism***

A popular form of marine wildlife tourism is marine mammal tourism. Marine mammals include animal species from the orders, Cetacea (whales, dolphins and porpoises), Pinnipedia (seals and sea lions) and Sirenia (dugong and manatee). In the last decade there has been an

increasing desire for humans to interact with marine mammals and an increase in tour opportunities (Hoyt 2001). As a result tourism based upon viewing and interacting with these creatures in their natural habitat has experienced rapid growth on a global basis (Constantine 1998).

In 1990, Forestell and Kaufman wrote, 'While recognising that tourists select recreational activities that are enjoyable and attractive, we have been conscious of the awakening interest in whales and dolphins' (p410). Today, viewing of whales, dolphins and or porpoises in their natural habitat is a billion dollar (US\$) industry, occurring in over 80 countries and territories and over 9 million participants (Hoyt 2001). In Australia alone there are over 220 licensed operators and over 730,000 marine mammal tourists/year (Hoyt 2001).

### **1.2.3 A fascination with dolphins**

Dolphins, in particular bottlenose dolphins, have been a source of human fascination for centuries. Accounts of fishermen befriending and feeding dolphins in the wild extend back into the first century, around 70 AD (Busnel 1973). The fascination of interacting with dolphins in their natural environment still remains today. Dudzinski (1999) writes, 'the lure of the dolphins smile combined with their assumed intelligence is likely to attract an exponentially increasing number of visitors to various locations worldwide: all bearing the same desire to experience these creatures 'up close and personal'.

Fabled stories of lone wild dolphins interacting with boats and humans, trained performances in marine parks, media portrayal such as 'Flipper' and the production of new-age or well-being texts are no doubt greatly responsible for the popularity and 'friendly, gentle, positive' impressions people have formed of dolphins. These impressions rarely seem to encompass fact and biological concept. In addition, dolphin behaviour and social structure are often interpreted with both anthropomorphism and anthropocentrism (Amente-Helweg 1996).

In a study conducted into eco-tourists beliefs and knowledge about dolphins, eighty percent of respondents were found to believe that the 'dolphins enjoyed their company'. Tourists had agreed with statements such as these about dolphins, 'being tolerant and fond of

people', and 'eager to approach boats' (Amente-Helweg 1996). Eleven percent of participants agreed that dolphins were 'present for their enjoyment'. Almost all participants (99%) perceived dolphins to be intelligent, and a factor analysis revealed many people's beliefs were based upon dolphins having spiritual, and philanthropic attributes (Amente-Helweg 1996).

#### **1.2.4 Wild dolphin swim tours**

Regular boat-based dolphin watching tours have taken a back seat as the demand for swim-with-wild dolphin tours increase at an exponential rate (Wursig 1996). An article in a community newspaper stated that: 'Ecotourists are jumping at the chance to swim with dolphins in the wild' (Petersen, September 9, 2001, p13). Swimming with wild dolphins is now a well-known form of wildlife tourism, occurring in Australia, New Zealand, Japan, the United States, South America, Bahamas, French Polynesia, etc. (Samuels, Bejder & Heinrich 2000). In Australia, Swim-with-Wild Dolphin programs exist in Victoria and Western Australia only. At present Victoria has five licensed operators and Western Australia has three. The remaining Australian States and Territories do not support swim programs (Gales 1999).

### **1.3 Examining The Wildlife Tourist Experience**

Examining the tourist experience can provide operators with information on what factors contribute to satisfaction. It may also help determine how the interaction is managed. According to Duffus and Dearden (1992), management of tourists' behaviour with wildlife is simpler if the motivation, satisfaction and nature of demand are known.

#### **1.3.1 Tourist motivation and expectation**

Motivation is seen as the driving force that gives value and direction to travel choice, behaviour, and experience (Pearce 1988). A wildlife tourist may have multiple motivations for choosing a certain activity. Wildlife and wilderness can provide the opportunity for people to relax and detach themselves from their normal lifestyles (Duffus & Winpond 1992). These people may be intrinsically motivated, having the desire to escape their everyday activities (Mannel & Iso-Ahola 1987). Some wildlife tourists may be attracted to places where they

can encounter wildlife under natural conditions (Duffus & Dearden 1990). Such tourists might be attracted by the unpredictable nature of wild animals. Rolston (1987, cited in Duffus and Winpond 1992), observed that people recounting their wildlife experiences tend to 'highlight the surprises' (p 341).

The desire to view a particular animal may be fuelled by the image the person has developed from previous association (Duffus & Dearden 1990). This may come from actual involvement with the animal or through association with characters, pictures, personal conversation, and advertising. Amente-Helweg (1996) writes: 'Individuals form impressions of animals which strongly motivate their desire to experience these preconceptions' (p 132).

#### *Motivations of the wild dolphin tourist*

Dolphins, along with other large marine life have been referred to as 'charismatic mega fauna' (Marsh, Arnold, Limpus, Birtles, Breen, Robins & Williams 1997). Wanting to see them in the wild could be due to psychological, spiritual or intellectual needs. Watching dolphins may evoke feelings of inspiration or awe, possibly enjoyment and connection with nature. Animals that are considered aesthetically attractive; of having presumably higher intelligence; and are seen as being aware (such as dolphins) seem most capable of creating feelings of emotion and conservation (Kellert 1987). Motivation to see dolphins may also be basic, such as photography, continuation of support for environmental causes and organisations. According to Amente-Helweg (1996) Some wildlife tourists engage in tourism to improve their education, there are also those who come simply because they are curious.

### **1.3.2 Satisfaction with wildlife tourism**

In order to provide satisfying wildlife experiences, managers should have an understanding of the nature of the tourists' satisfaction. Satisfaction will rise as the match between the visitors' expectations and the characteristics of the site improves (Duffus & Winpond 1992). Expectations are pre-experience attitudes (Pearce 1988), and satisfaction will occur when the actual experience equals the expectations. Pearce and Moscardo (1985) refer to this as, 'the nature

of the fit between visitor expectations and visitor experiences' (p.302). The fit is matching the tourists' needs with the resources of a location.

According to Shackley (1997) the highest quality of experience for a wildlife tourist often comes with active participation where, 'the visitor feels that he or she is achieving some kind of temporary affinity with a different species or its environment' (p 60). Duffus and Winpond (1992) find tourists are satisfied by just visualising an animal and refer to this as the 'aesthetic experience' writing, 'much of what is unique in the aesthetics of wildlife encounters is the spontaneity and motion in their form' (p.340).

For tours based upon wildlife in the natural habitat, the wildlife is not always available on demand. Operators need to know if such features affect satisfaction levels. A study conducted into boat based watching of Humpback whales, revealed that 35 per cent of respondents were satisfied with their marine experience even when whales weren't sighted, and that satisfaction was not dependent upon proximity to whales (Orams 2000). Such insight into the tourists experience can help reveal features, other than seeing or interaction, which influence satisfaction levels. For example, a study into the viewing of Orcas off the Canadian Pacific Coast found that education and scenic backdrop helped create satisfactory experiences (Duffus & Dearden 1993).

## **1.4 Managing Marine Mammal Tourist Interaction**

### ***1.4.1 Impacts of marine mammal tourism***

Recent research suggests that marine mammals in the wild are at risk of being disturbed, displaced or injured by tourists demanding such interactive experiences (Spradlin, Barre, Lewandowski & Nitta. 2001). These days interactive experiences may be in the form of commercial feeding operations, commercial dolphin swim tour operations, habituated animals soliciting food from commercial and recreational vessels, habituated single dolphins that seek out interactions with humans and one off or chance encounters with unhabituated dolphins (Flanagan 1996; Samuels, Bejder & Heinrich 2000).

Often the impression is given that a form of tourism that cultivates environmental principles will have limited impact upon the

environment or species in which it is promoted (Boyd & Butler 1996), however this is not always guaranteed. Tourism based upon wildlife has a high potential for negative impacts because of the very need to seek out the animal for viewing or interaction (Green 1999). According to Shackley (1997) even the best wildlife tourist can have a discernible impact upon the species and or habitat that he/she is watching. People who want to view marine mammals often approach areas important for breeding or resting, creating a negative impact on the very animals they wish to see.

### ***1.4.2 Impacts of wild dolphin swim tour programs***

Placing of swimmers in the water and actual swimming can also lead to disturbance, often indicated by a sudden change in the dolphin(s) direction, speed, activity and group composition. When boats and swimmers approach, dolphins are forced to respond and consequently change their activity and energy budget (Weir, Dunn, Bell & Chatfield 1997). It is difficult to assess if these short-term impacts will become detrimental to the long-term survivability of the dolphin and/or dolphin population. Long-term impacts may include lower reproductive success and possibly relocation to less used areas. Animals that remain in the area may become accustomed to human presence, possibly losing their natural wariness to humans. Assessing both short and long term impacts of wild dolphin swim tours is a difficult task requiring specialised knowledge of the dolphin population. However even without adequate data, swim tours that are based upon unhabituated dolphins are considered to be invasive and in a recent report they were described as 'harassment' as defined by the US Marine Mammal Protection Act (Samuels, Bejder & Heinrich 1999).

### ***1.4.3 Managing for impacts***

As the marine mammal tourism industry continues to grow without clear scientific knowledge of impacts, operators must take the precautionary approach. Implementation of Best Practice through development of guidelines or 'Codes of Practice' for both the operator and participants, and the use of education programs, are increasingly being used by operators to help minimise impacts.

#### **1.4.4 Best practice guidelines for ecotourism**

When looking at the issue of Best Practice, Sirakaya (1997, p.921) states that 'Many leaders of the tourism industry have become well aware of their potential impacts in ecologically and culturally sensitive destinations and the value of conservation...They have also realised the need to set industry codes of practice for their tour operations in these ecologically sensitive sites by producing various industry and visitor guidelines.'

Achievement of long-term goals relating to successful management of an ecotourism operation can be assisted through the development of 'best practice' in the form of set guidelines for both visitors and operators. Dowling (1997, p.2) notes that 'establishing best practice ecotourism techniques' is one important aspect of the significant progress ecotourism has made in Australia over the last few years.

Guidelines for best practice in relation to ecotourism management may come in a variety of forms. They may be directed at tour operators such as pre and post-tour routines and business management or directed at tourists by outlining the correct behaviour towards a specific natural site or wildlife species.

The Australian and New Zealand Environment and Conservation Council (ANZECC) discuss 'best practice' in relation to education and interpretation for park management. A summary of their five-step model aimed at tour operators is provided below (ANZECC, 2001):

##### *1. Define*

Clearly define interpretation and education objectives, services required, mission statements and broader corporate objectives; incorporate all relevant community, customer, environmental, heritage or scientific values into goals.

##### *2. Develop*

Integrated and documented procedures for identifying programs, messages, target audiences and approaches to be used; and setting measurable Key Performance Indicators.

##### *3. Deliver*

Recognising the value of in-house staff in delivering interpretation and education; using Performance Plans after assigning roles and responsibilities for all stages of education and interpretation.

#### *4. Evaluate*

Evaluate performance of education and interpretation services using Key Performance Indicators using a suitable method and systematic procedure.

#### *5. Support*

Having documented procedures to support communication, evaluation, data analysis and performance reporting, while identifying, training, monitoring and maintaining core skills for the interpretation and education service levels.

This five-step model has been used within the Best Practice Industry Manual produced in conjunction with this report. This manual is specifically focused on guidelines for tour operators and participants during dolphin-swim tour operations. As well as using the ANZECC model, the manual also integrates its own specific examples relating to dolphin swim tour guidelines.

### **1.4.5 Education and interpretation**

Using education as a tool for managing tourists can be an effective means of reducing negative impacts upon the animal (Orams 1995). In order to shape visitor behaviour the education program should include factual information about the animal, potential impacts from the tourist activity and information about the guidelines used to manage impacts. It is then assumed that tourists will be motivated to adhere to guidelines in order to reduce their impacts.

According to the National Guidelines for Cetacean Observation 2000, visitor education is an extremely important issue that provides tourists with an understanding of why it is necessary to obey guidelines, helping to make them more effective in following them (Environment Australia 1999). Orams & Hill (1998) demonstrated that the implementation of an education program significantly reduced inappropriate tourist behaviours such as touching, and state that 'education is an important strategy when compliance with management regulations is necessary to protect wildlife in ecotourism settings' (p33). Such education programs are an indirect way of managing tourist behaviour in the short term, and are often termed 'interpretation'.

### *Interpretation as an effective management strategy*

The word 'interpretation' was traditionally used when referring to the transfer of one spoken language to another (Orams 1999). However, interpretation can now be thought of as 'a special kind of communication that is particularly relevant to tourism and recreation' (Moscardo 1998). One of the first instances in which the term was used for this purpose is indicated by Tilden (1957), he states that 'Interpretation is an educational activity which aims to reveal meanings and relationships through the use of original objects, by first hand experience, and by illustrative media, rather than simply to communicate factual information' (Source: Orams 1999, p85).

Another definition that is particularly useful in terms of visitor satisfaction, states: 'Interpretation is the process of explaining to people the significance of the place or object they have come to see, to that they enjoy their visit more, understand their heritage and environment better, and develop a more caring attitude towards conservation' (Society for Interpreting Britain's Heritage, in Moscardo, 1998, p.3).

Moscardo (1998) supports the argument for interpretation further, explaining that interpretation can create economic sustainability as well as enhancing the quality of the experience for visitors and encouraging continued interest in the activity. Moscardo (1998) goes on to explain that there are three main ways that interpretation can enhance visitor satisfaction:

1. 'Providing information on alternatives and options' (so that visitors are free to make their own choices).
2. 'Providing information to encourage safety and comfort' (in the case of wild dolphin swim tours, visitors expect issues of safety i.e. presence of life jackets to be addressed; along with issues of comfort such as possible seasickness and emergency procedures).
3. 'Creating the actual experience' (learning new things and possibly having their behaviour changed in a positive way as a result of the experience).

### *Possible pitfalls*

While it may seem that interpretation is the 'answer' to all of ecotourism's problems, it would be short-sighted to neglect the possible downfalls of applying the concept to management situations

(Orams 1999). Looking at the negative aspects of interpretation may highlight things to watch out for in future approaches to tourism management, so that they can be prepared for or avoided. Most tourist operations, although they claim to employ environmental protection strategies are still largely market driven and economic profit remains the top priority. Bramwell and Lane (1993) are two theorists who recognise this as being a downfall of interpretation in tourism settings, below are a few points that they suggest as negative aspects of interpretation.

Interpretation may:

- provide simplified information that may imply that the tourist is less educated than they actually are;
- be in danger of over-interpretation in such a way that it becomes intrusive to the tourist, and may diminish the sense of mystique about a place; or
- increase disappointment if tourists' expectations are not met after the interpretation, this may occur in dolphin/tourist interaction situations as dolphins are wild animals and sightings cannot be guaranteed.

Keeping these points in mind, Bramwell and Lane do not dismiss the idea of using interpretation as a management strategy, and realise the great potential it may pose to ecotourism's future. They suggest that recognition of the pitfalls of interpretation will assist in making it 'less prone to distortion and more likely to make tourism more sustainable' (1993, p.76).

#### ***1.4.6 Education programs and sustainable tourism experiences***

Education and interpretation are by definition essential parts of ecotourism (Alcock 1991; Bramwell & Lane 1993) and are seen as critical for ensuring nature based activities become ecologically sustainable ones (Burgess 1992). This is because education may generate long-term protection for the environment and/or species by increasing knowledge and awareness about conservation issues (Burgess 1992; Roggenbuck 1992). In support of this argument, there are an increasing number of cetacean tourism studies that look to education and interpretation as the answer for creating sustainable tourism experiences (Dickson 2001; Jackson & Osmond 1996; Neil, Orams &

Baglioni 1995b; Orams 1995, 1996, 1999; Shanzel & McIntosh 2000; Weiler & Crabtree 1996; Wursig 1996).

Many studies that examine the long-term effectiveness of education, do not examine tourist satisfaction with the education, which includes satisfaction with guidelines used by the operator to minimise impacts. Tourist satisfaction is an essential part of sustainable tourism. According to the Tourism Working Group for Ecologically Sustainable Development (1991), tourism will be ecologically sustainable only if it makes the best use of the environmental resources it is based upon and considers the quality of experiences offered.

#### ***1.4.7 Satisfaction with best practice management procedures***

Wildlife interactions need to be heavily managed due to the unpredictable nature of wild animals. However, in order to be ecologically sustainable operators need to manage both for wildlife impacts and for the quality of the tourist experience (Boyd & Butler 1996; Tourism Working Group for Ecologically Sustainable Development 1991). Operators should therefore be aware of how the management used to minimise impacts upon the wildlife affects the quality of the experience.

One of the most important factors to be considered if the implementation of a management strategy is to be successful is to ensure that tourist satisfaction is achieved. For this, operators must know what participants think of management strategies and actions and what makes for effective interpretation. Examining this may provide operators with information about which wildlife interaction management procedures are beneficial (and sustainable) to both the tourist and wildlife. An example of this is results from a study into the dwarf minke whale swim tour industry, results revealed that tourists enjoyed being close to animals however did not want to touch, attempt to touch or chase whales as they found it more satisfying to interact in a benign manner (O'Neill 1999). This allowed managers to implement procedures that were satisfactory to the tourist, and beneficial to the animal.

## 1.5 Aims

The broad aims of this report are to examine the issue of Best Practice in enhancing the tourist/wildlife interaction experience, and are summarised as follows:

- To present findings from an evaluation of wild dolphin swim tour participants.
- To link these findings to the production of an interpretive video to be viewed by DDC swim tour participants prior to the tour.
- To provide a manual of Best Practice guidelines for operators involved in sustainable tourism and dolphin/tourist interaction that utilises the ANZECC model previously reviewed.

The specific aims of this report are to assess how some specific findings of the research may assist future management of wild dolphin swim tours, and are summarised as follows:

- To examine visitor perception of dolphin characteristics before and after the tour.
- To analyse visitor expectation and satisfaction levels with various components of the swim tour.
- To assess the effectiveness of, and satisfaction with, the education and interpretation strategies used by the DDC to manage the interaction, in order to help determine which procedures are effective in achieving ecologically sustainable interactions.

The following sections of this report provide a site description for the study, the methodologies applied in the study, results of the swim tour evaluation and a conclusion of the issue of Best Practice guidelines.

## SITE DESCRIPTION: DOLPHIN DISCOVERY CENTRE

The Dolphin Discovery Centre (DDC) is situated on Koombana Bay Beach in Bunbury, Western Australia (33 19' S, 115 39' E). Bunbury is approximately 180 kilometres south west of Perth City. The Centre was opened in 1994, and is managed by the Bunbury Dolphin Trust - a non-profit, community-based establishment. The four main objectives of the Centre are Education, Conservation, Research and Tourism.

### 2.1 History

The first reported human dolphin interaction in the area occurred in the early 1960's, when local Bunbury resident 'Mrs Smith' began feeding a mother and calf from a local fishing jetty. The event became very well known, featuring in both State and local newspapers and drawing daily crowds of more than 200 people. Regular feeding of the dolphins ceased upon Mrs Smith's death in 1975.

In 1989 the Bunbury Dolphin Trust was formed with the intention of restoring human dolphin interaction within the bay. A license from the Department of Conservation and Land Management was issued and a dolphin interaction area was developed in 1990. The Centre building was established and officially opened in 1995.

### 2.2 Present Day

Approximately 70,000 people visit the Centre each year and on-site facilities include a café, souvenir shop and a marine interpretive centre (Horan 2001, pers.comm). Tourists visiting the Centre are able to interact with dolphins via boat-based dolphin watch tours, swim with wild dolphin tours or the shore based Interaction Zone.

The team of DDC staff includes a Centre Manager, Dolphin Interaction Supervisor (responsible for overseeing tourist-dolphin interaction) and several café staff. Like many not-for-profit organisations, the DDC utilises the services of volunteers. Volunteers are either long-term local Bunbury residents or short-term international tourists (minimum stay of 3 months). A short training and orientation course is run each year, upon completion volunteers

help to educate tourists and assist the Dolphin Interaction Supervisor (DIS) in managing tourists during interactions.

### **2.2.1 Interpretive centre**

The Interpretive Centre comprises several informational displays about West Australian marine mammals, the local Koombana Bay bottlenose dolphins and other marine related conservation issues. The Interpretive Centre also features a small theatre playing a short documentary on social behaviour of the Koombana Bay dolphins. At the time of the survey an entry fee of \$5 for adults and \$3.50 for children was charged.

### **2.2.2 Boat based tours**

The boat-based dolphin-watch tours are operated by a private operator and run twice daily from the DDC. Interpretation of the dolphin experience is limited, with the focus of the educational content on marine safety issues. The tours run for approximately one and a half hours, depending on sea conditions and success of dolphin sightings.

### **2.2.3 Artificial provisioning area: interaction zone (license)**

The Interaction Zone (IZ) is a 200 square metre (50m x 40m) rectangular area positioned in the shallow waters of Koombana Bay, discernible by buoys. An interaction occurs when a dolphin swims inside the markers and stays for a period of longer than one minute. There is no set time for dolphins to visit the IZ. During dolphin visits people are able to stand waist deep in the water, or float on the surface using mask and snorkel. This activity is free of charge.

A marine mammal interaction license, issued by the Department of Conservation and Land Management, permits a maximum of 500 grams of fish to be fed, per dolphin within the zone, per day. There is no designated time for feeding. Only the DIS or trained volunteers are licensed to feed, no members of the public are permitted. This differs to the internationally popular tourist site 'Monkey Mia' in Shark Bay, Western Australia where three adult females are fed a maximum of 2kg per day, and rangers select approximately three tourists from the crowd to assist.

Since 1998 only two adult male dolphins 'Sharkie' and 'Iruka' have made consistent visits to the IZ. In a 1999 review of management procedures it was suggested that these two animals and an adult female, who has been visiting since 1992, remain the only provisioned dolphins (O'Neill pers comm., December 1999).

The dolphins visit the IZ on approximately 150 days of the year. Visits are seasonal, with the summer months of November through to February experiencing the most per year. During this period, dolphins visit approximately two to three times per day. The average duration of a dolphin visit is 19 minutes (range one minute to 92 minutes). Seventy five percent of visits occur between the morning hours of 7-11am.

The IZ is managed through a specific set of guidelines and educational activities aimed at tourists.

#### **2.2.4 Wild dolphin swim tours**

In 1999, the DDC was issued with a license from the state Department of Conservation and Land Management allowing them to begin conducting wild dolphin swim tours within Koombana Bay. Marketed as 'take a swim on the wild side', the first trial season of swim tours commenced in November 1999 and concluded in early April 2000. The cost of the tour during the surveying period was AUD\$70, this price included necessary equipment of wetsuit, buoyancy vest, mask, snorkel and small fins.

Wild dolphin swim tours run during the summer months (November through April) and are dependent upon tourist demand and weather conditions. Each tour takes a maximum of ten swimmers and is only 1.5 hours in duration. Upon sighting, staff assess the dolphins location and behaviour and, if deemed suitable, swimmers are permitted to enter the water.

A system of 'snorkel lines' (formerly known as 'mermaid lines') is used to minimise swimmer impact on dolphins. These lines are provided for the swimmer in the water to hold on to and be slowly towed along by the vessel. The aim of the lines is to prevent the swimmers from chasing or trying to touch dolphins and allow the dolphin to initiate approaches rather than the swimmer.

### **2.2.5 Wild dolphin swim tour code of practice**

To help minimise the potential impact that boat and swimmers may have upon the Koombana Bay dolphins, the DDC had developed a voluntary Code of Practice. Guidelines within the code were more specific than the set of CALM license conditions and included the following:

Maximum of 1 tour per day -

- Maximum of 10 swimmers per tour
- 1.5-2 hour duration (maximum in-water time 60 minutes)
- Compulsory tourist educational brief
- Snorkel refresher course
- 5 Minimal Impact Procedures

The set of 'Minimal Impact Procedures' included -

- Boat approach guidelines
- Assessment of dolphin behaviour
- Limit to the number of swimmer attempts
- No touching
- Use of snorkel lines

The Code of Practice, including the minimal impact procedures, is described in full detail in the Best Practice Manual produced in conjunction with this report.

### 3.1 Questionnaire Development

Oppenheim (1992) provides a useful source of information of the design of questionnaires. He discusses the style and order of questions and the 'naturalness' of the questionnaire design to be attractive, interesting and straightforward for participant responses. Pearce, Moscardo and Ross (1996) further discuss methodological issues in determining collective attitudinal responses (social representations), including use of language of the community, the need for a research approach and the utilisation of previous research from a wide base. In the case of the DDC, no prior research in this subject area had been conducted.

This study also provided the first opportunity for the DDC to investigate its feasibility as a sustainable wildlife tourist site. In order to examine this, two different surveys were developed:

1. 'Shore based' survey, which examined a number of components including marketing, education, satisfaction with site facilities, service, interaction zone and boat-based dolphin watching experience.
2. 'Swim tour survey' containing both a pre and post section and focusing specifically upon the DDC's new wild dolphin swim tour operation.

For the purposes of this report, only the second survey – that of the swim tour participants – will be utilised. Both surveys were voluntary and written only in English; hence all non-English speaking visitors were excluded from the two sample populations.

### 3.2 Swim Tour Surveys

The swim tour survey was developed primarily to examine the viability of the swim tour code of practice, its effect upon the tourist experience and the overall feasibility of the tour. To do this both pre and post-swim questionnaires were developed to give insight into both expectation and satisfaction. Each respondent was asked to complete both

components of the survey, which were then matched, so that their pre-tour experience could coincide with that of the post-tour.

The pre-swim questionnaire aimed to explore tourist motivation, socio-demographic information, which included looking at prior experience, and to examine tourist expectation with wild dolphins and wild dolphin swim tours (please refer to Appendix I for full questionnaire). Examination of pre-experience attitudes were necessary in order to address those factors that might influence people's satisfaction with the experience. An example of this was research done by Neil, Orams & Baglioni, (1996) who found the expectations of whale watching participants who had previously been whale watching before and who had prior knowledge of the whales, were consistently lower than for those with no previous experience.

In addition to this, motivations for people vary and each person may have a range of motives that contributed to their decision to undertake the trip (Pearce 1988). In the case of DDC tours, interacting with wild dolphins may not have been important to the value or the motivational systems of every person. If the tourist does not particularly value the swimming with wild dolphin experience, then there is no guarantee they will be satisfied.

The post swim section of the survey examined satisfaction with wild dolphin interaction, tourist enjoyment with various tour features other than interaction, and the satisfaction with certain swim tour management guidelines. Through a series of exploratory questions the survey also examined tourists satisfaction with the education used to implement management guidelines.

### ***3.2.1 Distribution of surveys***

Swim tour surveys were distributed between the months of late February to mid April 2000. The surveys were only distributed to those participating in the wild dolphin swim tours.

Upon arrival the DIS, a Murdoch University research assistant or a DDC volunteer greeted swim tourists. They were then informed of the study, its overall aims, and were asked if they would mind completing a pre-swim questionnaire. To ensure accurate representation of

expectations, it was stressed that questionnaires had to be completed and returned to staff before the commencement of the Education Brief. To do so, each guest was given a pen, clipboard and an extra 10 minutes to finish the survey.

During the education brief tourists were asked if they would be willing to complete a post swim survey after the swim tour. Upon return, those who had agreed were given a survey, pen and clipboard. Free coffee or tea from the café was also provided to ensure guests sat down to thoroughly go through the survey. Each guest then handed in the survey to DDC staff.

### **3.2.2 Sample population**

Sample size for the swim tour surveys consisted of 254 matched pre and post swim surveys. They consisted of all people on tour at the time, which represented 56 per cent for the season. The sample size was dependent upon passenger numbers for each tour as all tourists participating in a swim tour during the period late February to mid April were asked to complete surveys. The sample used for the data collection was therefore a 'non-random accidental' or 'convenience sample'. The sample size represents 56 per cent of the total swim tour season population, as 195 tourists were not sampled during the months of November to early February.

Of the 254 surveys obtained, 31 were incomplete in pre and post matching due to unforeseen changes in the weather causing an early return and often no swimming opportunities. The resultant 223 surveys were used for the analysis, which was conducted using content analysis and coding and utilising the Statistical Package for Social Sciences (SPSS). The sample was primarily female (60%), aged between 12 and 76 years old with an average age of 31. Most participants were from overseas (60%) and 23 per cent of Australian visitors coming from origins outside of Western Australia, only 2 participants (.9%) regarded themselves as being local to the region.

## **3.3 Video**

Major findings from the sustainable tourism survey formed the basis for the development of an interpretive/educational video to be utilised

by the DDC for pre-trip education of participants. Two media honours students, Karuna Gurung and Roger Porter from Edith Cowan University (Bunbury campus) participated in the development of an educational video for visitors to view prior to commencing the swim tour (Refer Appendix II for brief discussion of video development). Their brief was simply to 'Get from initial project application'. Following Oppenheim's (1992) naturalness approach, the producers of the video had a natural community understanding of the DDC interaction opportunities. They undertook qualitative research for the requirements of the project and utilised key survey findings in their production. The educational video was used for a period during the swim tour program and proved to be useful, however at present, the DDC no longer utilises the video to educate swim tour participants due to the constant changes in procedures (see Appendix II).

### **3.4 Best Practice Industry Manual**

The DDC staff and researchers contributed to an existing manual of Best Practice for dolphin wild swim tours (initiated by O'Neill 1999). This report acts to consolidate and formalise approaches that have been previously semi-documented by the DDC. O'Neill, as the original Swim Tour licensee, proposed a swim tour Code of Practice for the DDC. Some questions in the swim tour survey were aimed at evaluating some of the procedures within the Code of Practice.

### 4.1 Description Of Swim Tour Participants

The majority of swim tour participants were female (60%) with a mean age of 30 years and ages ranging from as young as 12 years old to 76 years old. International tourists accounted for 60 per cent of the participants with most of them coming from the United Kingdom. Of the Australians, 75 per cent were from Western Australia, however only two were local Bunbury residents.

Ten respondents had prior experience of a dolphin swim tour, and a further seventeen had participated in various forms of marine wildlife based tours. Most (88%) of the respondents had snorkelled before; however, almost half rated their snorkelling ability as merely average or below average. These results suggest a low level of previous experience in the marine environment.

### 4.2 Tourist Expectations

#### 4.2.1 Wild dolphins

The pre-swim questionnaire asked participants to list three characteristics of a wild dolphin and 211 people responded. In line with the Amante-Helweg (1996) findings participants held a very anthropomorphic view of wild dolphins, with a large percentage of respondents seeing the animals as friendly, smiley and happy, playful and joyful. Only 2.4 per cent of the respondents referred to wild dolphins as non-human interactive animals. Table 1 shows the top three characteristics of dolphins listed by participants prior to the tour. These characteristics can be seen to be positive human-like attributes.

**Table 1: Characteristics of dolphins (pre-tour)**

CHARACTERISTICS	% OF CASES (n=211)
Friendly, kind, smiley	43
Happy, playful, joyful	40
Intelligent, wise	35

After the tour, almost one third (30%) of the respondents said their understanding of a wild dolphin had changed. Table 2 shows the results of the same question asked in the post-tour survey.

**Table 2: Changed perception of dolphin characteristics (post-tour)**

CHARACTERISTICS	% OF CASES
Unpredictable, wild	48
Not always friendly to humans	43
Playful	28
Aggressive, fighting	22

As Table 2 illustrates, almost half of the changes in understanding included the unpredictable nature of wild dolphins and 43 per cent of the respondents found dolphins to be 'not so friendly'. Some respondents wrote about the playful side of dolphins, while others referred to their 'aggressive nature'.

#### **4.2.2 Dolphin interaction**

To obtain insight into expectations about interaction, an open-ended question was used within the pre-tour survey asking participants to write 3 features they were looking forward to when swimming with wild dolphins. Content analysis revealed many themes, which are summarised in Table 3.

**Table 3: What tourists were looking forward to (pre-tour)**

FEATURES OF TOUR (n=210)	% OF CASES (n=210)
Close up view	47
Swimming in water with dolphin(s)	46
Seeing dolphins	30
Fulfilling a dream	23
Observing dolphin-to-dolphin behaviour	14
Touching dolphins	14
Hearing noises, sound	13
Learning	3

The pre-swim tour survey also listed 13 different features of the tour and asked participants to rate, using a five point Likert scale, the importance of each to their enjoyment of the upcoming tour (with 1 = 'not at all important' and 5 = 'very important'). The features and their mean importance score are detailed in Table 4.

**Table 4: Factors contributing to enjoyment (pre-tour)**

FEATURES OF TOUR	n	MEAN IMPORTANCE
Ensuring no harm done to dolphins	220	4.9
Not having a negative impact on the dolphins	220	4.8
Seeing dolphins underwater	219	4.4
Feeling safe whilst in the water	220	4.4
Personal safety briefing	220	4.2
Seeing dolphins from the boat	220	4.1
Educational brief from crew	219	4.1
Feeling comfortable with snorkelling equipment	221	4.1
Good weather conditions	217	3.9
Opportunity to learn new information	221	3.9
Educational material in Interpretation Centre	219	3.6
Accompanying friend/s family	218	3.3
Touching a dolphin	221	2.8

In Table 4 it can be seen that the most important feature believed to aid enjoyment of the tour was 'ensuring no harm to dolphins'. The second most important feature believed to affect enjoyment was 'seeing dolphins underwater'. Using a paired sample t-test, results showed that 'seeing dolphins underwater' was significantly more important to enjoyment than 'seeing dolphins from the boat'. The feature considered the least important to enjoyment by the majority of respondents before their tour was 'touching dolphins'.

#### **4.2.3 Education and interpretation**

Table 3 shows that only three per cent of participants were looking forward to 'learning' as a feature of the tour, yet Table 4 reflects a different outlook. The majority of respondents (79%) noted that an

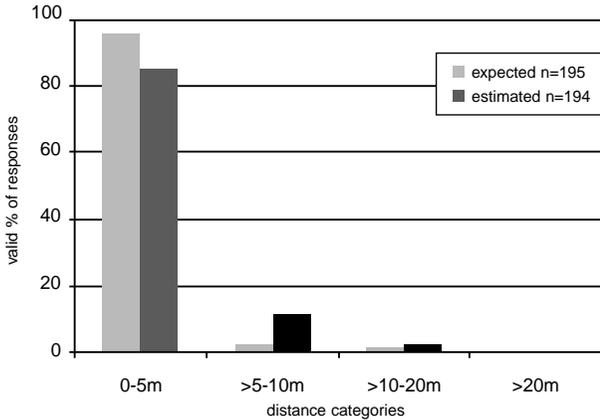
'educational brief from the crew' was important or very important for their enjoyment (mean importance = 4.1), with the 'opportunity to learn new information' being important or very important to 72 per cent of tour participants. Furthermore, over half the respondents (53%) felt that the 'educational material in the interpretation centre' was important to very important to the enjoyment of their experience.

#### **4.2.4 Touching dolphins**

Questions relating to the issue of touching dolphins presented mixed and almost contradictory results. Table 3 shows 'touching dolphins' as one of the three features visitors were looking forward to prior to swimming with wild dolphins. Table 4 shows that 'to be able to touch a dolphin' was regarded as the least important factor for enjoyment of the experience. However, almost a third of respondents (30%) considered 'touching a dolphin' as important or very important to their enjoyment. The contradicting visitor desires to both protect yet touch dolphins appears to be a key issue for management. Education and interpretation offer the best potential for managing this conundrum.

In relation to ensuring no harm is done to dolphins, swim tour participants were initially asked how close they expected to get to a dolphin (in the pre-tour survey) and then later asked to provide an estimate of how close they actually got during their swim tour (post-swim survey). Figure 1 displays the expected and actual levels of closeness. Results show that 96 per cent of respondents expected to get within 0-5 metres to a dolphin during a swim tour. Further exploration of the results shows that on average, swimmers actually got closer to the dolphins than they expected to (mean expectation was 3.8 metres whilst mean estimate of actual closeness was 3 metres).

**Figure 1: Expected/estimated closeness (in metres) to wild dolphins**



### 4.3 Tourist Satisfaction

#### 4.3.1 Dolphin sightings

Results from the post swim survey showed that all respondents sighted dolphins during the tour. According to respondent estimations:

- Over half (55%) of respondents (n=221) saw dolphins underwater; the mean number that people sighted underwater was two.
- More again (69%) sighted dolphins from the surface of the water (as opposed to underwater), the mean number of dolphins sighted was 10.
- Most people (91%) sighted dolphins from the boat, the mean number of dolphins sighted in this case was 17.

The post swim questionnaire listed 13 features of the tour and asked respondents to rate how satisfied they were with each feature (Refer Appendix 1, Post Swim survey Q10). The tour feature that the majority of respondents were unsatisfied with was 'Seeing dolphins from underwater'. The tour feature most respondents were very satisfied with was 'seeing dolphins from the boat'. Further analysis of results

showed that participants were significantly more satisfied with seeing dolphins from the boat, than with 'seeing dolphins underwater'.

The post-tour survey also asked participants to name three of the worst things about the dolphin swim tour. The most common response was 'underwater visibility' which was noted by 37 per cent of respondents. Thirty per cent referred to the 'weather and cold water temperature', and 17 per cent said that 'not seeing dolphins close enough' was one of the worst aspects.

### **4.3.2 Closeness**

Figure 1 shows that 85 per cent of respondents estimated they had come within 0-5 metres of a dolphin. It is important to note that this distance is not necessarily from the water – it may have been on the boat or from the surface of the water. Further analysis of the post-swim responses showed that of those who came within 5 metres of a dolphin, almost half did not consider this close enough.

### **4.3.3 Return**

When the tourists were asked if they would participate in a wild dolphin swim tour again, almost half (49%) of respondents replied definitely, 30 per cent probably, 16 per cent were unsure and 4 per cent said no. This represents a positive outlook for the DDC regarding repeat visitor numbers, particularly when noting that 60 per cent of the participants are from overseas and only 27 per cent were from within Western Australia.

## **4.4 Effectiveness Of Management Procedures**

Tourists were asked if they thought the tour had had a negative impact upon the dolphins. Of those who responded (n=217) 80 per cent said no, two per cent said yes and 18 per cent of respondents were unsure.

When asked if their behaviour would have differed in the water, had they been on an unmanaged tour, 55 per cent of respondents replied yes (n=212). When asked how their behaviour would have differed, the majority wrote 'would have tried to touch the dolphins' and

others admitted they would have tried to follow or chase the dolphins. This information supports the pre swim results, which indicated that, whilst the majority of tourists wanted to ensure that no harm came to the dolphins, 14 per cent of participants looked forward to touching the dolphins and a further 30 per cent felt that touching dolphins would be important to the enjoyment of the tour.

#### **4.4.1 Education**

Post swim results showed that 93 per cent were satisfied with the educational brief from crew and 74 per cent were satisfied to very satisfied with the opportunity to learn new information. Analysis of question 12 in the post swim tour survey revealed that 21 per cent of the tour participants had wanted more information about dolphin habits and behaviour.

#### **4.4.2 Minimal impact procedures**

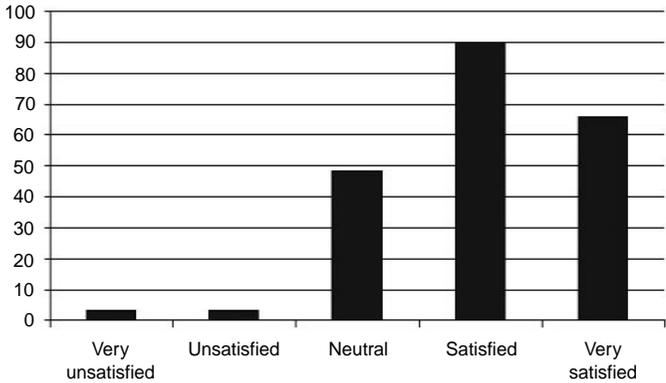
Participants were asked to rate how effective they thought the minimal impact procedures (MIP's) were in reducing impacts upon the dolphins. Of those who responded (n=203), almost three quarters (74%) believed them to be effective to very effective in reducing impacts only 2 respondents (1%) considered MIP's ineffective in reducing impacts.

After the tour, participants were asked if they could recall the MIP's. The respondents listed all MIP's in various orders, although the one specific guideline recalled by the majority of respondents, (83.5%) was 'no touching'.

##### *Touching dolphins*

When asked how satisfied they were with the procedures that prevented touching dolphins (educational brief and snorkel lines), Figure 2 demonstrates that majority of respondents (n=210) were 'satisfied' through to 'very satisfied'.

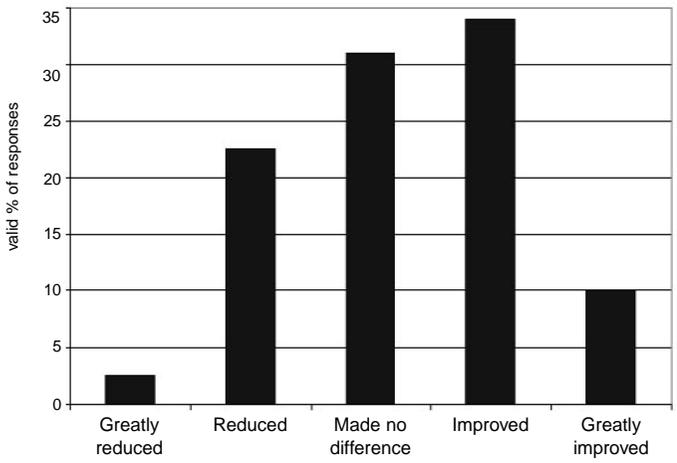
**Figure 2: Tourist satisfaction with the procedures that prevented touching of dolphins**



*Snorkel lines*

When asked about the effect of the snorkel lines upon their experience, just under half of those who responded said it improved their experience (n=206). When asked how the lines improved their experience, analysis revealed that most respondents said it had made them feel safer (n=122). Figure 3 shows the responses of participants when asked about their experience with snorkel lines.

**Figure 3: Impact of the snorkel lines on swim tour experience**



Other reasons why the snorkel lines improved people's experience included that it made the tour more 'fun'; it was perceived by the tourists to be 'good for the dolphins' and that it was less effort, i.e. they didn't have to swim. Some reasons why participants felt that the snorkel lines hindered their experience included the fact that they made people feel restricted and uncomfortable.

Overall tourist satisfaction was high, with nearly 80 per cent of participants saying they definitely or most likely would return. Various aspects contributed to satisfaction especially the opportunity to see dolphins and obtain a close up view of dolphins. Satisfaction was high no doubt due to the fact that everyone sighted dolphins during the tour, however the majority were sighted from the boat, as opposed to the water. People had not considered education as a particularly important component of the tour, however satisfaction with the procedures within the Code of Practice suggest education was an important part and beneficial to creating satisfactory experiences.

### 5.1 Creating Realistic Expectations

Pre-swim results demonstrated that participants view wild dolphins the same way they may view trained animals in a marine park – friendly, kind, happy etc. This misconception is risky, Birtles et al. (2001) note the potentially dangerous situation that may arise where tourists' perceptions of wildlife are inappropriate, the anthropomorphism of wild life as being 'cute', 'smiley', 'friendly' etc. removes the notion of unpredictable (perhaps dangerous) wild animals. The situation is often made worse by the advertising and marketing information used by operators to attract tourists. Positive anthropomorphic perceptions and unrealistic expectations about wild dolphins may lead to dissatisfaction. Surprisingly this was not the case for the DDC wild dolphin swim tours. It is assumed that the education offered by operators during the brief helped to create realistic expectations, and hence enabled tourists to be more satisfied with their experiences.

These results highlight the need for operators to utilise the tour opportunity wisely, by providing educational material that incorporates both the likely behaviour of the animal in the wild and the procedures required to manage interactions. Providing accurate and informative material will develop informed and supportive participants, which will encourage development of realistic expectations of encounters. This will avoid disappointment and pressure for increasingly risky behaviour (International Whaling

Commission 1996). This is in accordance with the Action Plan for Australian Cetaceans which states 'That the whale watching industry be encouraged to produce promotional and educational materials to high standards of factual accuracy and presentation' (Bannister, Kemper & Warneke 1996, section 5.6) In addition to this, the education offered must be based upon fact. Education is not going to be of benefit to the animal if it is based upon misconceptions. Wursig (1996) refers to this as bridging the warm-fuzzy feeling, and Bannister et al. (1996) believe cetacean conservation issues must be balanced and scientifically accurate.

## **5.2 Satisfaction With Seeing Dolphins During The Tour**

Pre-swim survey results demonstrated that the majority of participants were looking forward to getting a close up view and/or swimming with dolphins. Results show the majority of participants also expected to get within close proximity to dolphins. On the issue of closeness, it appears that most participants had their expectations met, with 96 per cent expecting to and 85 per cent actually getting within 0-5 metres of a wild dolphin. However, the fact that this distance is not based entirely upon in-water sightings, supports the suggestion that boat-based interaction within Koombana Bay is equal to or more satisfying than in-water interaction. This is further supported by post swim results showing that participants were significantly more satisfied with seeing dolphins from the boat, than with 'seeing dolphins underwater'. This result is interesting given that prior to the tour 'seeing dolphins from underwater' was of high importance to tourist enjoyment, significantly more so than seeing dolphins from the boat.

The fact that satisfaction for boat-based viewing was significantly higher than underwater viewing could be due to the fact that more people sighted more dolphins from the boat (as opposed to surface and underwater), and that underwater visibility was rated the worst feature of the tour. This therefore implies that operators must take into account the physical characteristics of their tourist site. Koombana Bay on a good day has approximately three meters underwater visibility (O'Neill pers. obs 1999-2000). This no doubt affects people's ability to sight dolphins underwater, which in turn may affect their satisfaction.

### 5.3 Satisfaction With Management Procedures

Although education played a minor role in a tourist's motivation and expectation of the swim tour, it seemed to have played a major role in tourist satisfaction. Results show that participants felt strongly about ensuring no harm to dolphins, hence providing education that included both information about dolphin biology and behaviour and then an interpretation of the guidelines used to reduce harmful impacts upon dolphin biology and behaviour, may have increased the tourists acceptance of guidelines and therefore helped in creating satisfactory experiences. Support for this can be seen from results of post swim questions that focused upon the minimal impact procedures.

Prior to the tour a small number of participants had been looking forward to touching dolphins. To manage this both snorkel lines and education were used. Education was provided during the brief and included both a rationale of the snorkel lines (reduced ability to chase and touch) and information about the risks and harmful impacts of touching. After the tour approximately 15 per cent of participants admitted they would have tried to touch dolphins if management strategies had not been in place. Results suggest that Best Practice Guidelines must continue to be implemented to ensure that all tourists behave appropriately during wildlife interactions, as it appears to be a consequence of human nature that people feel they need to have a hands-on experience with nature. Results also reflect the success of interpretation as a management tool, as 80 per cent of tourists said they had been satisfied to very satisfied with the procedures used to prevent touching of dolphins. It would be interesting to examine tourist satisfaction if interpretation had not been used to explain the purpose of such management guidelines.

Another interesting point, contradictory in the findings, was the use of snorkel lines. Snorkel lines were originally used to reduce the potential for impacts upon dolphins (mainly touching and chasing by swimmers). It was thought that lines would benefit the animals but decrease the experience for the tourists. Surprisingly, swimmers' satisfaction was not an issue as results show the snorkel lines increased the quality of experience for many swimmers. Further analysis of open-

ended responses revealed snorkel lines had made people feel safer and reduced the physical effort required for swimming. This is fitting given almost half of the swim tour participants regarded themselves as average or below average snorkellers.

In contrast, anecdotal observation by DDC staff, found snorkel lines to be potentially impacting upon dolphins. The placing of lines in the water, slow dispersal of swimmers along the line, towing of lines by the boat during repositioning and retrieval from the water, seemed to create avoidance responses by dolphins. In the Annual Report to CALM it was recommended that free swimming combined with detailed education about the risks of touching dolphins be used in future DDC wild dolphin swim tours (O'Neill, unpublished report 2000). To maintain tourist satisfaction however, snorkel lines should be kept on the boat and used if a swimmer is experiencing difficulty.

#### **5.4 Sustainable Tourism Experiences**

As more studies are beginning to show that even strict guidelines may not be effective in reducing impacts (Constantine 2001) it is becoming more important to evaluate and discuss current examples of best practice application in wildlife tourism settings. This report has aimed to explore the DDC experience of wild dolphin swim tours as an example of Best Practice for ecologically sustainable wildlife tourism. The DDC developed a Code of Practice with the aim of reducing impacts upon dolphins in a tourism setting. It is argued that the DDC tours utilise Best Practice principles through the application of education and interpretation, achieving the dual aim of reducing negative impacts upon the wildlife whilst also enhancing the satisfaction of the tourist.

For cetacean swim tours to continue, there must be a balance 'between minimising impacts, allowing for commercial and non-commercial activities and utilising opportunities to educate participants (Constantine 2001, p8). For wild dolphin swim tours to continue at the DDC and other centres management guidelines and minimal impact procedures need to be developed and critiqued.

The temporal nature of research into this area of tourism is acknowledged. Best Practice examples provide a basis for further

knowledge based management applications. A co-operative approach to research through biological and social sciences in the tourism/wildlife nexus is imperative. It is anticipated that this report provides the basis for exploration of the impacts of wildlife tourism for both wildlife and tourists.

This report details the characteristics of a small population of dolphin swim tour participants at a particular peripheral destination. The site evaluated is not a mass tourism site and has its own unique set of variables. However, as a base line, pre and post tour surveys offer unique insights into the usefulness of interpretation and education as tools to improve visitor satisfaction whilst maintaining wildlife integrity within existing bounds of knowledge.

The information from the survey was used to produce an educational video that has been utilised over two seasons. An operator's Best Practice manual has been researched both as an input (in the form of a Code of Practice) into the survey and as output adjusted by the findings of the research.

It is proposed that this research contributes to a continuum of management applications of tourism management, particularly wildlife tourism management that can never be regarded as a finite or static issue. This report began with review, experience and intuition, a quantitative (but limited) survey aimed to explore benefits and challenges of existing tourism opportunities. It has provided some outputs that require continuing evaluation and monitoring.

Whilst this report aims to provide current examples of Best Practice that may be widely applicable, the report also reflects opportunities for further research, such as:

- Further evaluation of wildlife swim tour characteristics.
- The effectiveness of video as an educational tool.
- The applicability of Best Practice in swim tour applications to generic dolphin swim tour situations.

Finally, whilst our applications are site specific, as a result of our applied research methodologies it is anticipated that the validity, reliability, and replicability of the methods will support the notion of a wider application of the results. This report aims to provide Best Practice guidelines that are spatially and temporarily appropriate. With critique and further development the knowledge base will grow. We have acted to provide a base for this growth.

### **Dolphin Interaction - Tourism Management and Best Practice**

**Dolphin Discovery Centre, Murdoch University & CRC Tourism**

*We are undertaking research for the CRC for sustainable tourism with a focus on wildlife / human interaction. Our aim is to work towards tourism development of wildlife opportunities in a manner that will both improve visitor satisfaction with their experience whilst aiming for minimal impact on wildlife. We have the support and interest of the government, the Tourism industry and those interested in wildlife conservation.*

Your ability to contribute to this research is extremely valuable and it will take about 10 minutes of your time. As students of Tourism studies we value your choice to refuse, if you are not able to contribute to this research it is important for us to note your reason. If you are able to contribute, may I continue with the interview?

We hope to interview 2000 visitors who will provide information for dolphin / human interaction sites not only around Australia, but also worldwide. Results of this research should be available in early 2001, if you wish to receive information or would like to discuss the research further, please contact:

**Diane Lee** *Tourism Program, Murdoch University*

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Email: [dlee@central.murdoch.edu.au](mailto:dlee@central.murdoch.edu.au)

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## SECTION 2: PRE-SWIM TOUR QUESTIONNAIRE

### 1. Sex

Male       Female

2. Year of birth 19\_\_\_\_\_

3. Name of your usual country of residence \_\_\_\_\_  
(if Australia please include post code)

### 4. Are you a local to the Bunbury Region or are you a visitor to the region?

(Please tick appropriate box)

Local - Go to Q.8

Visitor - Go to Q.5

### 5. Where did you stay last night?

Town \_\_\_\_\_

Accommodation \_\_\_\_\_

### Where will you stay tonight?

Town \_\_\_\_\_

Accommodation \_\_\_\_\_

6. What was the main purpose of your trip to Bunbury? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

7. How long are you planning to stay in Bunbury on this visit? \_\_\_\_\_

8. How did you find out about the Dolphin Discovery Centre Swim Tours? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### 9. Have you participated in a swim with dolphin program before?

No       Yes (If YES continue with Q9A)

9A. Where was the swim tour? \_\_\_\_\_

9B. When was the first time you went on a swim tour? \_\_\_\_\_

9C. How many swim tours have you been on? \_\_\_\_\_

**10. Have you been on any swim tours focusing on other large marine life (whales, whale sharks, manta rays etc.)?**

No             Yes (If YES continue with Q10A)

10A What was the marine focus? \_\_\_\_\_

10B Where as the swim tour? \_\_\_\_\_

10C When was the first time you went on a swim tour? \_\_\_\_\_

10D How many swim tours have you been on? \_\_\_\_\_

**11. List three things that you are most looking forward to when swimming with wild dolphins?**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**12. When you think about wild dolphins, what are the three main characteristics that come to mind?** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**13. How close do you expect to get to a dolphin/s during the swim tour?**

1	2	3	4	5
Do not expect to get close				Close enough to touch

**14. How close in metres do you expect to get to a dolphin?** \_\_\_\_\_

**15. How important is each of the following to the enjoyment of your experience today**

(please tick the response which best describes how you feel about each item)

	<b>NOT AT ALL IMPORTANT</b>	<b>NOT VERY IMPORTANT</b>	<b>FAIRLY IMPORTANT</b>	<b>IMPORTANT</b>	<b>VERY IMPORTANT</b>
Ensuring that I do not harm the dolphins					
Seeing dolphins from the boat					
Seeing dolphins underwater					
Educational Brief from crew					
To be able to touch a dolphin					
Briefings about personal safety					
Good weather conditions					
Feeling comfortable in the snorkelling equipment					
Feeling safe whilst in the water					
Accompanying friend/s family during trip					
Educational material in the Interpretation					
Opportunities to learn new information					
Ensuring that I do not harm or have a negative impact upon the dolphins					

**THANK YOU VERY MUCH FOR YOUR TIME AND INPUT.  
YOUR RESULTS ARE EXTREMELY IMPORTANT TO THE DOLPHIN DISCOVERY CENTRE  
AND MURDOCH UNIVERSITY. PLEASE ENJOY YOUR TOUR**









**19. Were there any procedures which you felt were:**

i) inappropriate, ii) unsuitable or iii) unnecessary?

Procedure

Reason (please note which of i), ii), iii) apply)

i.	_____	_____
		_____
		_____
ii.	_____	_____
		_____
		_____
iii.	_____	_____
		_____
		_____

**20. If you were not on a supervised swim tour would you have behaved differently?**

No (go to Q 23)       Yes (go to Q22)

**21. In what manner would behave differently?** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**22. Why do you think you would behave the same?** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**23. What were the three best things about your dolphin swim tour this morning?**  
\_\_\_\_\_  
\_\_\_\_\_

**24. What were the three worst things about your dolphin swim tour this morning?**  
\_\_\_\_\_  
\_\_\_\_\_

**25. This question is designed to discover how you felt about the mermaid lines used during the swim tour. Do you believe the mermaid line:**

- Greatly reduced the quality of your experience
- Reduced the quality of your experience
- Made no difference to your experience
- Improved the quality of your experience
- Greatly improved the quality of your experience

**26. Please specify how the mermaid line affected your experience (if applicable)**

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**27. Would you participate in a wild dolphin swim-tour again?**

- No
- Don't know
- Probably
- Definitely

### **THE END**

The Dolphin Discovery centre and Murdoch University would like to thank you once again, for taking the time to participate in this survey.

Your contribution is very valuable and greatly appreciated.

## APPENDIX 2: DESCRIPTION OF SWIM TOUR VIDEO BY PHIL COULTHARD AND LORNA KAINO

### **Description of DDC swim tour video as outlined by Phil Coulthard (DIS – DDC)**

Last year (2001) students from the Edith Cowan Media Department produced a Swim Tour Video for the Dolphin Discovery Centre (DDC). The purpose of the video was to educate tourists participating in the swim tour highlighting the procedures established at the time of production.

The actual use of the video as an educational tool worked very well with some excellent and real footage of the wild dolphins of Koombana Bay displaying a number of natural behaviours, which are often seen on the tours. It was also a very useful introduction to the basic biology and social structure of the dolphin population.

Giving the participants the opportunity to watch the video clearly demonstrating how the swim tour works allowed the guide and easy, low effort instructional source that increased the understanding and efficiency of the anticipated tour and the associated low-impact procedures. Slow and clear narration also helped to break down any potential confusion or misunderstanding experienced by foreign visitors. Hence, I do feel that the use of the video for instructional purposes certainly helped create an efficient level of understanding that may not have been achieved through guide instruction alone.

Unfortunately, since the video was produced, a number of changes to both the procedures and protocols of the actual tour have occurred, resulting in the ineffective use of the video as an instructional tool. This is our major problem relating to the use and application of the video in its current format for this and future seasons. There may be no real answer to this problem simply because procedures may constantly be changed to improve the operation. Examples on the changes in the procedures that need attention include:

1. The use of life jackets is no longer compulsory (footage and narration change)
2. Explanation of personal item security and storage procedures (footage and narration inclusion)

3. We don't have practice snorkel sessions before departure (footage and narration change)
4. Swimmers must carry their own mask, fins and snorkel onto boat, we don't (footage and narration)
5. We don't split the swimmers into 2 separate groups (footage and narration change)
6. We don't use the mermaid lines anymore (footage and narration change)
7. Certain hand signals are not useful (footage and narration changes)
8. Entry and exit procedures have changed
9. Explanation of Swim tours as research expeditions (footage and narration inclusion).

Another problem that existed concerned footage of dolphins in and around the area of the swimmers while in the water. There was potential for the video to create a level of expectation that may not be reached on that particular day. I suggest that footage involving tours interacting with any wildlife be carefully produced so that such a problem can be avoided. As far as the protocols and procedures are concerned, there is no need to include the actual wildlife in a shot to get the point across. The dolphin swim tours for example, experience a 50 per cent success rate in relation to an interaction, so to actually include dolphins in most shots creates a level of exaggerated expectation.

Hence I do feel that the use of an instructional video certainly helped create an effective level of understanding that may not be achieved through guide instruction alone. However, the material presented on the video definitely needs to be adapted to allow operational changes to be made, and the actual footage adjusted to avoid creating and unrealistic level of expectation.

Phil Coulthard (Marine Biologist)  
Dolphin Interaction Supervisor Dolphin Discovery Centre  
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## **Report on an Educational Video made for a project titled 'Dolphin Interaction – Tourist Management and Best Practice'**

By Dr Lorna Kaino - Lecturer in Media, ECU, Bunbury

Two ECU Bunbury media students, Karuna Gurung and Roger Porter completed an educational video for the above project in 2001. The project was credited as an Independent Study unit towards their Arts degree, and was sponsored by Edith Cowan University South West Campus.

The project entailed considerable consultation; firstly with Fleur O'Neill and then Dr Diane Lee, Lecturer in Tourism, Murdoch University. Roger and Karuna consulted extensively with both parties, as well as the Manager of the Dolphin Discovery Centre in Bunbury. They were also briefed with reports from Murdoch psychology students and a paper forwarded by Fleur O'Neill.

I consider that the process of consultation about the educational content as well as the protocols for producing such a video was a valuable learning experience for Karuna and Roger. Both consulted extensively about the best times to shoot film, the most effective way of presenting visual instruction and cultural sensitivities that may be involved in understanding the instructional dialogue on the video.

For first-time documentary makers, I believe that the experience of producing, directing and editing this documentary has been valuable. Shots of dolphins are, of course, difficult to get, and I think they did well in this respect. The voice-over was disappointing. However, overall, I was pleased with the result and I trust that it serves its purpose well.

I would like to thank Dr Diane Lee, Fleur O'Neill and the staff at the Dolphin Discovery Centre for the opportunity to participate in this project.

Dr Lorna Kaino  
13 June 2002

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**Fleur O'Neill**

Fleur O'Neill completed her Masters of Tourism at James Cook University on the Dwarf Minke Whale swim industry on the Great Barrier Reef. Fleur was employed as the Research and Education Officer for the Dolphin Discovery Centre during the time of the research. She is currently acting the role of field assistant for cetacean/human interaction studies. Email: [fleur\\_on@yahoo.com](mailto:fleur_on@yahoo.com)

**Sam Barnard**

Sam Barnard has recently completed a Bachelor of Arts majoring in Communication Studies and Tourism at Murdoch University. She is now working as a research assistant within the Murdoch University Tourism Program and has a keen interest in undertaking postgraduate study on wildlife tourism such as penguin/human interaction on Penguin Island, Western Australia.

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## Wildlife Tourism Report Series

Technical reports in the wildlife tourism series are listed below and can be ordered via the online bookshop

[[www.crctourism.com.au/bookshop](http://www.crctourism.com.au/bookshop)].

- Status Assessment of Wildlife Tourism in Australia: an overview Parts I & II – Higginbottom, Rann, Moscardo, Davis & Muloin
- Understanding Visitor Perspectives on Wildlife Tourism – Moscardo, Woods & Greenwood
- Role of Economics in Managing Wildlife Tourism – Davis, Tisdell & Hardy
- Host Community: social and cultural issues concerning wildlife tourism – Burns & Sofield
- Negative Effects of Wildlife Tourism on Wildlife – Green & Higginbottom
- Positive Effects of Wildlife Tourism on Wildlife – Higginbottom, Northrope & Green
- A Tourism Classification of Australian Wildlife [+ excel spreadsheet on disk] – Green, Higginbottom & Northrope
- Indigenous Interests in Safari Hunting & Fishing Tourism, Northern Territory: assess key issues – Palmer
- Terrestrial Wildlife Viewing in Australia – Higginbottom & Buckley
- Birdwatching Tourism in Australia – Jones & Buckley
- Tourism Based on Free-Ranging Marine Wildlife: opportunities and responsibilities – Birtles, Valentine & Curnock
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- Best Practice and Interpretation in Tourist/Wildlife Encounters: wild dolphin swim tour [includes industry manual] – O'Neill, Lee & Barnard
- Tasmanian Wildlife Tourism Inventory – Kriwoken, Lennox & Ellis
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