A QUEST FOR RISK in nature-based tourism?
The case of walking the sandbar at Penguin Island, WA

Anna Gstaettner, 2015
This thesis is submitted in partial fulfilment of the requirements for the degree of Bachelor of Tourism (Honours), Murdoch University
Copyright acknowledgement

I acknowledge that a copy of this thesis will be held at the Murdoch University Library.

I understand that, under the provision of s51.2 of the Copyright Act 1968, all or part of this thesis may be copied without infringement or copyright where such a reproduction is for the purpose of study or research.

This statement does not signal any transfer of copyright away from the author.

Signed:

Full Name of Degree: Bachelor of Tourism with Honours

Thesis Title: A quest for risk in nature-based tourism? The case of walking the sandbar at Penguin Island, WA

Author: Anna Maria Gstaettner

Year: 2015
Declaration

I declare that this thesis is my own account of my research and contains, as its main content, work that has not previously been submitted for a degree at any tertiary education institution, including Murdoch University.

Anna Maria Gstaettner

5th June 2015
ABSTRACT

A quest for risk in nature-based tourism? The case of walking the sandbar at Penguin Island, WA

Decision making under conditions of risk is only partly understood. This thesis investigates decision making factors of individuals pursuing a ‘risky’ outdoor activity at a popular tourist attraction in Western Australia, namely to cross the ocean on a 700m ridge of sand to Penguin Island, despite the best intentions of the acting land managing agency to deter visitors from doing so. The aim of this study was to better understand decision making processes under conditions of risk in a nature-based tourism and recreation context. Given the unique environmental risks related to this activity, a case study approach was used. Case information was obtained by informal interviews with three key staff involved in the management of the sandbar. Visitor data was collected over the summer of 2014/2015 by means of a survey establishing a profile of visitors walking the sandbar as well as semi-structured interviews to understand what motivated visitors to cross. The Theory of Planned Behaviour was used as a qualitative framework to conceptualise motivational factors.

Results show that walking the sandbar is more than just a means to access Penguin Island but is an experience of great value to visitors. The activity is predominantly practiced in groups and was often seen by walkers as one of the main reasons for visiting Penguin Island. Potential risks involved with the activity were recognised by sandbar walkers but largely described as being applicable only to other people at another time. The benefits of walking the sandbar, which were to avoid the ferry, pursue active living, be nearer to nature, and to experience novelty and adventure within their social circles, outweighed any negatives perceived to be associated with the activity. Normative influences in seeing others walking across were found to be a strong influencing factor in decision making, especially for inexperienced visitors. The popularity of the tourism site as a whole as well as the activity in particular lead visitors to believe that walking the sandbar is and should be an activity provided within a context of visitor guidance and shared responsibilities for safety between visitors and institutional stakeholders.

Keywords: risk, motivation, Theory of Planned Behaviour, visitor management, sandbar, Penguin Island
Acknowledgements

I would like to acknowledge several people of whom I had the privilege to have supported me during this research.

Firstly, I would like to thank my supervisors, Diane Lee and Kate Rodger, for their valuable contributions towards this project and the mental and emotional support I received. Your attention to detail greatly contributed towards the final completion of this thesis and I will really miss our discussions about the complexities of visitor risk management within natural environments. The Murdoch Tourism division also contributed with a scholarship, which helped greatly during this year of study; thank you!

Thank you to the Department of Parks and Wildlife and Rockingham Wild Encounters for providing financial and in-kind support. I wish to specifically thank Terry Goodlich, Murray Banks, David Charles and Erin Clitheroe, who provided valuable insights into the uncertainties surrounding the risk management at the sandbar on Penguin Island, WA. I would also like to thank all research participants who agreed to share their thoughts with me, Rodney Bell for proof reading parts of this thesis, and the lovely employees and volunteers at the Penguin Discovery Centre who generously offered me coffee during fieldwork.

I would like to take this opportunity to express my deepest thanks to my husband, Harold, and our children, Heidi and Mia-Maria. Without your love, patience and encouragement the completion of this thesis would not have been possible. You, Harold, helped me to reach for the stars and for that I will forever be grateful.
# TABLE OF CONTENTS

## CHAPTER 1 - Introduction

1.1 Background ........................................................................................................................................................................ 1
1.2 Study context and research questions .......................................................................................................................... 3
1.3 Thesis overview ................................................................................................................................................................... 5

## CHAPTER 2 - Literature Review

2.1 Introduction ........................................................................................................................................................................ 6
2.2 The nature of risk ................................................................................................................................................................. 7
   2.2.1 What is risk? .................................................................................................................................................................. 7
   2.2.2 Is risk only negative? .................................................................................................................................................. 9
2.3 The risk of nature-based tourism and recreation ............................................................................................................. 10
   2.3.1 Risk as negative outcome ......................................................................................................................................... 10
   2.3.2 Risk to obtain benefits .............................................................................................................................................. 13
   2.3.3 Motivation of risk-taking - The ‘protective frame’ of mind ...................................................................................... 15
2.4 The Theory of Planned Behaviour ................................................................................................................................ 18
2.5 Summary of the literature review .................................................................................................................................... 21

## CHAPTER 3 - Research Methodology and Design

3.1 The case study approach ...................................................................................................................................................... 22
3.2 The case - The sandbar at Penguin Island ........................................................................................................................ 23
   3.2.1 Site selection and description .................................................................................................................................. 23
   3.2.2 Current risk management practices .......................................................................................................................... 26
3.3 The study - Research methods ............................................................................................................................................. 28
   3.3.1 The quantitative survey .............................................................................................................................................. 30
   3.3.2 Qualitative interviews ................................................................................................................................................. 30
3.4 Data collection and sampling .............................................................................................................................................. 32
3.5 Analysis and interpretation .................................................................................................................................................. 35
   3.5.1 Quantitative data ........................................................................................................................................................ 35
   3.5.2 Qualitative data ........................................................................................................................................................ 35
3.6 Ethical considerations ......................................................................................................................................................... 36

## CHAPTER 4 - Demographic Profile of Sandbar Users

4.1 Introduction .......................................................................................................................................................................... 38
4.2 Visitor characteristics ........................................................................................................................................................... 38
   4.2.1 Gender ...................................................................................................................................................................... 38
   4.2.2 Age ............................................................................................................................................................................. 39
LIST OF TABLES

Table 1 - Days of data collection and relevant meteorological data...........................................................33

LIST OF FIGURES

Figure 1 - Theory of Planned Behaviour ........................................................................................................19
Figure 2 - Map of Penguin Island ..................................................................................................................23
Figure 3 - Sandbar crossing at Penguin Island ...............................................................................................24
Figure 4 - Visitors walking the sandbar ..........................................................................................................25
Figure 5 - Sandbar risk warning sign ..............................................................................................................27
Figure 6 - Yellow buoy on the sandbar ..........................................................................................................28
Figure 7 - Surf Life Savers on patrol ..............................................................................................................28
Figure 8 - Sandbar closure sign .....................................................................................................................28
Figure 9 - Sunshade as health and safety measure ........................................................................................32
Figure 10 - Visitor age groups .......................................................................................................................39
Figure 11 - Country of origin ........................................................................................................................40
Figure 12 - Origin of visitors living in Australia .............................................................................................40
Figure 13 - Primary language spoken at home ...............................................................................................41
Figure 14 - Travel group according to research phase ...................................................................................42
Figure 15 - Children according to research phase ........................................................................................42
Figure 16 - Frequency of visitation ...............................................................................................................43
Figure 17 - Visitation purpose .........................................................................................................................44
Figure 18 - Swimming ability according to residence .....................................................................................46
Figure 19 - Familiarity with WA ocean environment according to residence ...............................................48
Figure 20 - Meteorological data looked at before crossing ..........................................................................49
Figure 21 - Flotation device according to travel group ................................................................................50
Figure 22 - Motivation to cross the sandbar ................................................................................................80
CHAPTER 1

Introduction

"The problem with risk is that if we voluntarily take risks in life, we may die, if we do not take risks, we may also die."

(Dickson, 2012, p. 1)

1.1. Background

Protected areas such as national and marine parks are considered to be key attractions for domestic and international tourists in Australia (Tourism and Transport Forum, 2013). These environments possess high recreational value and provide the scenery for a plethora of different activities (Jenkins & Wearing, 2003). Nature-based tourism and recreation activities are dependent on and enhanced by the natural setting, in that different settings provide different activity opportunities and activities can be enjoyed more as a result from the qualities of a particular natural setting (Valentine, 1992). In the financial year of 2013/2014, more than 16 million people visited national and marine parks and conservation areas in Western Australia (Department of Parks and Wildlife, 2014). Whether taking form of enjoying peace and quiet or seeking a thrilling outdoor adventure, recreational activities are performed with the intention of benefit derived by the outdoor activity (Dickson & Dolnicar, 2004; Manning, 2011).

Research has shown that human interaction with natural environments provides many cognitive, physiological, social and spiritual benefits for people (Bowler, Buyung-Ali, Knight & Pullin, 2010; Bratman, Hamilton & Daily, 2012; Keniger, Gaston, Irvine, & Fuller, 2013). Visiting forests, parklands, and coastlines exhibit an exotic - even romantic - connotation in which people re-create their psychophysical equilibrium by seeking out and immersing within the natural environment (Ashley, 2007; Wearing, Stevenson, & Young, 2009). Recreational outdoor pursuits are part of the cultural importance to connect with nature and serve as an emotional and physical restoration of the inner balance and well-being (Bell & Lyall, 2002; Bimonte & Faralla, 2014; Jones & Newsome,
Nature provides space for peace and social togetherness (Thompson & Aspinall 2011) and recreationalists tend to feel healthier, more relaxed and refreshed after spending time in the outdoors (Ardahan & Lapa 2011). In Australia, 'Healthy Parks' mean 'Healthy People' (Maller et al. 2009); but there is another side to the story.

Performing nature-based tourism and recreation activities can result in serious injuries and even death. Whether falling from heights, drowning in waves, or experiencing personal harm in any other way, natural environments embody a degree of harshness and unpredictability and visiting natural settings may expose people to a multitude of dangers (Bauer, 2001; Bentley, Page & Walker, 2004). During the year 2014, a British woman died when falling 100m from the highest point of a walking trail at Kings Canyon in Central Australia (Mills & Shears, 2014); an Australian diver was found dead with shark bite marks in urban coastal waters in Western Australia (Orr, 2014); a German camper allegedly died from dehydration in Kakadu National Park in the Northern Territory (Purtill, 2014); and a French man dropped away from an unstable coastal cliff track in Royal National Park in New South Wales, falling to his death (White & Walker, 2014). The Department of Parks and Wildlife (previously the Department of Environment and Conservation) recorded the deaths of 32 visitors to Western Australia's conservation parks and nature reserves over the last four years (Department of Environment and Conservation, 2011, 2012, 2013; Department of Parks and Wildlife, 2014). Each individual incident is devastating to the visitor's relatives and friends, as well as rescue teams and park staff, bearing witness to the fact that the beautiful qualities that attract visitors to natural settings are the very qualities that may put them at risk.
1.2 Study context and research questions

The context of nature-based tourism and recreation is central to this study. From a conceptual viewpoint, nature-based tourism is usually kept distinct from outdoor recreation, as tourism tends to be regarded in the context of 'commercial' activity provision involving individuals travelling far distances and the payment of tour guides to participate, whereas recreationalists perform the activity locally and mostly for free (Tangeland, 2011). This distinction, however, is somewhat arbitrary because leisure, recreation and tourism practices are all historically linked to the deliberate break of established working routines (Urry, 2001). Moreover, nature-based tourism and recreation activities tend to share the same resources where the same undertaking may be performed for free or with a paid tour guide irrespective of the individuals' residence (Carr, 2002; Tangeland, 2011). In this sense, nature-based tourism and recreation will only be loosely defined as the experience of a physical activity within a relatively undisturbed natural environment (Buckley, 2012; Manning, 2011) including both recreationalists as well as tourists within the scope of this thesis.

The number of people participating in nature-based activities is growing (Balmford, Beresford, Green, Naidoo, Walpole & Manica, 2009; Hughes, Tye & Jones, 2013; Smith, Tuffin, Taplin, Moore & Tonge, 2014). Nature-based tourism and recreation activities are extremely broad in scope and range from being ‘passive’ to ‘active’ in terms of physical efforts of participants as well as ‘soft’ to ‘hard’ when considering the exposure to risks to the safety of the participant (Bentley, Page & Edwards, 2008). Where previous research tends to focus on risk-taking in the context of ‘hard’ and high-risk adventure participation, there appears to be a major lacuna in the literature concerning risks to visitors performing nature-based activities in protected areas along the ‘softer’ end of the activity spectrum (Hayes, 2008; Jeuring & Becken, 2013; Rickard, 2014a). With increased visitation numbers in managed natural lands, with visitors participating in nature-based activities frequently involving unfamiliar and unpredictable environments (Bently, Cater & Page, 2010), it is the aim of this thesis to further develop an understanding about risk in the context of ‘soft’ nature-based tourism and recreation provision.
The sandbar crossing at Penguin Island, Western Australia, provides an ideal case to investigate motivational constructs of risk-taking behaviour at a popular nature-based tourism and recreation setting within the Perth Metropolitan Region. Penguin Island is usually accessed by a commercially operated ferry service; however the unique environmental landscape also allows visitors to access the island on foot by walking along a 700m ridge of sand. This activity has been identified to range from low risk levels to high levels of risk, depending on wind, weather and tide conditions (Shedrawi, Hyde & Friedman, 2014). Warning messages are present at the site and published online, which include the recommendation to take the ferry to access the island due to the risks involved in crossing the sandbar. Despite all this, however, the activity is frequently practiced and represents a great challenge for the Department of Parks and Wildlife as the land managing agency of the area.

The research questions to be answered and their associated objectives are as follows:

Research Question 1: Who chooses to cross the sandbar?
- Establish a demographic profile of visitors walking the sandbar

Research Question 2: What motivates visitors to use the sandbar?
- Investigate visitors’ beliefs towards sandbar crossing behaviour
- Identify possible social factors that influence visitors to use the sandbar
- Explore visitors’ perspectives on perceived ability and personal control to perform the activity

The results from this study will be useful for land managing agencies to understand why some visitors engage in behaviour that might be considered risky and what their expectations are when visiting protected areas. This will not only contribute to the development of appropriate visitor management programs but also to understand the social and political acceptability of potential management actions on site (Eagles & McCool, 2004).
1.3 Thesis overview

This thesis is organised into six chapters. Chapter 1 introduces the issue of risk stemming from individuals venturing in natural environments and provides the context of study as well as the research questions. Chapter 2 reviews the literature to firstly establish a clear understanding of the meaning of ‘risk’, followed by an exploration of its presence within nature-based tourism and recreation activities. Chapter 3 then describes the ‘case study’ research approach taken in this thesis, offering a detailed description of the sandbar crossing at Penguin Island, WA ('the case'), as well as relevant considerations of data collection and analysis endeavours in order to be able to explore the role of risk as part of motivational decision making processes of individuals crossing the sandbar ('the study'). Chapter 4 focuses on the first research question in establishing a demographic profile of people walking the sandbar. Chapter 5 conceptualises visitors’ decision making processes using the Theory of Planned Behaviour to understand why people walk the sandbar. The thesis is concluded in Chapter 6 by drawing together the main findings of the study in combination with management implications as well as suggesting study limitations and further research opportunities.
CHAPTER 2

Literature Review

"There is a crisis of risk, although not in the sense that there are fewer potential dangers. Rather, it is a crisis of the idea that these are calculable and manageable and that such calculation and management are beneficial."

(Arnoldi, 2009, p. 36)

2.1 Introduction

Literature about risk is characterised by a patchwork of various labels, definitions and meanings, in which risk is presented as a theoretical concept or a practical management application. Conceptualisations of risk differ for example relative to the epistemological perspectives and methodological approaches of risk researchers, or the differences attributed to the importance of social, cultural, environmental, and/or political fabrics convoluting risk as a cognitive construct (Lupton, 1999; Renn, 1998; Renn, Burns, Kasperson, Kasperson & Slovic, 1992; Taylor-Gooby & Zinn, 2006). In other words, whilst some researchers argue that risks should be objectively measured by means of probability mathematics others advocate that risk only subjectively exists in the minds of people.

This review of the literature intends to provide a theoretical context of risk and its position within the literature of nature-based tourism and recreation. An initial exploration of risk as a concept is provided in the first section, followed by a review of the literature on risk in relation to outdoor tourism and recreation activities. Here, risk was viewed from a negative as well as from a positive perspective to understand why people undertake nature-based activity pursuits despite the possibility that they might experience danger or personal harm. Finally, the review concludes with the positioning of this research project within the current body of knowledge.
2.2 The nature of risk

2.2.1 What is risk?

Disciplines involved in the study of risk are extremely varied and include those of psychology, sociology, economics, or health and safety sciences, with attempts to define risk relative to the epistemological stances of each discipline. When starting from the scientific perspective, risk may be expressed as uncertainty in terms of being "the product of the probability of occurrence of a hazard and the consequence of that hazard" (Sakals, Wilford, Wellwood & MacDougall, 2010, p. 306). The scientific definition of risk focuses on the potential to experience negative consequences from a hazard, so much so that the words ‘risk’ and ‘hazard’ are frequently used as synonyms (Sharp, 2001). These two words, however, are substantially different in meaning (Flanquart, 2012). Hazards are defined in absolute terms, suggesting that a hazard is the existence of a danger with the potential to cause harm. The concept of risk, however, extends on the notion that the hazard is present but refers to the knowledge of a possibility that this hazard may materialise into an undesirable state of reality (Kennedy, Sherker, Brighton, Weir & Woodroffe, 2013; Walker & Page, 2003). As Ewald (cited in Power, 2007, p. 4) put it “Nothing is a risk in itself; there is no risk in reality. But on the other hand, everything can be a risk; it all depends on how one analysis the danger, considers the event”. In the context of nature-based tourism and recreation, a water body such as ocean waters might present a hazard, including related characteristics such as dangerous marine creatures, wave actions, currents or submerged objects. Risk comes to existence only when the hazard is known to pose a potential danger to a vulnerable being, such as an individual approaching the ocean environment, and rather relates to the possibility of a negative consequence occurring. In this sense, hazards may present different levels of risk for different individuals, depending, in part, on the behaviour of the individual and how competent the individual is to deal with the hazard (Sharp, 2001).

Risk is part of everything we do - walking our first steps, taking on a new job, or deciding to have one or many children. There are risks associated with nearly all aspects of human existence and any choice may encompass certain physical, financial, or emotional risks (Breivik, 2010; Espiner,
2001; Sharp, 2001). It follows that the assessment and management of risk is an evaluation of how much risk is acceptable in a given situation rather than the simple acknowledgment of the presence of risk as such. Risk is defined by the likelihood that the hazard materialises and the severity of this occurrence; standing in opposition to societal expectations on a 'normal' or 'safe' state (Arnoldi, 2009). In his comprehensive discussion of risk and its effect on society Arnoldi (2009) notes that...

"Determining which level is safe enough is ultimately a political process; indeed, it may be said to rely more on values (and ethics) than on facts. Although science can inform us of the probability of things going wrong, science cannot decide how low the probability need be in order to be morally acceptable." (Arnoldi, 2009, p. 34)

In this sense, objects, activities, or places become risky through information from scientific or political sources, news media, or through individual experiences and conversations within internal and external social networks (Boholm, 1998; Flanquart, 2012; Maguire & Hardy, 2013; Masuda & Garvin, 2006). A multitude of psychological, social, institutional, and cultural processes underpin the interactions between humans and hazards which in turn shape risk perception and subsequent behaviour (Renn, Burns, Kaspersion, Kasperson & Slovic, 1992). It follows that the social evaluation of hazards depends on contexts in which knowledge is generated, and how, when, where and by whom appropriate behaviour is suggested in risky situations (Arnoldi, 2009; Lupton, 1999; Burton & Kates, 1964). It is on this latter premise that some researchers reject the possibility that 'risks' can be managed objectively at all, and that it is rather a subjective concept, investigated, created, filtered, transmitted and responded to by individuals or social institutions (Mythen, 2008; Lupton & Tulloch, 2002a; Taylor-Gooby & Zinn, 2006). Risk as objectively calculated by the product of the probability of an occurrence of a hazard or danger and the likely consequence of a hazard when exposed to elements at risk (Sakals, Wilford, Wellwood & MacDougall, 2010) turns into a social phenomenon, being created, experienced, and responded to relative to the contextual conditions at a particular time and place (Arnoldi, 2009; Lupton, 1999).
3.2.2 Is risk only negative?

Risks are inescapable in so far as whenever people make a choice they face risks (Espiner, 2001). Within sociological discourses of the concept of risk, individuals are confronted with more and more choices, encouraged to make free decisions on their marriage status, parenthood or profession, which are accompanied by the insecurity of not knowing where each possible path will end (Breivik, 2010; Lupton & Tulloch, 2002a). More choices mean more risks (Rosenthal, 2005) which goes hand in hand with the freedoms and responsibilities of Western individualisation processes in which individuals increasingly build their own lifestyle stories compared to the pre-determined structures which dominated previous centuries (Bernstein, 1996; Rose, 1999). Choice also includes direct responsibility for outcomes, and where fate and faith used to govern social actions, choices are now based on individual knowledge and experience (Rosenthal, 2005). Within this climate of uncertainty and risk it has been suggested that we are now living in a 'risk society' (Beck, 1992; 2000; Giddens, 1998). Social structures within a risk society consider accidents as unacceptable rather than unfortunate events (Fuerdi, 1997; Power, 2007) in which "there is no such thing as acceptable risk, because by its very nature, risk should always be avoided" (Yates & Stone, 1992, p. 3). Attention is drawn towards all sorts of possible risks requiring risk-averse problem solving and rational control from people when confronted with advices, warnings, restrictions and guidelines on how to behave to stay free from any negative consequences (Breivik, 2010; Espiner, 2001; Sadler, 2004).

Paradoxically, however, successful risk-taking is glorified in some contexts (Arnoldi, 2009). News and social media churn out stories of individuals embracing high risk-taking opportunities in order to achieve that which could not be obtained without taking risks in life (Adams, 1995) whether it is successful entrepreneurs, outstanding sports people or strong human rights activists. In a review of literature on the psychology of risk-taking behaviour Trimpop (1994) concluded that individuals have "an intrinsic necessity, desire, and motivation to take risks" (Trimpop, 1994, p. 283). Espiner (2001) suggested that it is the values associated with the expected outcome which determine whether a risk is viewed positively or negatively. Risk-taking behaviour may be seen as an opportunity to experience physical and emotional engagement with the boundaries of the self and
is an important means towards further development in life (Lupton & Tulloch, 2002b). When risks are perceived to be familiar, voluntary and controllable and when potential gains are perceived to be high, people turn from being risk averse to risk seeking and encounters of risk may become desirable (Boholm, 1998; Dickson, Chapman & Hurrell, 2000). The quest for risk may also relate to a multitude of psychological and physical benefits when experienced in the context of nature-based tourism and recreation (Buckley, 2012; Kane & Tucker, 2004).

2.3 The risk of nature-based tourism and recreation

A particular focus of this review is how risk is conceptualised in the literature relating to nature-based tourism and recreation in order to better understand why people undertake certain outdoor activities despite the possibility that they might experience danger or personal harm. The concept of risk to visitors participating in outdoor activities is now discussed from the following three perspectives: (1) risk as the potential of a negative outcome and the risk factors contributing to injuries, accidents and fatalities; (2) risk as a means towards positive outcomes and potential benefits to be gained; and (3) risk explored as a mental framework, including the psychological and emotional processes of how individuals approach, and cope with, risk.

2.3.1 Risk as negative outcome

Stemming from the notion that risk signifies the potential of a negative outcome, risk in the context of nature-based tourism and outdoor recreation was a detrimental aspect of a great variety of outdoor activity pursuits. Here, authors tend to describe the natural settings where research was conducted (e.g. national parks, mountain ranges, or surf beaches), followed by statistical records of accidents or fatalities to demonstrate that certain recreational activities or geographical locations contain an element of risk (e.g. Ballantyne, Carr & Hughes, 2005; McKay, Brander & Goff, 2014; Morgan, Ozanne-Smith, & Triggs 2009; Uriely, Schwartz, Cohen & Reichel, 2002). In studies explicitly defining risk as a concept, risk is referred to as the uncertainty of an outcome (Imboden, 2012), measured by the probability of the presence of a hazard and severity of
potential consequences resulting from that hazard (Kennedy, Sherker, Brighton, Weir & Woodroffe, 2013; Sakals, Wilford, Wellwood & MacDougall, 2010). Risk involves the potential to lose something of value (Cater, 2006; King & Beeton, 2006), depicted as the possibility of personal suffering from accidents, injury, or even death (Bentley, Page & Edwards, 2008; Furman, Shooter & Schumann, 2010; Rantala & Valkonen, 2011). Several adverse conditions contributing to the likelihood of negative outcomes have been identified by authors debating risk in this context, which will be summarised below.

Risk factors discussed frequently were people’s exposure to specific natural hazards at recreational settings such as unstable terrain or rock falls (Aucote, Miner & Dahlhaus, 2012; Bentley, Page & Edwards, 2008; Bentley, Page & Walker, 2004; Hayes, 2008; Mackenzie & Kerr, 2012), volcanic activity (Davis, Anshuka, Aoki, Duley, Huff, & Logan, 2013), or the interaction with dangerous animals whilst recreating outdoors (Newsome, Lewis & Moncrieff, 2004; Reed, 2014; Sakals, Wilford, Wellwood & MacDougall, 2010). Adverse and fast changing weather conditions were also mentioned frequently (Jeuring & Becken, 2013; Uriely, Schwartz, Cohen & Reichel, 2002). Further hazards identified included dangers related to water bodies such as submerged or slippery rocks at natural pools (Kennedy, Sherker, Brighton, Weir & Woodroffe, 2013; Parkin & Morris, 2005; Reigner & Lawson, 2009) or tidal currents or ocean rips (Hartmann, 2006; Mathews, Andronaco & Adams, 2014; McKay, Brander & Goff, 2014; White & Hyde, 2010). On top of this, individuals themselves - their perceptions and behaviour - also seem to significantly contribute to the likelihood of experiencing negative consequences when recreating in the outdoors. For example, researchers included the discussion of nature-based tourism participants’ unfamiliarity with natural environments, the lack of knowledge and/or experience with specific hazardous geographical conditions, and the lack of abilities in terms of skills and fitness (Ballantyne, Carr & Hughes, 2005; Fletcher, 2010; Jeuring & Becken, 2013; Mackenzie & Kerr, 2012; Parkin & Morris, 2005; Rickard, McComas & Newman, 2011; Uriely, Schwartz, Cohen & Reichel, 2002). At times, the behaviour of visitors to natural areas is described as ‘inappropriate’ (Newsome, Lewis & Moncrieff, 2004), ‘deficient’ (Rickard, McComas & Newman, 2011), ‘inexperienced’ (Rantala & Valkonen, 2011), or ‘incompetent’ (Fletcher, 2010), especially when research perspectives
focused on or aligned with land managers or commercial tour operators. However, despite their (apparent) shortcoming in experience and abilities, visitors in these studies reportedly fell into a false sense of security stemming from the cognitive illusion that 'it won't happen to me' (Parking & Morris, 2005; Rickard & Newman, 2014). Such optimistic bias refers to the tendency of individuals to see themselves less susceptible to negative outcomes than those around them (Larsen & Brun, 2011; Sharot, 2011). Recent evidence suggests that people continue to underestimate their vulnerability compared to others even if they were given the information that they had statistically underestimated their vulnerability to negative events (Moutsiana, Garrett, Clarke, Lotto, Blakemore & Sharot, 2013). McKenna (1993) suggested that optimistic bias results from the cognitive illusion of control, because individuals perceive to be in control when applying their personal skills to a risky situation. This, however, might become dangerous if people don't know that they don't have the necessary skills to control the risks they are exposed to, because those risks are not well understood. As Rickard (2014a) hypothesises:

"The inexperienced visitor may 'ignore' [safety] signs because of his or her unfamiliarity with the physical setting or the recreational activity. Though an unwarranted sense of self-confidence may persuade some visitors that seeking information is unnecessary, at the same time, individuals may have little idea of what information they do not know, and what they might need to know to recreate safely at the park." (Rickard, 2014a, p. 297)

It follows that low risk perceptions when encountering risky situations may stem from a lack of understanding of a specific environmental setting, for example in situations when international tourists enter foreign natural areas (Ballantyne, Carr & Hughes, 2005; Jeuring & Becken, 2013). However, low risk perceptions can also stem from previous exposure to a natural environment where nothing adverse happened, resulting in the formation of low risk perceptions and increased sense of skill and confidence and hence higher propensity for risk taking behaviour (Parking & Morris, 2005, p. 12). When looking at drowning statistics across the globe, not all persons who drown are non-swimmers (Brenner, Saluja & Smith, 2003). Analysis of drowning risk perceptions shows that a greater swimming ability may actually lower risk perceptions and in turn induces individuals to a higher exposure to risk (Howland, Hingson, Mangione, Bell & Bak, 1996; McCool,
Ameratunga, Moran & Robinson, 2008; Morgan, Ozanne-Smith & Triggs, 2009). With increasing experience, the skills to safely perform an activity increase as well; however there seems to be a repeated lack of negative feedback (i.e. experiencing negative events such as near drowning) following the risky behaviour, which significantly alters the perception of the consequences of the behaviour. It has even been suggested that the resulting higher exposure to risks may offset the effect of greater abilities in relation to total drowning rates (Brenner, Saluja & Smith, 2003).

In sum, the literature discussing risk from a negative perspective suggests that low risk perceptions of individuals combined with an overestimation of their own abilities may represent the most dangerous combination when hazardous geographical conditions prevail. This perception has the potential to result in unwanted negative outcomes when pursuing nature-based activities.

### 2.3.2 Risk to obtain benefits

Some researchers contributing to the literature on risk of nature-based tourism and recreation activities question the negative connotation of risk and discursively advocate its importance to be able to experience an outdoor adventure. For example, Dickson (2012) suggests that risk taking only makes sense with the expectation of possible gain. Dickson argues further that risk is part of outdoor adventure by definition, as the word 'adventure' means to experience challenge and uncertainty and most importantly to retrieve excitement out of it (Dickson, 2012). Literature following this stream of thought discusses a multitude of anticipated positive outcomes as motivation for, and benefit of, 'risky' outdoor activity participation, which will be summarised below.

The various benefits identified from the literature may be grouped into intrinsic and extrinsic factors of gain. Intrinsic factors are understood as relating to internal needs and emotions whilst extrinsic factors relate to external social and situational considerations (Ewert, Gilbertson, Luo & Voight, 2013). Intrinsic factors of gain mentioned often relate to heightened arousal and hormonal and affective pleasures such as excitement, thrill and fun (Buckley, 2012; Cater, 2006; Creyer, Ross & Evers, 2003; Ewert, Gilbertson, Luo & Voight, 2013; Fletcher, 2010; Morgan, Moore and Mansell, 2005; Schlegelmilch & Ollenburg, 2013). Skill and competence development stemming
from the testing of one's own physical strength and endurance as well as the challenges of problem solving were also discussed frequently (Barlow, Woodman & Hardy, 2013; Buckley, 2012; Gyimóthy & Mykietun, 2004; Houge, Hodge & Boyes, 2010; Kane & Tucker, 2004; Lockwood & Sparks, 2013; Morgan, 2001; Morgan & Stevens, 2008; Ward, 2010). Researchers even suggest intrinsic gaining factors of spiritual nature, such as philosophical insight, self-reflection and self-actualisation benefits (Barlow, Woodman & Hardy, 2013; Gyimóthy & Mykietun, 2004; Kane & Tucker, 2004), to be able to fully experience the spirit of natural environments (Imboden, 2012; Morgan, Moore & Mansell, 2005; Rickard, 2014a; Ward, 2010), or as a means to therapeutically channel negative emotions into constructive activities to overcome difficult experiences in life (Barlow, Woodman, & Hardy, 2013). External factors of gain referred to by researchers include improved social status, image and identity formation (Ewert, Gilbertson, Luo & Voight, 2013; Flanquart, 2012; Fletcher, 2010; Kane & Tucker, 2004; King & Beeton, 2006; Uriely, Schwartz, Cohen & Reichel, 2002) or the opportunity for competition (Schneider & Vogt, 2012). Further mentioned are the benefits of socialisation, belonging and being part of a group, sometimes set in conjunction with the escape from societal norms or negativism through participating in high-risk outdoor activities with friends (Ewert, Gilbertson, Luo & Voight, 2013; Gyimóthy & Mykietun, 2004; Howard, Yan, Ling & Min, 2002; Kerr, 2007; Mackenzie & Kerr, 2012; Morgan & Stevens, 2008). Lastly, benefits of risk-taking may also involve certain situational benefits, such as to jump in a natural pool in order to cool down when the weather is hot (Parkin & Morris, 2005) or to be nearer to a natural site of specific attraction value (Musa, Hall & Higham, 2004; Hayes, 2008; Reigner & Lawson, 2009).

In sum, benefits identified in research studies reviewed differed depending on the type of activity, the degree of difficulty of the activity, as well as the social or environmental settings in which the activity was exercised (Barlow, Woodman & Hardy, 2013; Diehm & Armatas, 2004; Ewert, Gilbertson, Luo, & Voight, 2013; Schlegelmilch & Ollenburg, 2013). Benefits are therefore highly context dependent and vary for each individual in terms of experience and skill levels, but also the degree of self-responsibility taken when participating in the activity (Buckley, 2012; Mackenzie & Kerr, 2012; Manning, 2011; Morgan, 2001; Rickard, 2014b). As can be seen from the many
potential benefits sought out by individuals participating in nature-based tourism and recreation activities, risk can be a central and positive element of the outdoor experience (Buckley, 2012; Cater, 2006; Delle Fave, Bassi & Massimini, 2003). Benefits are connected to the act of performing the activity and the risk component represents the required hurdle in order to be rewarded with physiological, emotional and cognitive benefits. It should be noted, however, that even though risk may be considered as part of the experience, it is generally not the motivational force per se (Pomfret & Bramwell, 2014). Following the positive stream of the literature, risk in nature-based tourism is considered "an unavoidable aspect of trying to harness powerful forces of nature" (Buckley, 2012, p. 967) in order to get rewarded with "a strong blend of wonderful sensations and experiences" (Breivik, 2010, p. 260). It tends to be seen as a means to an end rather than the end in itself.

2.3.3 Motivation of risk-taking - The 'protective frame' of mind

The third aspect that was of interest in the literature review was the question how individuals encounter and cope with risk when engaging in nature-based activities. Risk is associated with notions of choices (Lupton, 1999), because if the future would not be uncertain the concept of risk would not make sense (Renn, 1998). Behaviour almost always involves a choice (Ajzen & Fishbein, 1980). Decision making theory suggests that people combine personal desires and beliefs to choose a course of action (Lalasz, 2013). In the context of approaching a risky situation, individuals will need to establish a desire to make a choice; that is, the hazard must be recognised physically (e.g. seeing or hearing the hazard) as well as psychologically (the perception that this hazard is indeed risky) (Trimpop, 1994). Individual risk perceptions are then constructed based on internal information, such as previous experience or knowledge about a particular hazard, as well as situational conditions including other people or information available in direct proximity to the hazard (Trimpop, 1994). It follows that each person evaluates the risk differently, given that the risk perceived is based on information that is available to the individual at this particular point in time.
The level of risk perceived is then balanced against an individual’s ‘protective frame’ (Apter, 1989; 2001; Kerr, 2007). The protective frame is a psychological concept stemming from reversal theory, arising for example from the confidence in one’s own ability to protect oneself from harm, or the trust in the existence of other safety measures (Kerr, 2007). The protective frame serves as a vehicle to overcome worry, which is the perception that a danger should be avoided (Jeuring & Becken, 2013; Kerr, 2007). Threats don’t disappear, but the protective frame ‘filters out’ the threatening quality of the threat and enables the enjoyment of the arousal (Apter, 1993). Only with the protective frame being intact, risk-taking is experienced as exciting; but as soon as the protective frame as an imaginary bubble bursts, the individual experiences anxiety and fear (MacKenzie & Kerr, 2014).

Nature-based recreational activities have been identified as opportunities for individuals to exercise personal control over risks to facilitate optimal psychological states (Csikszentmihalyi & Csikszentmihalyi, 1990) as they continually seek to match the level of perceived risks with their own aptitudes to cope with that risk (Ewert & Hollenhorst, 1989). To experience adventure, the level of the challenge an activity entails is in balance with the level of skill, knowledge and experience an individual possesses to prevent either boredom when abilities exceed the challenge or misadventure when the challenge exceeds the abilities (Ewert & Hollenhorst, 1989; Morgan, 2001). The level of risk is relative, because higher risk levels can be compensated for by increased attention, control and mastery, and would not necessary result in higher numbers of accidents (Trimpop, 1994). When risk is perceived to be controllable, successful completion of the activity provides people with a sense of achievement and emotional arousal; however when risk is perceived to be uncontrollable, individuals experience fear and anxiety, and the experience turns into a misadventure or even disaster (Mackenzie & Kerr, 2012; Morgan, 2001). Literature referred to this optimal state of risk as the ‘desired risk’ (Rickard, 2014a) or ‘peak experience’ (King & Beeton, 2006), where maximum benefits could be obtained, yet the risk is perceived to be at a manageable level. The more confident a person feels, the higher the risk that is desired (Llewellyn & Sanchez, 2008; Morgan & Stevens, 2008) and the less managerial control over the individual experience is wanted by the outdoor activity protagonists (Buckley, 2012; Rickard, 2014b).
Commercial adventure tourism provides a different context on how the protective frame functions for outdoor activity partaker. Adventure tourism participants within the commercial context establish their protective frame predominantly on the competence of the tour guides and protective equipment, but not so much from the abilities of the individuals themselves approaching risky situations (Fletcher, 2010). The commercialisation and pre-planning of outdoor adventure, which arguably includes danger and uncertainty by definition (Kane & Tucker, 2004), is a paradoxical phenomenon as adventure tourism operators are set to provide the greatest perceived risk (i.e. fears that exist in the mind of the participant) but ideally offering a product that entails no actual risk for participants at the same time (Bentley, Cater & Page, 2010). An emphasis on safety measures are portrayed by adventure tourism providers alongside illustrations of the emotional ‘authenticity’ and positive challenges fundamental to nature-based experiences (Imboden, 2012), creating a paradox where risk as a perceptual construct becomes blurred within social and cultural systems of managed modern leisure provision. Commercial adventure tourists, although drawn to an activity for the sake of risk, fear and excitement (King, 2006), simultaneously feel safe and protected within commercial operating settings (Mackenzie & Kerr, 2012). Participants admit that "it's more like watching an exciting but consequence-free film of [an adventure activity] than being in one" (Fletcher, 2010, p. 18). If safety is taken for granted when making a risk-based decision, individuals will not consider the full picture of potential harm and may take more risks than they would do otherwise (Slovic, 2000; Trimpop, 1994). It follows that the protective frame functions from the expectation that safety is guaranteed by external parties perceived to manage the outdoor experience. Whether this perception of 'being managed' in nature-based tourism settings has spilled over to non-commercial contexts has received limited discussion in the literature to date. The few studies that included this aspect within their broader research questions found that visitors to national parks perceive there to be a shared responsibility for safety between the land managers and visitors (Espiner, 1999; Jeuring & Becken, 2013). Rickard (2014a) suggested that levels of responsibility perceptions differ depending on the physical attributes of managed lands, as visitors of natural areas feel less responsible for their own safety the more places are physically managed with pathways, shelters, signposts or warning messages. Whether this is a direct or indirect relationship is unclear, as
different sections of managed land and relative available recreation opportunities may attract
different visitor segments, and their expectations of risk management may vary.

2.4 The Theory of Planned Behaviour

It has been suggested that any research investigating risk taking behaviour should incorporate the
context in which the behaviour occurs to capture influencing situational factors and should always
be related to individual evaluations of competency and control (Ryan, 2003; Trimpop, 1994). The
Theory of Planned Behaviour (see Figure 1) is designed to explain human behaviour in specific
situations (Ajzen, 1991b) and assumes that people base their behaviour upon careful
consideration of available information, or beliefs, relevant to the behaviour, taking account of
possible implications of their actions within different contexts (Ajzen, 2005; Ajzen & Driver, 1991).
This plan of action can be referred to as the intention to perform a behaviour, which is in turn
considered the antecedent of actual behaviour (Ajzen, 2012).

The decision making process starts with the realisation that there is a situation that needs a
decision to be made in which individuals cognitively assess possible courses of action, collect
information on possible outcomes, and evaluate each potential outcome based on the probability
of each outcome as well as the values placed on each (Lalasz, 2013). By determining possible
consequences and evaluating these consequences an attitude towards the behaviour is formed.
According to Ajzen (1991a), this attitude component consists of both, instrumental and affective
beliefs. Instrumental beliefs refer to the perceived benefits and costs of associated with the
behaviour (is it beneficial or harming?), whilst affective beliefs are feelings derived from
performing a behaviour (is it enjoyable or unenjoyable?) (Ajzen, 1991a; Walker, 2013). It follows
that attitudes toward a behaviour form most favourably when individuals believe this behaviour to
result in beneficial and pleasant outcomes.
According to the Theory of Planned Behaviour, the process of reaching a decision on future behaviour is also shaped by social influences, or normative beliefs, such as the beliefs about the opinions that important others would place on them performing or not performing a behaviour (do they approve or disapprove?), including the actual motivation to comply with the wishes of these important others (Ajzen, 2005; Ham, Brown, Curtis, Weiler, Hughes & Poll, 2009; Walker, 2013). Rivis and Sheeran (2003) suggest that the subjective norm component also extends to include social influences of descriptive nature (do they actually do it or not?), in that direct observations of others performing the behaviour allows individuals to make inferences about the decision making
processes of others and may use this information in deciding what to do themselves. Finally, individuals consider any presence or absence of facilitators or inhibitors of the behaviour in question (is it easy or difficult?) and evaluate their actual capability or control to perform the behaviour if they wish (do I have little control or a lot?) (Ajzen, 2012; Walker, 2013). This last element forms the perceived behavioural control factor included in the Theory of Planned Behaviour.

The Theory of Planned Behaviour is a well-accepted psychological framework in the context of visitor management in parks and protected areas, especially if it is applied to settings where managers intend to use effective communication tools tailored to the specific underlying decision making factors of visitors (Goh, 2015; Ham et al., 2009; Hayes, 2008). Whilst applications of the theory are heavily dominated by quantitative methods measuring the relative importance of different beliefs as determinants of behaviour (Ajzen, 1991b; 2012), this thesis followed the innovative approach by Hayes (2008) using the Theory of Planned Behaviour as a conceptual framework in his investigation of salient beliefs related to visitor non-compliance to protective recommendations at the Fox and Franz Joseph Glaciers in New Zealand. Utilising the theoretical construct qualitatively serves the overarching aim of this thesis not to quantitatively measure the aspects that influence behaviour, but to analyse visitors' views and opinions to better understand underlying reasoning processes.

There are three reasons why exploring motivation of risky behaviour through the lens of the Theory of Planned Behaviour is particularly valuable in the context of risky behaviour in nature-based tourism and recreation. Firstly, it recognises the differences in individual characteristics and beliefs as well as any influences of social and situational variables at the time of decision making (Ham et al., 2009). Secondly, the Theory of Planned Behaviour is suitable for both novel behaviours as well as behaviour habituated from frequent exercising (Ajzen, 2012) and therefore applies to both tourism and recreation contexts. Lastly, the theory investigates the construct of perceived behavioural control, which refers to individual judgements on whether they are capable of doing the behaviour as well as their opinion on whether they are in control to make that behavioural decision (Ajzen, 2005).
2.5 Summary of the literature review

The literature review has shown that risk is characterised by the uncertainty about a potential negative consequence stemming from choices made between any one course of action among many. Individuals perceive, evaluate and respond to risk in a variety of ways, depending on psychological processes as well as social and situational contexts, and their perceived capability to cope with the detected risk as a result of these. As Rickard, Scherer and Newman (2011) remind us, "actions and situations become 'risky' - or 'safe' - in the eye of the beholder, and (...) the voluntariness of a given risk implies both awareness and choice" (p. 531). In this sense, choices related to risky behaviour are made with anticipated benefits in mind and knowledge alone that an activity is risky does not deter people to exercise it (Trimpop, 1994). This study aims to further explore risky behaviour in the context of nature-based tourism and recreation using a case study approach guided by the Theory of Planned Behaviour (Ajzen, 1985; 1991b; 2005; 2012) as a conceptual framework.
CHAPTER 3

Research Methodology and Design

“There is only one world, but (...) we will probably always have to content ourselves with a wide variety of overlapping ways of understanding it.”

(Davies 2006, p. 1)

3.1 The case study approach

A case study research design was chosen as the suitable strategy of inquiry guiding the selection of appropriate data collection methods to answer the research questions (Simons, 2009). Research led by a case study design empirically investigates a case in depth and within its naturally occurring circumstances (Simons, 2009; Yin, 2014). Cases are bound by specificities of time, space and activity where researchers collect detailed information utilising a variety of data collection procedures over a specific period of time (Yin, 2014). In order to cope with the complexity of the case, this research approach relied on multiple sources of evidence, collaborated and converged in a triangulated fashion, to facilitate understanding from multiple perspectives (Rallis & Rossman, 2012; Yin, 2014). This thesis offers a qualitatively driven, qualitative and quantitative simultaneous research design (Teddlie & Tashakkori, 2009), consisting of a demographic survey as well as semi-structured visitor interviews. Quantitative and qualitative data collection and analysis were carried out in parallel with outcomes then related to one another forming a complementary relationship (Kelle & Erzberger, 2004).

For this study, the unit of analysis under investigation was the phenomenon of visitors crossing the sandbar to and from Penguin Island, which is located within the Shoalwater Marine Park Western Australia. The selection of the case served both, an intrinsic purpose, meaning that the selected case in itself is of specific interest to the researcher and relevant land management agencies, as well as an instrumental purpose, meaning that findings from this case were intended to provide insight into the broader topic of risk in nature-based tourism (Jennings, 2010).
3.2 The case - The sandbar at Penguin Island

3.2.1 Site selection and description

Penguin Island\textsuperscript{1} is a popular coastal visitor attraction South of Perth, Western Australia. It is the largest of a chain of islands situated within the Shoalwater Marine Park, which is currently managed as a Class A Marine Reserve by the Department of Parks and Wildlife (hereafter referred to as ‘the department’). The island is renowned as being the home to a large colony of little penguins (\textit{Eudyptula minor}), the smallest species of penguin in the world, but also as a breeding site for pelicans and many other marine bird colonies (Department of Environment and Conservation, 2007). Penguin Island is open for visitation from September to April each year, with visitation numbers peaking during the hot summer months. The island and its surrounding waters provide for a broad range of nature-based tourism and recreation activities, including swimming, snorkelling, surfing, kitesurfing, boating, or fishing, as well as exploring the flora and fauna of the island via boardwalks, walkways and

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure2.png}
\caption{MAP OF PENGUIN ISLAND (DEPARTMENT OF PARKS AND WILDLIFE)}
\end{figure}

\textsuperscript{1} Information about Penguin Island and especially the land managing agency’s difficulties with the visitor risk management mandate was gathered through a series of unstructured interviews with three staff of the Department of Parks and Wildlife. This information served the purpose of providing a detailed description of the case including managerial judgement of potential risks involved and management interview responses were not further analysed nor interpreted within the scope of this thesis.
lookouts or visiting the Penguin Discovery Centre located on the island. Being frequently visited by locals as well as people from interstate and overseas, it is estimated that the island now receives approximately 130,000 visitors annually, increasing from 85,000 visitors just four years ago (Bye & Smith, 2014).

The island is promoted to be accessed by commercial ferry run by ‘Rockingham Wild Encounters’, involving a fee of $15 for adults and $12.50 for children (current as in summer period 2014/2015). However, Penguin Island lies only approximately 700 metres west from the mainland at Mersey Point with a submerged or partly exposed ridge of sand (the sandbar) connecting the island with the mainland (see Figure 3).

![FIGURE 3 - SANDBAR CROSSING AT PENGUIN ISLAND](image)

It is estimated that approximately 5% of the total number of visitors choose to walk across the sandbar (Bye & Smith, 2014) (see Figure 4), with the most crossings recorded during the summer holiday season (Shedrawi, Hyde & Friedman, 2014). Historically, the sandbar has been used by people to access the island long before the department took over the management of the island and the marine park in 1987 (Mulligan, 2013) with newspaper records showing that near-drowning or drowning incidents have happened at times of early tourism development in the area (Boys
Rescued from Drowning, 1944; Safety Bay Tragedy, 1938). No formal record exists of the number of rescues performed historically by rangers or ferry staff, and different estimates made by key departmental staff are ranging from very rare incidents to a up to sixty or seventy a year. Tragically, in 2010 two people drowned after being swept off the sandbar whilst on their walk back to the mainland in the late afternoon hours (Mulligan, 2013).

Walking or wading the sandbank has been identified by the department as a significant risk factor to visitors (Department of Environment and Conservation, 2007). Ocean beaches are considered "the most dynamic areas on the surface of the earth" (Wilks, 2008, p. 13), which is an attribute that is especially relevant for the management of the sandbar at Penguin Island. The shape of the sandbar and its position differs every season; whilst the bar follows a straight line in one year, it may have an S-shape in the following year. The sandbar also varies in height so that measures of tide and swell levels cannot be interpreted easily into expected depth of water on the bar.

Island rangers also show ongoing concern over the appropriate visitor management due to the fast changing weather conditions during the course of any one day. First time visitors that choose to cross the sandbar in the morning, or see others crossing at this time, may be lured into a false sense of safety through calm shallow waters and light winds (Mulligan, 2012). But conditions can change quickly, predominantly due to afternoon sea breezes (i.e. relatively strong south-westerly...
winds) in combination with rising tides, and developing currents potentially running across deeper channels of the sandbar may ‘push’ visitors into deeper waters. According to the rangers, wind and wave activities make it difficult to either return to the bar if this occurs, and very good swimming skills would be needed to swim to the nearby shore. It is important to note at this point that an inexperienced person may not be presented with an obvious picture of dangerous ocean conditions when sandbar walking becomes more risky. As was established by a photograph taken just minutes before the deadly incident in 2010 (see Mulligan, 2012, p. 38) the wind and weather conditions were not considered outside normal parameters one would expect at a Western Australian beach on a normal summer afternoon (Mulligan, 2012). It is the hidden dangers that eventually make the sandbar a risky pursuit, especially when the risks are not known to those crossing.

### 3.2.2 Current risk management practices

Legislative powers in Australia direct public authorities including national and marine park agencies to devote a substantial amount of resources towards the safety of the visitors of managed natural public spaces (Buckley, Witting and Guest, 2001). In legal terms, park agencies have a duty of care to visitors and are responsible to limit situations where visitors might be exposed to risks or warn visitors of potential risks that might be encountered (McDonald, 2003; Sadler, 2004) whilst remaining visitors’ accessibility rights for recreational purposes (Hughes, Tye & Zulfa, 2010).

There are a number of strategies land managers can use to manage visitor behaviour in national and marine parks and reserves which can be conceptualised as indirect and direct management practices (Park, Manning, Marion, Lawson & Jacobi, 2008). Whilst direct management tools act directly on the behaviour of the visitor such as restriction of access to areas of land or the regulatory enforcement of appropriate visitor behaviour, indirect management tools attempt to influence visitor decision making processes through information provision or moral appeals (Manning & Anderson, 2012). Direct approaches as in restricting visitor access have been found
relatively effective in visitor impact management practices (Park, Manning, Marion, Lawson & Jacobi, 2008), however such management tools may be contested or rejected by visitors on the grounds of equity and historical expectations to have ‘right to roam’ (Campion & Stephenson, 2010; Hughes, Tye & Jones, 2013; Williams, 2001). In this sense, indirect visitor management practices tend to be favoured by both visitors and land managers because they align with recreational values of free choice of access (Park, Manning, Marion, Lawson & Jacobi, 2008); nevertheless, indirect approaches have been questioned on their effectiveness to deter visitors to perform an undesired activity (Hayes, 2008). Espiner (2001) notes that there is a tension evident in the literature about visitor risks in relation visitor management strategies utilised as some argue that risks are an important and indispensable aspect of the outdoor experience whilst others argue that land managers have a duty of care to visitors as they might not understand all risks involved. Lipscombe (2007) emphasises that risk management creates a dilemma for land managers:

"While risk-taking in recreation has strong connotations of meeting the challenge, beating the odds, being responsible for one’s own actions and experiencing the full meaning of freedom and choice, at the same time it is recognised as an opportunity to be litigious when things go wrong." (p. 13)

Driven by moral as well as legal obligations, the department currently uses a mixture of direct and indirect risk management practices in relation to the sandbar. These include:

> Permanent warning signs on either end of the sandbar, as well as other strategic points at the jetties or at the car park (see Appendix A) to deter people from crossing the sandbar. As depicted in Figure 5, each sign has a bold hazard statement, a red triangle with the signal word ‘DANGER’, written text explaining the dangers (supported by small pictorial images of dangers), possible consequences of crossing the sandbar, the recommendation to

FIGURE 5 - SANDBAR RISK WARNING SIGN
(ANNA GSTAETTNER)
take the ferry, as well as an image of the sandbar itself. Taken together, the contents on the sign fulfil the legal requirements of an adequate warning sign as identified by McDonald (2003).

> Two yellow buoys on the middle of the sandbar to mark and warn visitors about deeper transverse channels of the bar. Due to the dynamic nature of the sandbar the buoys are moved once a year (see Figure 6).

> Visible presence of lifeguard patrol during holiday periods on Point Perron where the access is to the ferry and the sandbar (see Figure 7). Lifesaving staff is contracted by the department to be on site from 10am to 5pm daily. In 2013 there have been 36 rescues recorded at Penguin Island, with lifeguards conducting 3322 preventative actions (Surf Life Saving WA, 2014).

> Restriction of access during adverse weather conditions, where the sandbar is closed by installing a portable sign on either end of the sandbar (see Figure 8). The department's Standard Operating Procedure or Emergency Response Plan (unpublished) specify guidelines for rangers to assess conditions and potentially close access to the bar in one or all of the following conditions: wind exceeding 20 knots; swell exceeding 2 metres; tides and/or storm surges exceed 1 metre. During times of closure in busy periods, crossing is often also actively discouraged by rangers as well as the contracted lifeguards. The presence of lifeguards during
times of closure showed to decrease the number of people crossing compared to having the closure sign only (Shedrawi, Hyde & Friedman, 2014).

Despite the best intentions of the department to inform visitors about the risks and to enforce regulations when the sandbar is closed, visitors still decide to cross and potentially put themselves at risk.
3.3 The study - Research methods

3.3.1 The quantitative survey

A quantitative survey was used to establish a profile of visitors choosing to cross the sandbar with the intention to answer the first research question (see Appendix B). Demographic and visitation questions were largely adapted from a visitor satisfaction survey conducted by the managing agency of the marine park area, the Department of Parks and Wildlife (Bye & Smith, 2014). Demographic variables include age, gender, usual place of residence and primary language spoken at home. Visitation variables establish data about group composition and sizes, as well as the frequency and purpose of visitation. Based on the review of literature, perceived individual competencies to confidently cross the sandbar were also considered an important factor to be included in the visitor profile and thus also added to the questionnaire. Variables measured include their perceived swimming ability and familiarity with WA marine environments, whether they used any form of flotation device for crossing (such as a floaty ring, small rubber boats, surf boards, etc.), as well as whether they had obtained any weather, wind or tides information prior to crossing the sandbar. The survey was digitalised by means of data collection application tool (QuickTapSurvey), which enabled the collection of survey responses via a mobile device (Nexus Tablet) on site. Data was later transferred to the Statistical Package for Social Scientists (SPSS) for analysis.

3.3.2 Qualitative interviews

Visitor interviews were conducted on site to explore why visitors cross the sandbar in order to answer the second research question. The Theory of Planned Behaviour (Ajzen, 1985; 1991b; 2005; 2012) served as a conceptual framework to formulate the interview questions as well as a guide for coding and analysis (see also section 3.5.2) to embed understanding of the behaviour in question within the broader visitor management literature (Ham et al., 2009). Here, the motivation to walk the sandbar was conceptualised as a function of salient beliefs relating to (1) an individual's attitude towards walking the sandbar and evaluations of consequences of doing so; (2)
the perceived subjective norms, or social pressures, influencing the decision to walk the sandbar; (3) and the perceived capability and control over performing the activity. Taken together, beliefs elicited from the interviews represent the perspective of people walking the sandbar at whom any future management strategy might be aimed.

Interviews allow for exploration of attitudes and opinions of research participants expressed in their own words and from their perspective (Gubrium & Holstein, 2002). According to the Theory of Planned Behaviour, salient beliefs determining behaviour are those that are directly accessible by an individual when making a decision and are specific to the population performing the behaviour (Ajzen, 2005; Ham et al., 2009). Semi-structured interviews in direct proximity to the decision making process (i.e. immediately after execution of behaviour) was therefore considered the appropriate choice of data collection method. Interviews were based on an open-ended semi-structured mode to provide focus to the conversational interaction whilst allowing the interviewer a degree of freedom to explore topics raised by the respondent or to ask follow-up or probing questions based on their responses.

Participants of the visitor interview were asked for their visitation patterns to Penguin Island and whether they regularly walk the bar; when they made the decision to walk and under what circumstances; what they consider to be the positives and negatives of crossing; their individual evaluation of skills necessary to walk the sandbar; the extent of control they perceive to have on their decision to exercise the activity; whether they perceive possible social influences playing a role in their decision making processes; and the evaluation of current management practices and whether more or less management is needed for the site (see Appendix C).

To refine the wording of the interview questions and to discover and reduce potential flaws or weaknesses within the interview design (Jennings, 2010; Turner, 2010), five pilot interviews were conducted with colleagues and confidants of the researcher who had crossed the sandbar within the last five years. Piloting the interview resulted in the simplification of the questions to improve the conversational flow and to reduce academic tone. The pilot interview also provided the researcher with confidence on the expected time to be communicated to research participants.
3.4 Data collection and sampling

Qualitative and quantitative data was collected simultaneously, sampling visitors who used the sandbar to access the island before and after visit. A purposive convenience-based non-probability sampling strategy was used (Jennings, 2010). Each group crossing the sandbar was approached with a short introduction of the researcher and the research project together with the request that one person in the group answers a short questionnaire. After first confirming that the respondent was aged 18 or above, the researcher read the questions out aloud to the research participant and entered the responses directly into the digital survey application (see section 3.3.1). Every tenth adult satisfying the selection criteria for the questionnaire was asked to be interviewed instead. The interview was introduced to take approximately ten minutes and participants were invited to sit down with the researcher in a shaded area set up by the researcher (see Figure 9). The tent provided some cover from the intense midday sun typical of Western Australian hot summer periods for the researcher and the research participants.

Although only one person per group was formally interviewed and asked to respond in line with their very own opinions on the matter, other group members tended to be very interested in the research and also enthusiastically joined the conversation at times. The researcher did not discourage these moves as group dynamics are considered to be highly influential in decision making processes in situations involving potentially risky actions (Gardner & Steinberg, 2005).
A summary of the days of data collection as well as approximate weather and tide conditions measured in the morning (9am) and afternoons (3pm) is shown in Table 1. The sampling strategy included the purposive decision to divide the data collection period into two research phases, namely Phase 1 in which contracted Surf Life Savers were not present during the day (only volunteer lifeguards visited infrequently and informally on some weekend afternoons), and Phase 2, where contracted Surf Life Savers were visibly present at Mersey Point from 10am until 5pm each day. As has been established in the literature review, individuals approach risky situations by evaluating their capability to overcome the dangers, including external factors present at this point in time. It was therefore considered valuable to see if the presence of the lifesavers had any influences on decision making processes of individuals crossing the sandbar.

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Temp (°C)</th>
<th>Wind direction</th>
<th>Wind speed (knots)</th>
<th>Tide (meter)</th>
<th>Temp (°C)</th>
<th>Wind direction</th>
<th>Wind speed (knots)</th>
<th>Tide (meter)</th>
<th>Sandbar</th>
</tr>
</thead>
<tbody>
<tr>
<td>28/11/14</td>
<td>Fri</td>
<td>20.3</td>
<td>SSW</td>
<td>17</td>
<td>0.5</td>
<td>20.9</td>
<td>SW</td>
<td>14</td>
<td>0.6</td>
<td>open</td>
</tr>
<tr>
<td>29/11/14</td>
<td>Sat</td>
<td>18.4</td>
<td>S</td>
<td>12</td>
<td>0.6</td>
<td>20.3</td>
<td>SSW</td>
<td>19</td>
<td>0.7</td>
<td>open</td>
</tr>
<tr>
<td>30/11/14</td>
<td>Sun</td>
<td>20.2</td>
<td>SW</td>
<td>7</td>
<td>0.6</td>
<td>20.6</td>
<td>SW</td>
<td>14</td>
<td>0.7</td>
<td>open</td>
</tr>
<tr>
<td>01/12/14</td>
<td>Mon</td>
<td>19.8</td>
<td>SW</td>
<td>11</td>
<td>0.6</td>
<td>18.4</td>
<td>SSW</td>
<td>15</td>
<td>0.8</td>
<td>closed</td>
</tr>
<tr>
<td>02/12/14</td>
<td>Tue</td>
<td>18.6</td>
<td>ESE</td>
<td>7</td>
<td>0.7</td>
<td>19.7</td>
<td>SW</td>
<td>13</td>
<td>0.9</td>
<td>open</td>
</tr>
<tr>
<td>03/12/14</td>
<td>Wed</td>
<td>21.8</td>
<td>NE</td>
<td>6</td>
<td>0.6</td>
<td>20.8</td>
<td>SW</td>
<td>18</td>
<td>0.9</td>
<td>closed @ 2pm</td>
</tr>
<tr>
<td>04/12/14</td>
<td>Thu</td>
<td>19.4</td>
<td>S</td>
<td>11</td>
<td>0.6</td>
<td>19.8</td>
<td>SW</td>
<td>13</td>
<td>0.9</td>
<td>closed</td>
</tr>
<tr>
<td>05/12/14</td>
<td>Fri</td>
<td>20.1</td>
<td>E</td>
<td>11</td>
<td>0.5</td>
<td>20.4</td>
<td>SW</td>
<td>20</td>
<td>0.9</td>
<td>closed</td>
</tr>
<tr>
<td>06/12/14</td>
<td>Sat</td>
<td>21.5</td>
<td>S</td>
<td>6</td>
<td>0.5</td>
<td>21.3</td>
<td>SW</td>
<td>14</td>
<td>0.9</td>
<td>open</td>
</tr>
<tr>
<td>07/12/14</td>
<td>Sun</td>
<td>22.2</td>
<td>SSW</td>
<td>6</td>
<td>0.4</td>
<td>22.0</td>
<td>SW</td>
<td>12</td>
<td>0.8</td>
<td>open</td>
</tr>
<tr>
<td>08/12/14</td>
<td>Mon</td>
<td>19.8</td>
<td>SSW</td>
<td>20</td>
<td>0.5</td>
<td>20.6</td>
<td>SSW</td>
<td>24</td>
<td>0.8</td>
<td>closed</td>
</tr>
<tr>
<td>09/12/14</td>
<td>Tue</td>
<td>17.4</td>
<td>S</td>
<td>17</td>
<td>0.5</td>
<td>19.6</td>
<td>SSW</td>
<td>23</td>
<td>0.8</td>
<td>closed</td>
</tr>
<tr>
<td>10/12/14</td>
<td>Wed</td>
<td>18.0</td>
<td>SE</td>
<td>9</td>
<td>0.5</td>
<td>20.6</td>
<td>SW</td>
<td>19</td>
<td>0.7</td>
<td>open</td>
</tr>
</tbody>
</table>

**PHASE 2 (SLSA PRESENT)**

<table>
<thead>
<tr>
<th>Date</th>
<th>Day</th>
<th>Temp (°C)</th>
<th>Wind direction</th>
<th>Wind speed (knots)</th>
<th>Tide (meter)</th>
<th>Temp (°C)</th>
<th>Wind direction</th>
<th>Wind speed (knots)</th>
<th>Tide (meter)</th>
<th>Sandbar</th>
</tr>
</thead>
<tbody>
<tr>
<td>26/12/14</td>
<td>Fri</td>
<td>23.1</td>
<td>E</td>
<td>9</td>
<td>0.5</td>
<td>22.6</td>
<td>SSW</td>
<td>18</td>
<td>0.6</td>
<td>open</td>
</tr>
<tr>
<td>27/12/14</td>
<td>Sat</td>
<td>27.3</td>
<td>NE</td>
<td>7</td>
<td>0.5</td>
<td>23.1</td>
<td>SSW</td>
<td>17</td>
<td>0.7</td>
<td>open</td>
</tr>
<tr>
<td>28/12/14</td>
<td>Sun</td>
<td>20.5</td>
<td>SSW</td>
<td>15</td>
<td>0.6</td>
<td>21.9</td>
<td>SW</td>
<td>21</td>
<td>0.8</td>
<td>closed</td>
</tr>
<tr>
<td>29/12/14</td>
<td>Mon</td>
<td>24.9</td>
<td>NNW</td>
<td>4</td>
<td>0.6</td>
<td>23.2</td>
<td>SSW</td>
<td>19</td>
<td>0.8</td>
<td>closed @ 1pm</td>
</tr>
<tr>
<td>30/12/14</td>
<td>Tue</td>
<td>25.2</td>
<td>SW</td>
<td>6</td>
<td>0.6</td>
<td>23.3</td>
<td>SW</td>
<td>19</td>
<td>0.9</td>
<td>closed @ 2pm</td>
</tr>
<tr>
<td>31/12/14</td>
<td>Wed</td>
<td>21.0</td>
<td>S</td>
<td>10</td>
<td>0.6</td>
<td>22.4</td>
<td>SSW</td>
<td>24</td>
<td>0.9</td>
<td>closed</td>
</tr>
<tr>
<td>01/01/15</td>
<td>Thu</td>
<td>21.1</td>
<td>S</td>
<td>4</td>
<td>0.6</td>
<td>20.8</td>
<td>SSW</td>
<td>18</td>
<td>1</td>
<td>closed @ 1pm</td>
</tr>
<tr>
<td>02/01/15</td>
<td>Fri</td>
<td>20.0</td>
<td>S</td>
<td>15</td>
<td>0.5</td>
<td>21.7</td>
<td>SW</td>
<td>18</td>
<td>1</td>
<td>closed</td>
</tr>
<tr>
<td>03/01/15</td>
<td>Sat</td>
<td>20.1</td>
<td>SE</td>
<td>10</td>
<td>0.5</td>
<td>21.1</td>
<td>SSW</td>
<td>24</td>
<td>0.9</td>
<td>closed</td>
</tr>
<tr>
<td>04/01/15</td>
<td>Sun</td>
<td>23.2</td>
<td>SSE</td>
<td>6</td>
<td>0.5</td>
<td>23.5</td>
<td>SSW</td>
<td>16</td>
<td>0.9</td>
<td>closed @ 2pm</td>
</tr>
</tbody>
</table>
Phase 1 commenced on November, 28, 2014, and was initially planned to be in the length of 11 days until the December 7, 2014. Due to the frequent closures of the sandbar resulting from bad weather conditions where no data was collected out of ethical reasons (see section 3.6), the first research phase was extended to December, 10, 2014 to increase the number of research participants during this period. The second phase commenced on December, 26, 2014 and ended on January, 4, 2015. Although this period saw frequent closures of the sandbar as well, daily visitor numbers were very high and thus the research phase was not extended for this period.

Data collection was planned to be conducted on the island in the morning and on the mainland beach for afternoon hours to capture both directions of crossing. However, this plan proved to be unworkable for two reasons. Firstly, conducting interviews on the island was beneficial from a health and safety point of view because the land development conditions on the island beach allowed setting up a small portable sun shade, which could not be put in place on the mainland beach due to relatively strong westerly winds in the afternoon without a jetty structure for support. Moreover, rangers’ judgements whether to open or close the sandbar during the day was a matter of last-minute decision making based on a pre-cautionary principle, as weather forecasts did not provide enough accuracy to confidently predict conditions and subsequent likelihood of closure. The unpredictability of closures encouraged the researcher to interview visitors before the possible interruption of the research process. As a result of this, data was typically collected where the sandbar meets Penguin Island between 9.30am (after taking the first ferry to the island at 9am) until 3.30pm (before taking the last ferry back to the mainland at 4pm) or until the sandbar was closed. Even though it is acknowledged that the fact that most interviews were undertaken after visitors walked to the island represents a limitation of the scope of the data collected, a number of interviewees walked in conditions where the sandbar was just about to be closed and it is believed that these interviews still captured adverse conditions similar to those experienced when walking back to the mainland in typical afternoon hours during summer periods.
3.5 Analysis and interpretation

3.5.1 Quantitative data

The quantitative data was transferred from the online data storage application incorporated in the data collection toolkit (QuickTapSurvey) to SPSS 22 for Windows 64. The SPSS statistical analysis included descriptive statistics such as frequencies, cross tabulation and mean or mode responses. Furthermore, data was analysed by means of bivariate statistics (chi-square).

3.5.2 Qualitative data

After the interviews were transcribed, the text was printed and perused in conjunction with the original sound recordings and field note journal entries. As has been suggested by Cresswell (2013), working through all collected information by summarising each interview and sketching rough ideas onto the transcript papers enabled to obtain an overall sense of the data. As opposed to building new theory from raw case study data (Eisenhardt & Graebner, 2007), analysis and interpretation processes in this thesis used the Theory of Planned Behaviour as the overall framework to deductively induce structure to the interview content (MacFarlane & O’Reilly-de Brun, 2012). Whilst there is much critique on the use of theory to guide qualitative research and analysis, it has potential to add significant conceptual value to qualitative research findings (MacFarlane & O’Reilly-de Brun, 2012). Interview responses were reorganised on an excel spreadsheet into blocks of text conceptually aligning with the individual concepts of the theory used, including additional notes on interview demographics and whether any responses related to more than one conceptual element. Once the structure was developed, reoccurring themes were systematically investigated and codes were assigned in a circular interpretive effort. Codes were frequently reflected upon to ensure that the themes captured all aspects reported by visitors, choosing quotes from each section to capture typical visitor responses to present the results.
3.6 Ethical considerations

Researchers have the moral and social responsibility to protect the rights of participants involved in the study (Eriksson, 2008; Jennings, 2010). In this sense, research participants received a clear and honest explanation of the study characteristics and participants were informed that participation was voluntary with the option to withdraw at any point during data collection. All data was kept anonymously with survey and interview participants giving informed consent verbally and in writing, respectively. Although interview participants verbally agreed to the use of their first names to voice their comments, it was later decided to change names in this thesis to ensure anonymity and confidentiality. Names chosen were names typically found in the relative countries of origin.

Research about behaviour discouraged by land management on the grounds of being risky may be classified as non-compliant or 'socially undesirable' behaviour (Hayes, 2008). It was possible that interviewees felt hesitant to talk about behaviour that is officially discouraged; especially if they assume the interviewer to be related to the land managing agency. This situation would have likely resulted in what has been termed social desirability bias (Denzin, 1989) which refers to the potential that respondents attempt to present themselves in a way that may meet their expected demands of a situation. Special care was taken to approach interviewees in a sensitive and non-judgemental manner to reduce the chance of them becoming defensive. Moreover, a strong emphasis was placed to create a clear distinction between the land managing agency and the researcher. Several cues were used which consisted of Murdoch University clothing and sun hat, a Murdoch student card visible at the researcher's belt, as well as an open and friendly introduction of the researcher and the study as being conducted from Murdoch University. This strategy follows an advice given by Barriball and While (1994) in that "self-presentation of the interviewer (...) in terms of dress, etiquette and manner can largely overcome this potential for bias and go a long way towards putting the respondent at ease" (p. 331).

The managing authority at Penguin Island, WA, reserves the right to close the sandbar if certain temporary conditions (e.g. the weather) pose a significant risk to public safety. There are still
many people that choose to cross the sandbar even when it is closed, however under the CALM Act 1984 accessing the sandbar at times of closure is considered a land access offence and subject to infringement notices of about $500-$1000. Although it is currently not common practice by land managers to issue infringement notices to offenders, the behaviour to cross the sandbar in times of closure is considered to be illegal. Thus, research at the site related to this study was not conducted during periods of sandbar closure times due to ethical reasons.

Within the philosophical assumptions that underpin this research project, it is acknowledged that the researcher, by immersing within and actively talking to various players acting in the setting under investigation, was and is part of the claims advanced in the results of this thesis (Johnson & Duberley, 2000). The researcher operates effectively as a research instrument, and especially in the qualitative component of this thesis the process of results formation is fundamentally interpretive (Punch, 2005). For research to be valuable and trustworthy it was imperative to continuously reflect upon ethical principles throughout the entirety of the research conduct (Creswell, 2013). At least on the researcher’s conscious thought, any themes reported in this thesis purely emerged from the words of interview participants.

This research project was conducted in line with the National Statement on Ethical Conduct in Human Research and gained approval of the Murdoch University Ethics Committee (Approval 2014/198).
CHAPTER 4

Demographic Profile of Sandbar Users

4.1 Introduction

In order to answer the first research question, this chapter presents and discusses the quantitative results obtained from the empirical data collection at Penguin Island, WA. A profile of visitors crossing the sandbar is established, including demographics and visitation information, as well as the perceived familiarity with Western Australian marine environments and visitors’ estimate of their swimming ability in ocean waters. Results are drawn from 266 responses to the visitor survey, consisting of 93 responses in the first research phase (no lifeguards present) and 173 responses in the second (lifeguards present), with a total response rate of 96.4%. Of the ten visitors (3.6%) refusing to participate, six stated not to have time, four expressed a lack of interest, and one was unable to understand English. When available, survey results were compared against demographic data of visitors to Penguin Island obtained by the Department of Parks and Wildlife during the summer holiday season one year prior (Bye & Smith, 2014). Results were also tested for differences between the two research phases as well as visitors’ usual place of residence (Australia or overseas). Only statistically significant results are reported.

4.2 Visitor characteristics

4.2.1 Gender

The gender distribution of visitors to Penguin Island who crossed the sandbar was 62% males and 38% females. Although this is consistent with several other studies conducted in the context of water or land-based outdoor activities, commonly recording a male - female ratio of around 60:40 (Ewert, Gilbertson, Luo & Voight, 2013; Jeuring & Becken, 2013; Morgan, 2001; Pikora, Braham,
Hill & Mills, 2011; Rickard & Newman, 2014), the male predominance of people walking the sandbar stands in stark contrast to the profile of visitors to Penguin Island as a whole. Three visitor surveys conducted by the acting land managing agency since 2002 consistently showed female numbers to be much higher in relation to males' (between 66% - 73%) (Bye & Smith, 2014). Males tend to be more risk prone than females in nature-based tourism and recreation environments (McCool, Ameratunga, Moran & Robinson, 2009; Parkin & Morris, 2005; Williamson, Hatfield, Sherker, Brander & Hayen, 2012) and the findings of this survey are also consistent with previous research showing that males swimming in oceanic waters tend to remain longer in the water and venture further off shore than females do (Morgan, Ozanne-Smith & Triggs, 2009). It is reasonable to suggest that male visitors to Penguin Island are relatively more likely to walk the sandbar than females.

4.2.2 Age

The most common walker age group was 25-34 years (45%) followed by visitors aged between 18 and 24 years at 23% (see Figure 10). When comparing the figures to the findings of the Penguin Island Visitor Survey conducted by the department (Bye & Smith, 2014), a chi-square test shows a significant difference in age between people walking the sandbar and general visitor population ($\chi^2(5)=18.62$, $p=.002$). Whilst only 39% of all visitors to the island were between the age of 18 and 34, there were 68% of people walking the sandbar within this age range. Visitors who walk the sandbar tend to be younger than visitors to Penguin Island as a whole.

![Figure 10 - Visitor Age Groups](image)

39
4.2.3 Origin

The majority of visitors using the sandbar were Australian residents (73%) (Figure 11), which is relatively similar to the findings of the Penguin Island visitor survey (83%) (Bye & Smith, 2014). Among the visitors who crossed the sandbar, 15% came from Europe, 9% from Asian countries, 3% from USA or Canada, and 1% from other countries (New Zealand and Africa). European visitors were most often from Germany (34%), and Asian visitors originated most often from China (29%) or Taiwan (29%).

By means of categorisation of postcodes given by those residing in Australia, 21% can be considered locals, living not further away than ten kilometres from the site (see Figure 12). The largest proportion of Australians visiting the site may be classified as domestic day-trippers living within the Greater Perth Metropolitan Region (69%). 3% of Australians were from other Western Australia and 7% from any other Australian state.
4.2.4 Primary language spoken at home

The majority of respondents primarily speak English at home (64%) (see Figure 13). Other languages specified by visitors crossing the sandbar include twelve different European languages, with German being mentioned most frequently (8%), as well as nine Asian languages, most frequently Mandarin (8%).

![FIGURE 13 - PRIMARY LANGUAGE SPOKEN AT HOME](image)

Whilst these results show that many of those walking the sandbar are non-native English speakers, it should be noted that only one person of all participants approached was not able to understand enough English to participate in the study (see section 4.1). Most survey participants seemed to have relatively good English skills, and it can be assumed that the majority of visitors crossing the sandbar are able to read and understand warning signs in basic English language.

4.3 Visitation

4.3.1 Visitor group

Research participants were asked about their group size and how they would define their travel group as well as whether and how many children they had with them. The most common group size was 2 people. The average group size was 3.94 people, ranging from 1 to 24 with a standard deviation of 2.92.

Overall, most visitors walking the sandbar came with their family or partner (47%), followed by friends (30%) or both friends and family (18%), with only 5% of survey participants walking by
themselves. None of the participants recorded walking the sandbar as part of any organised tour group, such as school / university groups, any clubs or organisations, or a commercial tour group, indicating that the sandbar is solely used by independent visitors.

Chi-square tests, however, show that the relationships between the variables 'travel group' and 'research phase' as well as 'travel group children' and 'research phase' were significant, ($\chi^2(3)=21.83, p<.001$ and $\chi^2(1)=7.25, p=.007$, respectively). As can be seen in Figures 14 and 15, the types of group recorded differed between the two research phases, with relatively more visitors reporting to come in family related groups and relatively more people crossing the sandbar with children during the holiday period. Outside the holiday period, the most common visitation group was with friends (42%) and only 20% of visitors crossed the sandbar with children, of which there was only one child recorded under the age of four (<1%). During the holiday period, however, the most visitors reported crossing the sandbar with their family/partner (53%). 36% of all respondents said they’d crossed the sandbar with children, of which 21% crossed with children under the age of four.
The conditions prevailing quantitative data interpretation collected from a real-life context make it impossible to derive any definite conclusions on the causes of the differences found between the research phases, as confounding factors can influence differences in survey findings (Francis & Garing, 2011). It remains unclear at this stage if it is purely the timing of data collection, i.e. whether if it is school holiday season or not, which made it more likely for young children to be taken across the sandbar, or if the fact that Surf Life Savers were present during the holiday period resulted in respondents feeling saver and hence more likely to cross as a family with children.

4.3.2 Frequency of visit

Visitors crossing the sandbar were asked to estimate how often they visited Penguin Island. The majority of visitors walking the sandbar visited the island for the first time (59%), which is similar to findings of the visitor survey conducted by the department sampling all visitors to Penguin Island (61%) (Bye & Smith, 2014). 19% of the visitors walking the sandbar could be classified as more or less regular visitors, visiting the island more than once a year (see Figure 16).

![FIGURE 16 - FREQUENCY OF VISITATION](image)
4.3.3 Purpose of visit

Respondents were asked why they visited Penguin Island on the day, providing them with the option to select all that applied from a small sample of choices (see Figure 17). The main intention was to find out whether the experience of crossing the sandbar might be considered a visitor attraction in its own right.

The majority of respondents indicated that their choice for attending the site was to enjoy the natural environment (52%). This is consistent with other nature-based tourism and recreation studies which also found that being in and experiencing nature is one of the main decisive factors in relation to nature-based recreation and tourism activities (Ewert, Gilbertson, Luo & Voight, 2013; Morgan, Moore & Mansell, 2005). The second-most selected option, chosen by 45% of the respondents, was to visit the island in order to experience the sandbar crossing, followed by swimming/ snorkelling/ surfing, to see and/or learn about Penguins and social togetherness showing equal importance for survey respondents.

As has been suggested by Manning (2011), recreation and tourism activities serve multiple benefits for people, and it can be seen by the results in Figure 17 that visiting Penguin Island is related to more than just one single purpose as visitors tended to choose several reasons for the visit on that day. This is consistent with suggestions made in previous research (Bye & Smith,
2014) that to see Penguins may be decreasingly the only attracting factor for visitors overall, but that individuals visit the island to have a picnic and enjoy quality time with friends and family in a natural setting. The decision of many visitors to particularly include the experience of the sandbar crossing as a reason for visiting indicates that the sandbar itself might be considered a nature-based tourism attraction in its own right, also contributing to the popularity of the island. For many survey respondents the experience of walking the sandbar is more than just being a means to access the island for visitation.

Chi square tests were performed to test for any significant differences in visitation purpose between Australian residents and tourists, as well as between research phases. The only statistically significant differences appeared for seeing Penguins, which was more often chosen by overseas tourists ($\chi^2(1)=4.23, p=.040$) and swimming/snorkelling/surfing, which was mentioned by Australians more often ($\chi^2(1)=5.11, p=.024$).

4.4 Crossing competency measures and preparation

4.4.1 Swimming ability

In order to get an understanding of the physical capabilities of people walking across the sandbar, research participants were asked how they would rate their swimming abilities within an ocean environment on a scale from 1 to 5, where 1 means that the respondent cannot swim and 5 would mean excellent swimming abilities. Even though the exercise of walking the sandbar itself generally does not involve the necessity of swimming, the interaction of wind and wave action, currents in deeper channels, or the estimated 'line of sight' path being slightly different from the actual course of the sandbar (Mulligan, 2012) make it possible to be swept into deeper waters whilst wading across, and the ability to swim would then be imperative for survival.

The great majority of respondents said they can swim (89%), with 26% reporting an average swimming ability (selecting the midpoint of the scale), 32% claimed to be good swimmers
(selecting 4 on the scale), and 31% reported themselves as excellent swimmers (selecting 5). However, some individuals walking the sandbar considered themselves as having a low or no swimming ability, with 7% of the participants stating that they can only swim a little bit or that they would know how to hold oneself above water for a short while (selecting 2 on the scale), and 4% of respondents stating that they cannot swim at all (selecting 1).

A chi square test showed that overseas tourists were significantly more likely to report lower swimming abilities than visitors residing in Australia ($\chi^2(4)=13.35, p=.010$). As can be seen on Figure 18, there are 7% of Australian residents compared to 20% of overseas tourists considering themselves as having low or no swimming abilities (selecting 1 or 2 on the scale), and 68% Australians compared to 49% overseas tourists being good or excellent swimmers (selecting 4 or 5 on the scale respectively).

![Figure 18 - Swimming Ability According to Residence](image)

Survey participants reporting low swimming abilities tended to include additional justifications for their choice to walking despite their lack of skills, mentioning for example that others in the group can swim very well or that with so many people walking the sandbar there would be the option to request and receive assistance. This could indicate that respondents were generally aware that one should be able to swim when entering the water but that other situational factors influenced their decision to walk anyway. The fact that participants appeared to have the belief that they
should be able to swim when walking the sandbar may have resulted in them reporting greater swimming abilities than they actually have (Denzin, 1989). A great effort has been made to encourage respondents to answer in a way that objectively reflected their abilities, and with the survey questions being researcher administered allowed to probe participants’ answers to this question. This included using hypothetical situations as was suggested by Babbie (2007) by means of discussing their views about the distance between the mainland and the island and whether they consider themselves to be able to swim that far whilst dealing with potential currents or waves common in oceanic waters.

4.4.2 *Familiarity with WA marine environments*

Respondents were also asked how they would rate their familiarity with Western Australian marine environments, including their knowledge of and experience with rips, currents, tides, wild marine life, or related personal protection behaviour when exposed to the ocean. Respondents were again given the option to rate on a scale from 1 to 5, where 1 means that they are not familiar with the ocean environment, and 5 means that they would consider themselves experts about this environment in Western Australia. Overall, 18% considered themselves to have very high levels of experience and knowledge of Western Australian marine environments. Most respondents reported a good familiarity with Western Australian marine environments, with 24% choosing the midpoint and 24% choosing point 4 as being slightly above the midpoint of the scale. 19% of research participants noted being only somewhat familiar and 15% reported no familiarity with WA marine environments.

A chi square test showed that overseas tourists were significantly more likely to report lower levels of familiarity with the environment than Australian residents ($\chi^2(4)=28.62, \ p<.001$). For instance, visitors from overseas reported a relatively low familiarity with WA marine environments, with 82% of international visitors walking the sandbar reporting no, low or medium familiarity. This stands in contrast to 49% of visitors residing in Australia reporting these low levels of familiarity (see Figure 19). This is in line with previous research showing that beach safety knowledge is significantly
lower for international tourists than local Australians (Williamson, Hatfield, Sherker, Brander & Hayen, 2012). Findings put forward by the Australian Water Safety Council (2012) suggested that "tourists and recently arrived migrants are at greater risk of drowning due to lower levels of awareness and foundation aquatic skills" (p. 34). Similar concerns have been voiced by Wilks (2011) in relation to increasing tourist and migrant coastal drowning rates in Australia, linking this increase to their potential low beach hazard awareness in combination with the inability to cope with these hazards appropriately. It should be noted at this point, however, that whilst knowledge of and experience with rips, currents, tides, sea life, or related personal protection behaviour when exposed to the ocean was higher for residents of Australia than that of overseas tourists, on average, it this may still be considered a relatively low familiarity level overall.

4.4.3 Meteorological information

Visitors walking the sandbar were asked whether they had obtained any meteorological information before they crossed, such as looking at weather, wind and/or tides data. As the risk of experiencing danger when walking the sandbar strongly depends on the weather conditions in combination with winds and tide height (Shedrawi, Hyde & Friedman, 2014), obtaining information on the conditions prevailing at the site could improve their ability to assess potential difficulties.
Whilst the majority stated that they did not obtain any meteorological data before crossing (55%), 18% stated to have viewed one of the three measures, 9% viewed two of the measures, and 18% looked at all three before crossing the sandbar (see Figure 20). Taken together, weather data was most often looked at before crossing (34%), followed by tides data mentioned by 33% research participants, and wind data by 22%.

A chi square test showed that there was a significant difference in meteorological data obtained between international tourists and Australian residents ($\chi^2(1)=7.73$, $p=.005$). Whilst 69% of participants living in Australia did look at any meteorological data before crossing, only 31% of overseas tourists did.

### 4.4.4 Flotation device

Lastly, it was asked whether respondents took a flotation device with them, which could include a swimming ring, surf board, small rubber boat, or any other life preserving equipment. 82% of the research participants crossed the sandbar without any flotation device and 18% walk the sandbar carrying a flotation device with them.
Adults crossing the sandbar with children were more likely to cross with a floatation device compared to adults without children. 32% of adults crossing with children had a flotation device, compared to 11% of adults crossing without children (Figure 21). A chi-square test showed that the relationship between 'travel group children' and 'flotation device' was significant ($\chi^2(1)=16.06$, $p<.001$).

### 4.5 Summary of walker profile

The activity of crossing the sandbar is predominantly undertaken by young adults below the age of 35. Whilst Penguin Island visitation data suggests that there are more females than males visiting the island (Bye & Smith, 2014), males seem to be relatively more likely to choose walking the sandbar than females. The vast majority of walkers were residents of Australia, of which most may be considered day-trippers living within the Perth Metropolitan area. Overseas visitors were most often from Europe; however Asian visitors also walked the sandbar frequently. Visitors mostly walked the sandbar in groups, with more visitors crossing in family related groups during the summer holiday period compared to non-holiday periods where the most often visitor group were friends. For most respondents it was the first visit to the island, but there were also many who considered themselves as regular sandbar walkers. Research participants visited Penguin Island for several reasons, mentioning the enjoyment of the natural environment most often. However, to experience the sandbar crossing was also given frequently as being one of the main reasons to visit the island.

Differences were found between Australian visitors and overseas tourists in terms of their physical abilities and local knowledge. Overall, most visitors walking the sandbar evaluated themselves as being able to swim in ocean waters, however overseas visitors reported lower swimming
capabilities than Australian residents, on average. Overseas visitors also tended to be less familiar with WA ocean environments in relation to an understanding of rips, currents, tides, or wild animals in ocean waters, and were, on average, less likely to obtain meteorological information before deciding to cross the sandbar.

This chapter answered the first research question by establishing a profile of visitors crossing the sandbar, including demographics and visitation information, as well as their perceived familiarity with Western Australian marine environments and estimated swimming ability in ocean waters. The following chapter will complement quantitative results and will examine visitor motivation to cross the sandbar, using the Theory of Planned Behaviour as a qualitative framework to illustrate visitors’ decision making processes.
CHAPTER 5
Motivation of Behaviour

5.1 Introduction

In order to answer the second research question, this chapter explores visitors' motivation to cross the sandbar, incorporating situational factors which potentially influence decision making as well as individual evaluations of the level of risk of walking the sandbar in relation to their own and their visitation group's competencies. Results are drawn from semi-structured visitor interviews where the Theory of Planned Behaviour (Ajzen, 1985; 1991b; 2005; 2012) was used as a conceptual framework to formulate the interview questions as well as a guide for coding and analysis. A total of 26 people were interviewed onsite at the sandbar at Penguin Island, WA, of which twelve were female and fourteen were male. Ten identified themselves as overseas visitors (38%), coming from countries such as New Zealand, Germany, Italy, and England, as well as Taiwan, Bhutan and Singapore. Sixteen respondents were Australian residents, of whom five were born overseas. The age of respondents ranged from 18 to 53, with 19% (n=5) being between 18 and 24, 38% (n=10) between 25 and 34, 31% (n=8) between 35 and 44, and 12% (n=3) between 45 and 55 years of age. 42% (n=11) claimed to have walked the sandbar before, of which nearly all were visitors residing in Australia.

5.2 Attitude towards behaviour

The first component of the motivational construct is visitors’ attitude towards walking the sandbar. Attitudes tend to be evaluative in nature and describe an individual's tendency to respond favourably or unfavourably towards the behaviour in question (Ajzen, 2005). According to the Theory of Planned Behaviour, attitudes are thought to be formed spontaneously when individuals form beliefs about an expected outcome linked to performing the behaviour (Ajzen, 1991a;
In this sense, attitudes towards behaviour are formed by instrumental beliefs stemming from the perceived costs and benefits of engaging in the behaviour as well as affective beliefs relating to positive or negative feelings derived from the experience (Ajzen, 1991a). Attitudes were explored by asking participants why they chose to cross the sandbar on that day and what they believed to be the positives or negatives resulting from this behaviour.

**5.2.1 Positive outcomes**

The activity to walk the sandbar was outstandingly referred to being an ‘experience’ where visitors’ responses were blended with positive evaluations of the behaviour in relation to the benefits obtained and the positive feelings they had. Experiences are enjoyable, engaging and memorable events (Oh, Fiore & Jeoung, 2007) and positive outcomes identified stemming from the experience to walk the sandbar may be grouped as ‘avoiding the ferry’, ‘active living’, ‘nearer to nature’, ‘novelty’, ‘adventure’, and the ‘social circle’. Whilst these themes are presented as separate entities, it should be noted that they are intertwined and interconnected and were given by interview participants in diverse combinations.

**a) Avoiding the ferry**

Visitors frequently compared the outcomes of them walking the sandbar to anticipated outcomes if they had chosen the ferry instead. The ferry option, however, was related to being too expensive, too boring, or involving unpleasant waiting for the ferry to depart during busy periods. Whilst Dorji, a female visitor from Bhutan, expressed great frustration when failing to pre-book for the ferry...

"First we planned to go to the ferry, and yesterday the first trips were all booked when we first tried to book the ferry. The first one would have been the one at 2.30 [pm], something like that, yeah. (...) So we decided to come [and] we decided to cross the water."

Jan, a male visitor from Germany, was influenced by the price of the ferry …

"… first of all we wanted to check out the ferry rates, and we weren't completely sure whether it was possible to cross the water to get from the mainland to the Island. So we
just saw that a couple of other people were walking. We decided that $15 for the ferry was way too much and we would rather walk. And so we did."

The short ferry ride was a particular problem when visitors evaluated the ferry cost against the value they received in return. Nicole, a female visitor from Singapore, said "... I just don't think it is worth the money", and Alice, a female visitor from Taiwan, found that she and her friends had no choice but to walk the sandbar "... because of the expensive ferry ticket (...). We are backpackers, and we are students, so we don't earn money, so we need to walk here".

Although the topic that the ferry being too expensive was raised often, it was repeatedly waived straight after as not being the main reason for walking. Jack, a male visitor from Australia, for example noted that …

"... the cost has gone up immensely. I mean, the time I've been coming here the cost has just skyrocketed. I think it was like $3.50 when I first started to come over. But it's mainly the experience. I've got plenty of money, that's not a worry."

Amanda, a female Australian, similarly explained that …

"... for our family to come across would be well over $80. A lot of people can't afford that. We can afford it, we just chose not to pay $80 when it would be much more fun to walk across."

The ferry cost was a factor that was of benefit when avoided, however it appeared that the actual driver of the decision to walk the sandbar was rather affectively motivated. Taking the ferry tended to be too much of a passive pursuit to fit the anticipated active nature-based island experience. Nicole, a female visitor from Singapore, for example felt that the ferry option was reserved for "... some people that don't like to get their feet wet and would rather just sit on the boat", and Maria, a female visitor from Italy, believed that "... the ferry is boring if you can walk". Laura, a female Australian, felt the same way, saying she "... wouldn't use the ferry just to come here. It is a whole family day off, you know, getting out, doing exercise, and not sitting on the ferry". The experience of walking tended to be the preferable option for interviewees because it provided a more positive experience compared to the ferry, plus they perceived an extra benefit to this experience for free.
b) Active living and play

Choosing an active lifestyle, including enjoying physically active leisure pursuits outdoors, is increasingly valued for the benefits associated for good health (Henderson & Bialeschki, 2005) and to enhance one’s quality of life (Sato, Jordan & Funk, 2014). In this sense, walking the sandbar was the option allowing visitors to choose a more active way of accessing the island. Participants frequently expressed the desire to be actively involved in ‘mastering’ access to the island, deliberately choosing to walk the sandbar for reasons of health promotion and enjoyment of an active leisure pursuit. Paul, a male Australian, described the sandbar experience being part of an active family day out where the family had some exercise whilst having an enjoyable time together outdoors…

"[We visited Penguin Island today for] a good day out, instead of the kids going stir crazy. (...) it [walking the bar] is part of the adventure, that is part of the day out. It is the exercise and that, the outdoors. Crossing the sandbar is as much part of the experience as the island probably."

Sarah, a female visitor from Australia, regularly walks the sandbar after doing her morning run, explaining that "... it's just such a nice environment to be getting a bit of exercise and keeping fit in such a beautiful location", and Jodie, a female Australian with Asian background, articulated the health benefit of the activity to her friend during walking across...

"I keep telling [name of friend crossing with her] it would be a good exercise because water, by using water... you know, crossing inside the water you feel heavier, like every step is heavier, so it would be a good exercise."

Several interviewees referred to the choice of walking the sandbar as being part of an ongoing lifestyle practice and reinforced their self-image by choosing to walk. This is in line with previous research, linking the pursuit of nature-based recreational activities to identity formation in the sense of belonging to a group either in relation to a specific activity (Kane & Tucker, 2004) or reflecting an active outdoor lifestyle in general (Buckley, 2012; Ewert, Gilbertson & Luo, 2013; Vespestad & Lindberg, 2011). Maria, a female visitor from Italy, chose to walk the sandbar...

"Because it looks more fun... I don't know. We don't like tours in general, you know organised tours. We always try to do things by ourselves. (...) it is enjoyable, [a] good
experience; and exercise as well. You did it all by yourself, and not anyone is bringing you to the other side. Yes, it's more satisfaction doing things.”

Likewise, Nicole, a female visitor from Singapore, also referred to her decision to walking the sandbar to be part of her overall lifestyle choice. "We are generally quite outdoors people, so we rather like go swimming... like being in the activity rather than sitting on a boat". The choice to walk the sandbar was positive for interviewees as it not only provided direct health and fitness benefits associated with the workout of walking, it often also seemed to be in line with general identity representations of interviewees in relation to their 'usual' and active leisure choices.

c) Nearer to nature

Also linked to the perceived contrast of walking the sandbar compared to choosing the ferry was the perception of being in closer contact with the natural environment when choosing to walk. The beauty of the island and the sandbar was portrayed by interviewees as the perfect backdrop for their nature-based experience, praising the sunny weather and the calm and warm ocean water as invitations to really appreciate the natural environment offered at the island when walking across. Being able to walk so far into the ocean was connected to a mood state of pleasant arousal and relaxation for Mark, a male Australian living in Hong Kong, "... it's just a natural experience, you know, it is just nice me rendering across", and Daniel, a male visitor from Australia, described the walking beneficial in that...

"I actually, I quite like [walking the sandbar] because you also get to see sometimes a little bit of fish and (...) nice little shells or rock or something like that. I like all these things. You experience a bit more than when you are walking across, too, then being on the ferry. The ferry, you know, takes 5 minutes and you're across, and you are waiting for an hour in the sand when there is nothing really to look at. But when you are going through there if it takes you about 15 minutes to walk across, at least you are experiencing a bit, too, which is quite nice."

The enjoyment of the natural environment is one of the most important reasons why people visit Western Australian managed park systems (Smith, Tuffin, Taplin, Moore & Tonge, 2014). With Penguin Island being promoted as a nature-based attraction within an A-class nature reserve (Department of Conservation, 2007) it is reasonable to expect that visitors value the encounter
with beautiful natural features and wildlife when visiting the attraction. In this sense, the benefit for
visitors to experience nature may seem self-evident, however walking the sandbar was perceived
as an opportunity to be even closer to and fully immerse within the natural experience, that is,
becoming physically part of the experience (Oh, Fiore & Jeoung, 2007), when compared to
choosing the ferry to access the attraction.

The natural experience to walk the sandbar was also connected with the perception that walking
provided an opportunity to see animals within the natural habitat. Anthony, a male visitor from
England, for example said "I enjoy the sea, so it is nice to enjoy your time, take your time... And
there was a seal crossing as well, so it was really cool to see the wildlife". Being in close contact
to wildlife invokes a sense of wonderment (Curtin, 2009) and visitors set out to explore the ocean
when walking the bar where "... you get to see everything, you know, stingrays or something,
fishes swimming by, crabs" (Sean, Australia). Daniel, a male visitor from Australia, extended this
with a note of serendipity that walking the sandbar "... is a good experience really to see
everything inside the water. You never know what you might come across".

**d) Novelty**

The notion of novelty and specialness of the experience of walking the sandbar was a further
aspect that was frequently mentioned as a positive outcome. Lee and Crompton (1992) define
novelty as the degree of contrast perceived when comparing the normal to the unusual. As
pleasure travel experiences unfold, the novelty aspect incorporates elements of excitement and
surprise, a change from routine, and the alleviation of boredom when searching for more varied
stimulation to counter the familiarities of the usual life (Lee & Crompton, 1992). Within tourism
literature, novelty and curiosity are major factors driving tourist behaviour (Cheng & Lu, 2013; Kim
& Brent Ritchie, 2014; Mehmetoglu & Norman, 2013; Pearce, 1988), and it is not surprising that
especially overseas visitors expressed novelty as positive outcome during the interviews. Nicole, a
female visitor from Singapore, mentioned that the sandbar experience "... makes the Penguin
Island experience more complete. You know, the rest of the Island is just board walks or on the
beach, so the sandbar is something unusual I guess". Dorji, a female visitor from Bhutan,
compared the setting to her home in Asian mountain regions "... actually, in my country we have all mountains, we have no oceans, nothing", and Annika, a female visitor from Germany, analysed the novelty factor of walking the sandbar in comparison to outdoor leisure opportunities available in Europe...

"I think, especially for German people, or for foreign people, it's an experience, because I don't think that you can do this in Europe somewhere. (...) I've never heard that before that you can walk to an island, because it's so close, I've never heard that this is possible anywhere. Yeah, and I think it is a good experience, especially if you don't know this kind of nature, and if don't know the ocean. For an Australian it is not that special, but I think for visitors it is very exciting."

The element of excitement brought about by the unusual activity means that novelty extends beyond experiencing something 'new'. Unfamiliarity is an emotional challenge which is often used as the base for nature-based therapies because it takes people out of their comfort zones (Peel & Richards, 2005). Novelty in this sense is tied to the adventurous aspect of not being familiar with the activity; however the negative connotation of risk being defined as the uncertainty of an outcome (Imboden, 2012) was presented by many interview participants as the benefit to provide excitement when walking across the sandbar.

**e) Adventure**

The excitement described as part of the novelty benefit translates into visitors crossing the sandbar to have an adventure at the site. Adventure in a tourism and recreation context may be defined as an exciting or remarkable recreational activity within a natural environment that contains some element of risk and potential danger (Ewert, Gilbertson, Luo & Voight, 2013; Ewert & Hollenhorst, 1989). Walking the sandbar has been classified as a risky activity and the managing agency strongly recommends against its practice (Department of Environment and Conservation, 2007). Jodie, a female Australian of Asian background, however mentioned that for her it was the existence of risk which provided a positive sense of arousal when walking the sandbar "... you don't often get to walk across the sea, do you? This is amazing, I mean, we know the risks, the dangers we are facing, but the experience is really precious".
Similarly Paul, a male Australian, expressed this feeling when he was asked about the positives of the sandbar...

"Probably the risk factor… but I know there is nothing wrong if prepared for, but there is always the, whenever you go into an ocean there is always the thought of sharks for people and that sort of thing. So that adds a bit of excitement".

Adventure is a highly subjective concept as the perception of adventure depends not only on the actual activity but also on the participants’ personality and level of experience (Pomfret & Bramwell, 2014). With this in mind, it is interesting that references to the encounter of risk and adventure resulting from walking the sandbar were frequently described in combination linguistic expressions indicating low levels of danger. Jan for example, a male visitor from Germany, noted that "… when I tell people about [my travels in] Perth I will definitely add this little adventure to my stories", and Paul, a male Australian, referred to the walk across the sandbar being "... an exciting little journey". In this sense, adventure in relation to the experience of crossing the sandbar did not seem to be viewed from the perspective of providing a seriously dangerous challenge, but rather being an exciting activity at the lower end of the risk spectrum to be enjoyed. This belief might also be also evidenced by the fact that Amanda, a female Australian, found that the sandbar was a perfect setting to provide a manageable adventure for her children...

"It was easy, it was an easy walk and it was shallow. And it just felt like we were taking the kids on an adventure. They thought it was fantastic; fun and they frolicked all the way here, and they had a ball. It was fun, yeah."

Jack, a male visitor from Australia, also evaluated the crossing as suitable for his children, referring to the need for activities with low but existing risk levels to allow them to learn and become stronger by choosing to walk the sandbar...

"... it's just the experience, and it's a challenge for the kids, you know. Especially.. a lot of kids nowadays are 'cottonwooled', you know, they have got life's easy for them. Whereas this is the stuff [we used to do] as a kid. (…) It's cool to know your limits but you have to stretch a little to find those limits. (…) If you stop a kid from falling over he is never going to learn to not fall over. You've got to learn."

This is consistent with previous research showing that people think that overcoming risks can be a meaningful way of learning which subsequently enhances one’s life experience (Lupton & Tulloch,
Overcoming challenges in a natural environment can build inner confidence and mental strength especially in children (Davidson, 2001). It appears that the level of risk and adventure of walking the sandbar was perceived just right to suit individuals of the lower competency scales to offer a challenging experience most people identified as manageable and fun.

**f) Social Circle**

When visitors crossed the sandbar, they usually did so in groups with their partners, family, or friends. The choice of leisure style and activity is a social one (Burch, 2009), and to experience the sandbar crossing with friends and relatives emerged as an important benefit acting as a motivating factor for interviewees to walk the sandbar. Active outdoor recreation as a family is linked to numerous positive family outcomes (Lee, 2006), as is establishing and maintaining friendships by spending active leisure time together (Ewert, Gilbertson, Luo & Voight, 2013; Kyle & Chick, 2004; Schuster, Hammitt & Moore, 2003). Nathan, a male Australian, visited the Island with the intention to include the sandbar to "... show my son around [and] have a bit of fun in the sun ...". Jiang, a female visitor from Taiwan, thought "... it would be a lot of fun, because we are friends together, you know...", and Stacey, a female Australian, summarised the benefits of walking the sandbar in "... just a little bit of exercise, getting to see a different part of getting to an Island, yeah... hang out with friends and take lots of photos... yeah, it is fun!". Outdoor recreation activities enable families to facilitate family functioning "through increased quality time, socialisation and mutual problem solving" (Hassell, 2012, p. 47), which was the case for Lee, an Australian with Asian background, as he described his crossing the sandbar with his foreign relatives where he valued the opportunity to master their adventurous challenge as a family...

"I take my parents and my son come here to have a visit. (...) I think it is really funny for parents and children to cross the sandbar. My son can swim across the sandbar and my parents can walk together and can help each other."

Interviewees claimed to visit Penguin Island as part of a social day out to enjoy the beautiful scenery, learn about animals and showing others of the group that haven't been at the Island before. For Australians, especially those with foreign backgrounds, the sandbar offered an
opportunity to show other visitors the specialness and beauty of their home. For example, Jack, a visitor from Australia, said that "... I've done it so many times, and I wanted to do it for the experience with those guys [visiting in-laws from Singapore] as well ", and Jodie, a female Australian of Asian background, came with her overseas friend who had never walked the sandbar before.

"[I came] because of him. I have been here before, so I just want to show him, you know, that there is a sandbar and you can walk across the sea. So it is fantastic. I think it will be a good experience for him, because I did enjoy it last time when we were here."

In sum, walking the sandbar was seen as a valuable experience providing multiple benefits as it allowed participants to be active and adventurous when avoiding the ferry and to fully appreciate the novel nature-based activity mostly shared with others.

5.2.2 Negative outcomes

a) Risks recognised...

The formation of an attitude towards a behaviour also comprises negative outcomes perceived to result from the behaviour. Interview participants listed several adverse outcomes when asked about what they believed to be the negatives of walking the sandbar, which predominantly related to the possibility of experiencing difficulties in adverse weather and water conditions, the hidden presence of strong currents flowing across deeper parts of the sandbar, or the potential of an encounter with dangerous wildlife. For example, Annika, a female visitor from Germany, recognised the dangers of quickly changing conditions when asked about the negatives of the sandbar crossing "If it's really windy... Because when you start you think it's possible because there is no wind, and then in the middle the wind gets stronger and then the waves are bigger". Jiang, a female visitor from Taiwan, indicated an awareness of the impact of the weather and water conditions on her safety "... when the water or the wind is strong, maybe we could fall down [the sandbar edges] here", and Mark, a male Australian living in Hong Kong, noted that "... anything could happen at any time. Sharks or other animals could turn up here". Some participants also mentioned the risk of a boat colliding with them on their way across the sea or
the risk of getting their belongings (e.g. backpacks, mobile electronic advices) wet. Further notions of potential negative outcomes were approaching feelings of fear of the unknown for some visitors. Alice, a female visitor from Taiwan, referred to a negative outcome as in worrying not being able to return to the mainland after visiting the island as they did not consider the ferry as an affordable option for them...

"It was difficult for us because of the deep water. (...) It is so far. We always think how we [return] later, it is so far for us. It is all in my mind. (...) when we walked and there were three quarters [of the distance] left, we were always saying how much length [sic] is left".

Maja, an Australian visitor with Dutch background, was frightened as she thought she experienced an encounter with a shark...

"Well, sharks would probably be the major [negative]. And if there would be a strong rip. Yeah, and a stingray would not be nice (...). She [Maja's friend] was going, um, there was a shark or something. And then we saw a big shape in the water, and we were like, aah, what's that? But it was only seaweed."

In summary, while visitors did not have problems in listing the major risk factors, not all participants agreed on the applicability of these risks for themselves. As will be shown in the following section, responses to the question of unfavourable outcomes outstandingly referred to potential negatives only, i.e. the risk of something negative happening and not to the actual experience of any negative outcome as such.

**b) ...but not applicable to me?**

The reader should be reminded at this stage that the decision making processes in risky situations requires an individual to evaluate and assign values to potential outcomes (Lalasz, 2013). In this sense, the perception of risk as a negative outcome not only refers to the recognition of possible negative future events, it also incorporates elements of the perceived likelihood of each possible event happening for it to affect behavioural responses (Parking & Morris, 2005). The decision to walk the sandbar on the day is therefore based on a more positive attitude formed towards the behaviour because expected negative outcomes did not convince the actor not to perform the behaviour (Ajzen, 2005). Whilst nearly all visitors were able to name a variety of potential risks,
visitors did not perceive them specifically likely to eventuate at the time interviewed. Comments like Jack’s were typical during interviews especially from Australian or male interviewees. As Jack thought about his crossing experience with his relatives, he mentioned that one group member was in fact quite scared about sharks, but he as the group leader did not perceive sharks to be a very likely threat...

"She was actually quite scared (...) because all the talks of sharks in Western Australia. (...) I think most people are scared of sharks. But in all my times fishing I have never seen a great white. (...) From what I’ve heard you are more likely to get stampeded by a cow than being bitten by a shark..."

He further mentioned the possibility of drowning, but rejected this threat as very unlikely as result of his own experience at the site...

"Oh, well, there is the possibility of drowning. I’ve never seen, in all my crossing time, I’ve never seen anyone having any dramas. And usually if the weather is crap I won’t go fishing anyway. I mean, I’ve heard about the possibility of drowning. But that’s, I suppose, that’s probably it. But, as confident as I am and the blokes I usually go with, there is never usually a drama."

Weather, wind and tide conditions were not perceived to be dangerous during the course of the active data collection period, however it is worth noting that the actual conditions on which interviews took place ranged from being windless combined with a low tide, up to conditions where the sandbar was about to be closed due to adverse weather conditions. The beauty and popularity of the place seemed to lure some visitors into a sense of safety, and Nicole, a female visitor from Singapore, confirmed that she wouldn’t have seen any dangers arising from walking the sandbar if she wouldn’t have been warned by other people before...

"I guess some people who don’t know that they have to prepare for it; they just take it for granted and think it’s like a bridge or something. I had the benefit of having friends tell me about it. (...) I think if we came here on this day without prior knowledge, looking at it, we wouldn’t have thought that it would be dangerous, because it is really quite low."

In strong relation to people’s listing of potential negatives only, there emerged a trend that participants talked about risks as being applicable to others but not themselves. It is well established in psychology that people tend to underestimate the possibility of them experiencing negative events when they compare themselves to others (McKenna, 1993; Larsen & Brun, 2011),
which was mirrored in Jan's remark, a male visitor from Germany, as he was asked about possible negatives of the behaviour to cross...

"The downsides to it, uhm, today it was just perfect, as I just said, I wasn't scared at all. But I can imagine that for people who are not fit or who are not able to walk properly anymore like elderly people (...) it might be a bit dangerous".

Similarly, Anthony, a male visitor from England, said that "I don't have any negatives. There could be negatives for other people", and Daniel, a male visitor from Australia, referred to negatives being dependent on the person involved in the sandbar crossing behaviour...

"I don't know [of any negatives], nothing today. But when it is bad weather, it's a bit negative around then. You know you get pushed away pretty quick. It depends on who is crossing, tourists who can't swim, or maybe like younger people, or older people... Yeah, they start freaking out once they're past their waist, then it is not really an ideal thing for them really."

Sarah, a female visitor from Australia, also made it clear that there is a difference in negatives that might result depending on who is crossing...

"I guess because we do it all the time and we live here, you know what you're doing. But I can understand them closing the sandbar sometimes because there have been a couple of incidents. But it's probably inexperienced people that end up getting in trouble, because you're just not aware of what can go wrong."

To summarise, participants were generally aware of potential negatives that could result from walking the sandbar, predominantly relating to the possibility of contact with dangerous marine life or the risk of drowning stemming from dangerous conditions in adverse weather. However, negative outcomes listed were largely described as being applicable only to other people at another time. As Parkin and Morris (2005) put it, "the link between [risk] awareness and behaviour is still imperfect" (p. 11) because whenever feelings toward an activity are favourable, benefits predominate and related risks are perceived to be low (Slovic, Finucane, Peters & MacGregor, 2010).
5.3 Subjective norm

The second component of the motivational construct of walking the sandbar is that of subjective norms (Ajzen, 2005). Subjective norms relate to both, ‘what is commonly approved’ (injunctive norms) and ‘what is commonly done’ (descriptive norms), as well as the extent individuals felt obliged to follow perceived social norms (Cialdini, Kallgren & Reno, 1991; Fishbein & Ajzen, 2011; Manning, 2009; Rivis & Sheeran, 2003). Because social contexts greatly influence people’s actions (Carter, 2011), visitors walking the sandbar were asked about who they perceived would approve or disapprove them walking to investigate injunctive norms as well as what they considered before crossing to explore whether descriptive norms influenced their behaviour.

a) Recommended by others

Normative influences were strong, especially for first-time visitors who almost exclusively justified their decision to walk across with reference to the action of others. Social influences here related to the direct influence of inner group dynamics when walking together, as was the case for Stacey for example, a female Australian, as she crossed the sandbar with her friends who had done it before, or indirect influences in terms of advice received from important others prior to crossing. Dorji, a female visitor from Bhutan, related to the advice given by her group of friends...

"Yesterday our group of friends they came here and they said it was really good. They walked the water for half an hour and it was very interesting. (...) They said it is very safe. It is very safe, nothing risky. They didn't tell us about any risk, no they didn't tell us anything. They said it is very safe."

Similarly, Annika, a female visitor from Germany, considered crossing the sandbar the day before visiting Penguin Island after hearing about it from a friend, but made the actual decision on site as she spoke with two women at the beach who had just walked the sandbar. Annika said...

"... we planned yesterday, but I wasn't too convinced until an hour ago. (...) we met two other women who told us it's very easy, so we decided to walk. (...) they just did it before so I trusted them."

Moreover, the internet has greatly empowered people to access peer-generated information and
evaluation about tourism products from individuals across the globe (Reza Jalilvand & Samiei, 2012). Alice for example, a female visitor from Taiwan, reported an online search about the island prior to visiting and found a Taiwanese blog site where lots of people recommended walking... 

"Somebody in Taiwan just walked cross here, maybe there are at least hundred, I don't know, [and they were] writing a blog in the internet (...) the text shows ah it is ok to walk, but we should be very cautious and it is dangerous, so we need to pay attention to [sic] the depth of water. That makes us think we are ok. (...) many people write the blog and take picture and say it's ok."

Consistent with previous findings from a recent Penguin Island visitor survey in which the majority of visitors first found out about the island by word of mouth (Bye & Smith, 2014), first-time visitors walking the sandbar heard about the option to walk to the island from friends or relatives before they came to visit. Word of mouth messages from important others are perceived to be a highly credible information source (Harris, 2014), however, information and recommendations offered by others in relation to the sandbar crossing were only subjective assessments based on their own understanding of possible risks and benefits. Walking the sandbar was an action visitors often knew about and considered before they arrived at the site with an idea of possible risks and benefits already planted in their head.

b) Seeing others

'Seeing is doing', was suggested by Harakeh and Vollebergh (2012) after finding evidence that adolescences tend to imitate the behaviour of others. People are more likely to engage in risky behaviour if they see others doing so, too (Zhou & Horrey, 2010), and visitors to Penguin Island repeatedly reported basing their decision to walk the sandbar on the fact that they had seen others crossing as well. Oliver, a male visitor from Mauritius, referred to the influencing factor of seeing other walking as he said "we just came here and looked [sic] at how many people are walking. We just follow if lots are there". Similarly, William, a male visitor from New Zealand, mentioned seeing others already walking "... you think about how many people are doing it and the rest fed from that. It is obviously a very popular place".
Seeing others triggered individuals to compare their own capabilities with those already crossing, as did Jan, a male visitor from Germany, as he compared his abilities with those who appeared to have, as he believed, lower abilities than himself...

"... the fact that some people were already in the water made me believe that I can easily do it as well. I saw, like, fifty, sixty year old people crossing, so I was like, yeah, I am twenty-five, I should be able to do it as well."

Dorji, a female visitor from Bhutan, saw a child crossing with its parents, so she explained that...

"What really encouraged me was that, when I was sitting there, when I was about to cross the water, I saw (...) a family, mom, dad, and a little kid. And they made the little kid to cross the water. And the water came right to the kid's here [neck], and the kid was not scared or he was not screaming. He was quite enjoying [it] so that really encouraged me."

This particular case was interesting, as Dorji later reported she cannot swim. The fact that she saw a child on the sandbar led her to believe that it cannot be a dangerous thing to do for her, too. As the interview went on, she was asked if she read any warning signs, but she once again referred to the importance of others walking the bar, so that she did not read it... “Yeah, actually, I should have read that. But I have never... it just didn't pop in my head. I just saw so many people here and I thought it's safe”. In this sense, seeing others on the sandbar appeared to override any other decision making factors for her. Similarly, Chen, a female visitor from Taiwan, responded to the question whether she saw risk signs on the beach with...

"Yes. I saw the sign there. (...) It can be an important sign, we can see that. (...) We just saw some people who walked across to here so we followed them. (...) If in Taiwan, maybe have one person crossing, and the others will follow. Because no one will say it's danger. If we see some people are there, also we can. Not danger, because have someone."

Descriptive norms being the perceptions of what others do have a powerful effect on behaviour (Nolan, Schultz, Cialdini, Goldstein & Griskevicius, 2008) and it was clear that the direct personal experience of seeing others walking the sandbar had a strong influence on the decision to walk for many interview participants.
c) Who approves?

A re-occurring phenomenon was that interview participants' initial reactions to questions about whether they perceived that others would approve or disapprove them walking the sandbar were perplexed looks and a sense of indignation. Laura, a female Australian visitor, for example responded with "God? What else could it be?" on the question on who would approve her walking the sandbar, and Colin, a male Australian with South African background, "... didn't think they would be anywhere out there watching you". The pursuit of recreational activities, as being opposed to work and duty, tends to be associated with a sense of freedom and choice (Manning, 2011; Torkildson, 2005). Recent evidence from New Zealand suggests that people believe they have (and demand to have) free access to national parks; especially domestic visitors (Hayes, 2008). This behaviour is based on a deeply rooted cultural connection to public lands and ongoing perception regarding rights of access in relation to tourism and recreation activities (Hughes, Tye & Jones, 2013; Williams, 2001). Likewise, it was commonly understood that walking the sandbar was optional and matter of free choice without the need of 'approval' of others to do so, which was emphasised by William for example, a visitor from New Zealand... "Who would approve me going over? Myself. I had a choice to go on a boat or walking across, and I chose the walking" (see also section 5.4.2).

Unlike other 'problem' behaviour actively discouraged by land managers in national parks, such as littering, anti-social behaviour, or the disturbance of flora and fauna (Buckley & King, 2003; Ward & Roggenbuck, 2003), walking the sandbar was not perceived by participants as a socially or morally undesirable activity, but rather being disapproved by institutions for reasons outside of social norms. Nicole, a female visitor from Singapore said...

"... not the Surf Life Savers for sure, it makes their life difficult. Mainly friends I guess, and myself [approve]. (...) I don't see the ferry operators being happy about it because there is $15 less, right? (...) [and] the people in charge of this (...) because it makes them look bad when people die here. You don't want that associated with your name, or with your business, or whatever."

In fact, whenever interviewees talked about someone disapproving them walking, it carried a rather reproaching connotation. Sean, a male visitor from Australia, wasn't happy about anyone
potentially disapproving and said… "Who approve... Not these group [ferry operators], I tell you now. They would rather have the money. The locals and that would approve I think". He goes on further when also directly asked about who he thinks would disapprove him walking... "Them [the ferry operators], and the shire. The shire approve nothing nowadays, they are the ones blocking everything up because there are too many people who wreck things and trample". It appeared as though participants did not have an overly strong intention to comply with wishes of potentially disapproving parties because any disapproval was seen as an attempt to increase revenues for the ferry operator or a limitation to one’s freedom to access natural resources. Paul, a male visitor from Australia, further emphasised that...

"I wouldn't allow somebody to approve me. I will have control over it. I would not listen to anybody, if I want to go and I think it is safe, I would go. (…) I think it's ok if they come and warned me, that would be fine. A strong suggestion, yes, but definitely not commandment. I think the law's gone crazy with big brother trying to control, you know."

In sum, questions relating to social norms show that most participants listened to recommendations of others and followed what others do at the site. These findings are in line with recent research showing that off-trail venturing in national parks is also a normative driven behaviour motivated by friends and other visitors (Goh, 2015). It should be noted, however, that interview participants were less agreeable to questions on social norms when directly asked about injunctive influences in the sense of what ought to be done at the site, especially when managerial institutions entered the conversation. Individuals greatly valued their freedom of choice to walk irrespective of what others think; to comply with potential disapprovals of institutional stakeholders (i.e. the department, the council, the Surf Life Savers, and the ferry operator and visitor centre) was not interpreted by visitors as supporting a desired social norm.
5.4 Perceived behavioural control

According to the Theory of Planned Behaviour, behavioural decisions also depend on the perceived behavioural control, which includes the availability of the opportunity, skills and resources to conduct a behaviour (Ajzen, 1991b; 2005). Participants’ beliefs about their ability and control were explored through a variety of interview questions on how well they felt prepared for crossing, on what basis they think visitors should be allowed to cross, and which enabling factors they considered themselves before crossing. Also included in the control section are opinions expressed relating to the risk management of the sandbar.

5.4.1 Ability

a) Swimming ability

The most important skill required to be able to walk the sandbar and described by the majority of interview participants was their ability to swim. For example Stacey, a female Australian, said that the most important factor for her to feel safe enough to cross is “My swimming, yes, definitely my swimming. If there would have been anything wrong I would be able to just… it is not very far”. Sarah, a female visitor from Australia, also considered her swimming ability of great advantage when crossing the sandbar...

“… my husband and I come down sometime and do it and he'll swim it, because he is a swimmer, and I just walk it. But I can swim, too. So we are both capable of swimming it even if it out of your depth, so that's why we do it because we stay fit and we know we can swim that distance.”

Whilst the swimming ability was especially emphasised by interviewees from Australia, some tourists also referred to their own swimming ability as an enabling factor, as did Colin for example, a male Australian with South African background, as he explained that...

“The only reason why I wasn't put off by these signs is because I considered myself a strong swimmer. I surf and everything as well, so I know the Sea quite well. So, I kind of see that these conditions are not dangerous for me.”
Swimming ability was often mentioned as individuals judged themselves as possessing adequate levels fitness and swimming experience, but also as the most important condition to be ‘allowed’ to enter oceanic waters in general. Laura for example, a female Australian visitor, referred to the fact that swimming ability is a must because the activity of walking the sandbar involves entering a water body “... if you can’t swim, you shouldn’t cross it, you are entering water”, and Nathan, a male Australian who came with his son (9 years old) also said that swimming ability should be the primary condition to proceed walking...

“I am a very good swimmer; he is a pretty good swimmer. I imagine that there would be a bit of a tide through here sometimes. Anyone who is probably not a very good swimmer shouldn’t be walking across.”

It should be noted at this point that ‘swimming ability’ is a rather subjective concept and relies on participants’ own evaluation of their swimming skills (Morgan, Ozanne-Smith & Triggs, 2009). What is a good swimming capability for some may not be as good in the eyes of others. Comments by Maja, an Australian visitor with Dutch background, may serve as a case to illustrate this point. She referred to the ability to swim as a necessary precondition to walk in saying that “… people from overseas who can’t swim, you know, they shouldn’t cross. They are the ones who’d been dying…”, albeit she admits as the interview went further that she isn’t a confident swimmer herself. “No, to be honest, I am definitely not a good swimmer. I can swim, I can keep my head above water, but I am not a strong swimmer.”

Visitors walking the sandbar tended to compare their own abilities with what they thought others walking the sandbar would have. However, instead of comparing themselves with those having strong swimming skills, good enough to swim the full distance in oceanic waters, participants tended to set minimum required swimming ability parameters relatively low, repeatedly referring to inexperienced others walking as well who cannot swim at all. Colin, a male Australian with South African background, noted that...

“I looked it up online, I saw people had lost their lives. But in all those stories it is people that couldn’t swim at all, you know. I myself don’t consider it to be risky, to be quite honest. People should know their own limitations.”
Media reports of the incident in 2010, where two individuals reportedly drowned because they had limited swimming ability (Campbell, 2013) appeared to influence the perception of research participants’ own capabilities in that they set their own swimming abilities against a very low standard of reference. Even though interviewees were mostly familiar with the fact that two people had drowned in an attempt to walk the sandbar, these deaths did not serve as a deterring factor because all visitors, even those with low swimming abilities, evaluated themselves above the benchmark to be able to ‘keep the head above water’.

b) Local knowledge and experience

The second theme that emerged from analysing interview responses was the level of experience some visitors had in dealing with ocean environments in general and the sandbar in particular. This aspect was especially important for local Australians, repeatedly visiting for fishing or (wind-)surfing purposes, or had been living near the ocean environment for their whole lives. Jack (Australia) for example said “… it was a no-brainer to me; I’ve done it so many times”. Likewise, Tom, a male Australian visitor, referred to his lifelong experience at the site…

“We do it all the time. No matter what's the weather, we come across. (...) We have the tide chart on the fridge, but it doesn't really matter. I windsurf here, so when it's blowing 25 knots I windsurf here and stop at the sandbar for a rest. So I am very used to the tides going backwards and forwards. And it's never... even in storms I've had no problem.”

Paul, a male Australian visitor, also referenced his extensive knowledge of marine environments as he compared his own ability to handle potential risks to those of tourists.…

“Because to put theory into practice is not always an easy thing for people that don't... You know, I've grown up around the water, and so find this one simple. But you forget somebody who's never dealt with a moon and the tide, you know, it just doesn't mean anything to them.”

Similarly, Sean, a male visitor from Australia, felt that the lack of knowledge about potential risk factors relating to the local environmental reduced inexperienced tourists’ capacity to walk the sandbar. It was important to him to pass on the local knowledge to his children as they went across together.
“Maybe the tourists and that, get a bit of information for them, where to go and all that. (...) So if you don't know the area and wander over here it can be pretty dangerous. (...) They [his two children] can swim, they are 6 and 7. They have been in swimming classes and all that. Yeah, before we came over the sandbar we gave them all the information, the knowledge”.

Overseas visitors and many first-time walkers agreed that they tend to lack important knowledge about the area, and although the majority accepted responsibility for their decision to walk, some requested better access to relevant information. Lee for example, an Australian with Asian background, wished for management to include clearer instructions so that tourists visiting the attraction could better understand the conditions as they change during the day.

“When I went to Sydney, I went to some Bay in Sydney where they put some sign there saying you can swim; it's five degree, one to five… [Researcher asks if this was like a sign showing different levels of risk.] Yes, level of risk, so if it's put at five, it's really dangerous, but if it's three, ok, you can try it. So I think this one can be judged by the guest. (...) When I decided to cross the sandbar, I was very worried about it. If there are not people across it, I would give up. So if you can put some sign to the people about the danger I think it's ok.”

Likewise, Annika, a female visitor from Germany, suggests…

“Maybe they need to put up a sign or something, or like a display, which says if it is really windy or not. Like someone checks the wind, or I don't know what you have to check, but just check what is necessary to do so, so you can see if it impossible to cross at a certain point in time.”

c) Current conditions

The ‘current’ weather and water conditions served as a third enabling factor for visitors, as many research participants made very clear that they do not consider the walk to be dangerous at the time of interview. Such judgements were justified on three grounds, namely the visual appearance of the sandbar setting and conditions, the general belief that the sandbar is at a relatively safe beach compared to other beaches, and the deliberate choice of a specific time for crossing resulting from knowledge about changing conditions. Visual evaluation was mostly based on the beautiful weather conditions combined with relatively low tide levels. Lee, an Australian with Asian background, visually assessed the crossing… “I think it’s safe because I can see it’s not deep and
there are no sharks and no other animals. So it’s safe”. Similarly, Oliver, a male visitor from Mauritius, said “I feel safe because the water was low, like, it’s a walking, it’s not deep”. Amanda, a female Australian visitor, believed that the area is generally relatively safe to visit as a family…

“We did not feel unsafe at all. I mean, we wouldn't have come across with the five kids if... (...) seriously, it is not a treacherous... usually ... it's not a treacherous area of the coast. It is quite a calm area. It is a great swimming beach for the kids.”

Mark, a male Australian living in Hong Kong, also feels that “… these are probably the safest waters around in my opinion”. Several interviewees evaluated the sandbar safe enough to be walked at specific times of the day when the tide was low and the wind was calm. Sarah, a female visitor from Australia, for example mentioned that... “You just know that you’ve got this window of opportunity where it is like this where you can do it”. Similarly, Laura, a female visitor from Australia, only walks the sandbar during specific times of the day. “Under certain conditions there is a risk obviously. We always do it in the morning, we don't do it at night or late afternoon when the weather changes”. The understanding on the effect of different weather conditions on the level of risk was also carried on by word of mouth to overseas visitors as they referred to advices given to them that they should come at certain times of the day. For example, Annika, a female visitor from Germany, explained “… I heard that it's more shallow in the morning, that's why we came early”.

d) Perceived safety net

As visitors approached the sandbar with the anticipation to cross, there was a combination of various situational factors which they believed would influence their safety. For example, visitors were able to build their own cognitive safety net at the site where interview participants had the belief that walking as a group increased their safety on the sandbar. Annika, a female visitor from Germany, for example replied to the question about the most important thing that made her feel safe enough to cross “… because I wasn't alone. It is not a good reason, but for me it was”. Jodie, a female Australian with Asian background, also recommended walking in a group as she refers to a beach safety rule about not swimming alone in oceanic waters…
“Maybe in groups that should be better, alone would be not so nice. Just like swimming in the sea, if you are alone in the sea, they recommend you swim with friends so in case anything happens you’ve got a friend to help. That is the same reason crossing the bar, you are crossing the sea.”

Individual crossing behaviour is greatly influenced by the observation of others already on the sandbar (see section 5.3) which also had an effect on visitors’ safety perceptions and considerations about their own ability to cross. Watching others walking the sandbar was taken as a guide to the depth of the water, and as Amanda, a female Australian, crossed with her husband and five children, she used the sight of others to determine if it will be safe enough for them to walk, too...

“Yes, when we pulled up we saw groups of people walking across, and we went, look they are doing it, look how shallow it is. Look [pointing to others who just crossed during the interview], it is not even up to their waist, it is really shallow. That was our decision.”

Maja, an Australian visitor with Dutch background, went further and perceived the presence of others walking as opportunity to call out for help if in trouble...

“Well, there is lots of people around. So if anything happens you’d scream and put your hand up. We’re together, so being with another person, that’s always a good thing. And there is more people doing it, so, you know, you look at others as they walk across, so if anything is wrong… yeah…”

Previous research has suggested that it might be that any presence of surf life savers “alters perceptions of risk and vulnerability while swimming at the beach” (McCool, Ameratunga, Moran & Robinson, 2008, p. 365), and of particular interest in this study was whether the presence of Surf Life Savers on Mersey Point beach had any influence on safety perceptions of visitors walking the sandbar. Although not all visitors crossing at times where life guards were on duty found it necessary for them personally, it was predominantly evaluated as a very positive and reassuring risk management tool. Mark, a male Australian living in Hong Kong, noted that...

“I think it is good that they are there. Not personally, I am fine with it. But it was also nice to have them around for my girlfriend who is not a strong swimmer. It’s just knowing that the guys and girls are out, so yeah, it is good.”

Similarly, Daniel, a male visitor from Australia, noted “… you feel a lot more better really, because
you know that there is actually somebody there that could help you if you come into a situation”, and Jodie, a female Australian with Asian background, went as far as suggesting that the sandbar crossing must be safe otherwise the life guards wouldn’t allow them to cross. She said…

“I feel pretty secure because we have lifeguards over there sitting and watching, so if they… I would reckon if they think it’s not safe to cross they will stop us from starting to cross. I would say so.”

Whilst interview responses provide further support for the idea that the presence of life guards changes risk perceptions because people perceived an added dimension of safety whilst crossing, further research might be required to test whether the presence of life guards has a direct effect on motivation for risky behaviour at coastal areas.

5.4.2 Control

a) Individual choice

According to psychological theory people are motivated to be in control of their own courses of action (Skinner, 2014). Lefcourt (2014) defines perceived control as expectation for reinforcement stemming from internal as opposed to external sources, and perceived control over a situation greatly influences behaviour (Ajzen, 2005, 2012; Lefcourt, 2014). Research participants largely perceived they had individual control over their decision about whether to walk the sandbar or take the ferry to access Penguin Island when the sandbar was open for access. William for example, a visitor from New Zealand, stated that “I had a choice to go on a boat or walking across, and I chose the walking. (…) It’s a personal decision”. Similarly, Nicole, a female visitor from Singapore, found she had a choice to cross because the warning sign “… wasn’t like a straight up ‘don’t cross’”. This personal choice was highly valued by visitors, as can be evidenced by a several comments expressing concerns about whether it is likely that a permanent sandbar closure is planned for the future. Laura, a female visitor from Australia, mentioned that…

“Hopefully it never changes, you know. Hopefully, that we are always able to freely… and it doesn’t become policed and you have to catch the ferry due to more deaths or whatever. Hopefully it stays as a family day that we can all freely utilise.”
b) Management guidance

Visitors walking the sandbar repeatedly emphasised that management action is necessary to counteract present risks for inexperienced visitors and those with low swimming abilities; however not in a restrictive way or total closure of the bar but to improve safety measures which would allow everybody to experience the walk. Maria for example, a female visitor from Italy, noted that...

"... you can’t forbid everything, otherwise... I don’t know. It’s part of the touristic attraction. I mean, there are so many young people travelling, so if you forbid everything they are not coming.”

Similarly, Maja, an Australian visitor with Dutch background, emphasised that closing the sandbar permanently "... would take away that freedom of living in Australia I think”, and Alice, a female visitor from Taiwan, made clear that for her the sandbar closure “... will work only if the fine is higher than the ferry ticket”.

Interviewees expressed a seemingly conflicting set of ideas in that there is a necessity to have certain restrictions in place depending on weather or water conditions, but that individuals should have complete access control based on ‘common sense’ and an awareness of one’s own abilities at the same time. Laura for example, a female Australian, made clear that she wants people to exercise “... common sense! Everyone’s got to have their own common sense” as she was asked about her opinion in relation to potential restrictions to cross. However, as the interview progressed she and her husband put forward that the island is a popular tourist attraction and safety measures should be in place for those that are less experienced than themselves. Laura’s husband explained...

"I think for the general population... like for me, it doesn’t concern me too much for ourselves because we are in control, but the fact that there is tourists and that there is people that may not even be able to swim, then, yeah, [risk management] should probably go hand in hand with the fact that, you know, there is a business there [Penguin Island Discovery Centre], there is a business running the ferries... I don’t know, if you are going to bring people down here you’ve got to provide some level of safety. (...) For me it is different, for locals, but for nonlocals I would think.”

Similarly, Jan, a male visitor from Germany, advocated for individual control and responsibility for safety, provided that visitors are warned about potential hazards...
“[There should be restrictions] depending on water level. If it's too high, somebody should warn people and tell them that they would have to swim, maybe. But, eventually I think that everybody is in charge of their own safety, so everybody can do whatever they want in my opinion. Even if they die trying to get onto Penguin Island and the water is too high, it's their decision. But it would be nice if they were at least warned before heading into the water.”

Comments like this are in line with previous research from New Zealand where visitors touring a natural area largely believe that they share responsibilities for protection with local institutions (Espiner, 1999; Jeuring & Becken, 2013). In this sense, feelings of control about exercising certain behaviour is linked to individual responsibility for safety perceptions and risk management expectations in natural areas. Rickard (2014a) suggested that visitors to national parks seem to feel less responsible for their own safety the more settings appear physically ‘managed’ with boardwalks, handrails and warning signs guiding visitors. She further showed that the more control individuals perceived to have over the exposure to risk in national parks, the more they feel responsible for their own actions and the less they hold external influencing factors (such as land managing agencies or a lacking safety structure) as responsible for accidents (Rickard, 2014b). In turn, Lalwani and Duval (2000) suggest that individuals’ responsibility perceptions depend on one’s perceived capacity to cope. As soon as individuals believe they do not have sufficient resources to manage the hazard or stress, responsibility would be denied (Lalwani & Duval, 2000). Applying these findings to the current setting, individuals would need to feel fully responsible for and individually able to control the risk in order to base their decision to walk the sandbar purely on their own skills. This might explain why interview participants who reported that the sandbar walk as easily doable because of their individual abilities to ‘control’ the risk also tended to advocate free and largely unmanaged access to the sandbar and full responsibility for safety, whilst those with lower ability levels (or those thinking about other less experienced visitors) tended to refer to shared responsibilities for safety between land managing stakeholders (with the ferry operators, the city council, and the department being mentioned) and visitors combined.

In sum, research participants largely articulated support for more management action, however that did not mean they desired further restrictions related to crossing the sandbar but rather that
risk management strategies should approach the issues in a pro-active and open manner. Paul, a male Australian visitor, expressed his vision of an ideal management situation which may serve as a case to illustrate the general tendency of visitors’ expectations....

“... because it is a local attraction and because it brings tourism to the area... Because a part of that is that you don't want negative publicity in relation to that, I think it would be the government's responsibility to provide a person on the times where people are likely to use it, and outside the winter or probably week days, but definitely during the summer holidays, a life guard type situation. And make it with a rubber ducky [rubber dinghy] for rescues. And probably more encourage people to do it in those times rather than taking the ferry... I know they are trying to encourage people to take the ferry, but they shouldn't encourage people to do that. And when they've got a safety net, people could do it safely. So then they are more likely to do it in those times. (…) Encourage it that way rather than... And people will go, yeah, we are going to come back then and, you know, they are not told don't do it, they are told, come and do it and enjoy it, but do it at this time when it is more safe and we've got ways to help you when you get into trouble.”

5.5 Summary of motivation of behaviour

As was established in the literature review, risky behaviour depends on individuals’ subjective judgement of the situation they find themselves in, including weighing anticipated benefits and possible costs stemming from performing the behaviour, as well as their subjective judgement of their capabilities to respond to and manage risk factors as they arise. The Theory of Planned Behaviour provided a useful structural framework to understand decision making processes of visitors to Penguin Island walking across the sandbar. To reiterate, the decision to walk the sandbar was conceptualised as a combination of individual attitudes towards the behaviour to cross, social influences in terms of what ought to be done and what others do, and the perceived ability and control to perform the behaviour. A summary of findings is presented in Figure 22.
According to research participants, walking the sandbar was perceived as an opportunity to actively and physically immerse themselves in the Western Australian ocean environment where visitors avoided the ferry not only to save costs but to gain various benefits from the experience to walk across the sandbar. Visitors greatly valued the enjoyment of direct contact to the natural environment as well as associated health benefits when choosing to access the island by foot. To walk across the ocean to an island was considered an experience providing novelty and adventure with perceived levels of risk just enough to trigger excitement but largely without actual negative outcomes to be feared. Benefits were especially appreciated when the experience to walk the sandbar was shared with relatives and friends.
Whilst nearly all visitors were able to name a variety of potential risks, predominantly relating to the possibility of encountering dangerous marine animals or the risk of drowning stemming from dangerous conditions in adverse weather conditions, negative outcomes listed were largely described as being applicable only to other people at another time.

Although visitors often emphasised their autonomy in decision making, it was found that social influences were strong; especially for inexperienced first-time visitors. The decision to walk the sandbar was greatly influenced by word of mouth recommendations (from friends and family members or other visitors on site) as well as the visual observation of others crossing at the time. Walking the sandbar was not perceived by participants as a socially or morally undesirable activity and disapprovals of institutional stakeholders were perceived to be based at least partly on commercial interests relating to the ferry operator.

Perceived swimming competency was the most important ability factor for visitors to cross the sandbar, both in terms of one’s own perceived capabilities and as well as a general pre-condition to enter ocean waters. Also of importance were skills and local knowledge gained through extensive experience with Western Australian ocean environments, which were mentioned predominantly from Australian visitors. Other factors mentioned related to the favourable conditions perceived to prevail at the time the interview took place and the perceived safety net of having other people on the sandbar to call for help as well as the surf life savers at Mersey Point beach. It appeared that the more visitors felt able and in control of possible risks encountered, the more responsible they felt for their own safety when walking the sandbar.

Participants valued their individual choice to engage in the activity of walking the sandbar, nevertheless it was largely deemed desirable to manage the attraction for safe tourism consumption especially for inexperienced visitors. Visitors valued institutional risk management practices at the site, however only when these ‘make sense’ to the visitor anticipating crossing at a particular time. It was suggested that management pass on local knowledge as opposed to discouraging the activity so that inexperienced visitors could make better informed choices.
Conclusion

"The word 'risk' derives from the early Italian 'risicare', which means 'to dare'. In this sense, risk is a choice rather than a fate."

(Bernstein, 1996, p. 22)

6.1 Overview

Natural areas are key attractions for people in Australia venturing the outdoors with the intention of physical and emotional benefits to be derived. However, visitors to natural areas are exposed to a variety of natural hazards and land managers have a duty of care to warn visitors of possible risks they might encounter. From a theoretical perspective, risk is a subjective concept and its perceived threat is a product of socio-cultural as well as political forces; or as Espiner (2001) noted in relation to visitor management for protected areas, “visitors and managers operate in different risk dimensions” (p. 245).

The impetus for this study was the observation that some visitors choose to disregard warnings and deliberately behaved in ways that put themselves at risk. Whilst this may appear counterintuitive at first, a review of literature in the context of nature-based tourism and recreation showed that the experience of risk as the uncertainty of an outcome may mean an encounter a dangerous situation resulting in injury or even death; but it also offers a wide variety of potential benefits to people as they enjoy the nature-based activity and successfully deal with these risks.

This thesis explored ‘risky’ behaviour in the context of a specific nature-based tourism and recreation activity. A case study approach was chosen to investigate the behaviour of crossing the sandbar at Penguin Island, WA, with the objective to find out who chooses to cross and to understand what motivates visitors to make that decision. The study established a profile of visitors walking the sandbar, including demographic and visitation information, as well as individuals’ perceptions of their familiarity with Western Australian marine environments and their
swimming abilities in ocean waters. Motivating factors were explored utilising the Theory of Planned Behaviour (Ajzen, 1985; 1991b; 2005; 2012) as a conceptual framework. This psychological framework was found useful as it provided insights not only to visitors’ evaluation of the behaviour in terms of costs and benefits of walking the sandbar, but also to explore social and situational influences on individual decision making as well as the nature of their protective frame that made visitors feel safe enough to cross. The following section summarises the main findings from a land management perspective, mixing both quantitative and qualitative results, and offers implications for risk management at the site.

6.2 Main findings and management implications

- **Sandbar walkers are diverse**

Results show that a wide variety of visitors cross the sandbar, including both visitors residing in Australia as well as visitors from overseas. People enjoy walking the sandbar in groups consisting of family, friends, or both, and for some walkers the experience to cross the water was one of the main reasons to visit the island. Walkers also greatly differ in relation to their capacity to cross, measured in variables such as swimming ability and familiarity with ocean environments. Whilst some claim to have excellent swimming abilities and expert local knowledge, others cannot swim at all and don’t have any experience nor understanding of risks related to the ocean environment. This diversity of visitors walking the sandbar requires management to consider various complementing management tools to successfully manage for the safety of all visitors.

- **The sandbar is an experience**

Findings indicate that the sandbar crossing is more than a means to access Penguin Island. Instead, it is an experience many visitors don’t want to miss. The sandbar was not viewed as a risky activity undertaken only to save ferry costs but that the sandbar offered an exciting experience free of charge. Walking the sandbar was a decision linked to anticipated benefits experienced in social circles such as to be nearer to the natural environment, provide for
adventure and novelty, and being more in line with personal preferences for active leisure choices in general. In this sense, suggesting the ferry as safer alternative will not be sufficient to deter people from walking the sandbar, as the knowledge of risk associated with walking the sandbar is not likely to deter people from doing it. Given the aim and interest of the land managing agency to offer various experience opportunities for visitors of protected areas (Department of Parks and Wildlife, 2014; Smith, Tuffin, Taplin, Moore & Tonge, 2014) operating in a political and economic climate in which park visitors are increasingly seen as important financial asset (Rodger, Taplin & Moore, 2015), an active approach to managing the sandbar might need to be considered. This could possibly be within a commercial context in collaboration with private stakeholders to provide for the sandbar to be experienced with appropriate safety measures in place. This will be especially relevant for inexperienced or overseas visitors reporting lower swimming abilities and limited experience or knowledge about Western Australian ocean environments in relation to an understanding of rips, currents, tides, or marine life.

- **Visitors show personal detachment from dangers**

Research participants showed a tendency to generate an image of the self being unaffected by possible dangers resulting from walking the sandbar. Albeit showing awareness that walking the sandbar involves various risks, these risks were perceived to be relevant to others, predominantly ‘those tourists that can’t swim’, or for another time of more adverse weather conditions; even when the sandbar was about to be closed. This was the case irrespective of individual crossing capabilities, as for those reporting to have relatively low swimming abilities the reference point of required skills were simply set lower than those reporting high levels of relevant skills. Visitors created a ‘protective frame’ which seemed to filter out dangers as a result of either their confidence in their own abilities and experience or from trust in the safety net present at that time (e.g. life guards or seeing others walking on the sandbar). The current risk information provided appears to lack the personal applicability factor and management could consider alternative ways communicate possible risks. Various options could be investigated by implementing action research methods (Rodger, Taplin & Moore, 2015) which pursue action and research outcomes at the same time to scientifically explore the effectiveness of possible solutions to the issue (Horn,
2006). One option could be an installation of a ‘hot interpretive sign’ (Parkin & Morris, 2005) which has been found to increase awareness of dangers at a natural waterbody in Queensland. An interpretive sign offers the narrative interpretation of a specific negative outcome from the perspective of the targeted visitor group at risk. For the activity to cross the sandbar this could involve a story of a young male Australian, claiming to have relatively good swimming abilities in swimming pools but who was swept away by a tidal current whilst crossing the bar. In the story he realises that swimming in oceanic waters is very different to swimming in artificial pools. This could be extended to social media content to capture visitors’ attention before actually visiting the island. Relating fear messages (Hayes, 2008) perceived as relevant to the reader could therefore promote that visitors walk the sandbar with a better understanding of risks involved for them personally (for both Australian visitors and overseas tourists) when walking the bar.

- **Social influences are strong**

The activity to walk the sandbar is marked by strong normative influences relating to both, descriptive norms through seeing others walking the sandbar as well as word of mouth communication channels (including personal conversations with friends and relatives as well as online social media). Visitors contemplating the walk across were encouraged to follow others already on the sandbar, because seeing others led to the belief that it must be safe enough to do so, irrespective of own skills and experience. Seeing others doing the activity had an overriding effect on most other decision making factors, often even resulting in a complete dismissal of the warning signs in place. Of importance here is the finding that most visitors, even overseas tourists, were made known about the sandbar from informal information sources before they visited Penguin Island. When word of mouth messages included safety advice and recommendations passing on local knowledge about the environment at the site, visitors seemed to be more aware of the possible dangers that could arise in relation to their own abilities. If the overriding effect of seeing others were to be decreased in the future, management will need to increase the perception that walking the sandbar is only possible with a throughout understanding about the area and related risks as well as very good swimming abilities in ocean waters. As word of mouth is a powerful marketing tool in tourism (Harris, 2014) ranging from informal conversations between
friends and relatives to commercially solicit communication tools (Kozinets, Wojnicki, Wilner & deValck, 2010), word of mouth strategies might be a valuable tool to make visitors more aware of their own abilities required to walk. The department could consider a publicity promotion to residents of the Perth Metropolitan suburbs, as this is the area where most Australian visitors walking the sandbar reside, as well as where most overseas tourists seemed to start their day trip. Interpretive messages distributed via the department’s social media channels for example may further increase the personal applicability factor in relation to risks mentioned above, and further research could investigate if these have an effect on word of mouth messages of visitors walking the bar.

- **Visitors approve management guidance**

The context of the provision of Penguin Island as a commercial tourism product lead visitors to believe that the sandbar should also be an activity actively managed by institutional stakeholders involved. The safety of individuals visiting protected natural areas not only depends on ‘top-down measures’ of land managing agencies but on the behaviour of tourists themselves, including obtaining information about potential risks and relevant protective actions (Jeuring & Becken, 2013). However, visitors walking the sandbar seemed to rely fully on word-of-mouth information obtained before or during their visit from friends and relatives or others walking the sandbar. Information about risks from institutional stakeholders such as the land management agency, i.e. the rangers on site, the ferry operator or visitor centre on the island and the mainland, was perceived to be rather overcautious or promoting the ferry for financial reasons. To improve perceived credibility of risk messages, land managers could re-consider advocating the ferry as the alternative option but offer more information or other possible ways to access the island suitable for visitors with low budgets or visitors showing high demands of being actively involved in accessing the island instead. An example could be to offer kayaks or other flotation devices for rental, or as already mentioned above, actively offering guided walks across the sandbar where appropriate safety measures could be applied. Furthermore, visitors were not aware of the frequent closures of the sandbar in afternoon hours, leaving them ‘stranded’ on the island without money for the ferry and without other options to return besides ‘breaking the rules’ and walk back.
The department needs to make it clear that the sandbar is frequently closed during afternoon hours even in busy summer periods and could financially support the offer a free but safe ferry ride back to the mainland if in doubt of own abilities to walk back. That way, visitors in doubt have a clear idea of their options available even if no money was taken to the island. In sum, a purely restrictive policy to exclude public to access the sandbar is unlikely to succeed given the long history of people walking the bar and available management resources. The objective should be to ensure visitors are properly informed about risks and possible implications of their behaviour so that their decision to cross the sandbar is based on realistic ability parameters to perform the activity.

6.3 Limitations and further research

Whilst a genuine attempt has been made to ensure this thesis follows sound research practices, this study has a number of methodological and operational limitations which should be taken into consideration when interpreting the results presented.

Theoretically, the case study approach has been criticised for its limited scientific quality in being subjective rather than objective and that findings are specific to the case and may therefore lack generalisability (Jennings, 2010). Graham (2010) suggests that case studies are suitable when research intends to understand aspects that are particularly context specific. It is acknowledged that whilst this project offers further understanding about why and how individuals approach risky situations in managed natural environments outside the high-risk adventure tourism spectrum, findings postulated in this thesis may not be generalisable to other visitor risk management issues at other settings due to the context specificity of the activity and setting investigated. Further contributing to the generalisation limitation is the fact that this study utilised a non-probability sampling strategy due to time and resource constrains (Jennings, 2010). By employing a non-probabilistic sampling strategy, not every unit of the population had the equal chance of being selected, but was selected on the basis of availability with the intention of being the most appropriate descriptive estimate for expected parameters of the population (Creswell & Plano
A further limitation relates to an issue experienced during fieldwork, namely the sandbar opening and closing procedures during days of data collection. The closure of the sandbar was based on a pre-cautionary principle, and the judgement whether to open or close the sandbar was a matter of last-minute decision making depending on the weather and tide conditions for the whole day. However, the weather forecasts did not provide enough accuracy to confidently predict conditions and the research process was interrupted on a number of occasions before the island closed for the day. Through this, the researcher was able to understand and empathise with frustrations of land managing staff as well as visitors when sudden changes in wind conditions surprised both parties with the necessity to close the sandbar during the day. Although no data was collected during closure periods for ethical reasons (see section 3.7), it may be that the unpredictability of circumstances visitors discovered when attempting to return to the mainland were an important factor contributing to the situation where many people still crossed after the sandbar was closed. Site managers had great difficulty to deter people walking in those instances, even when directly standing at the beach and talking to those that intended to cross despite closure signs put in place. Whilst this thesis focused on the motivation to engage in risky behaviour when crossing the bar when access was not illegal, motivations of non-compliance with protective restrictions should be further investigated in future research.

It should be noted that visitor risk management at the sandbar is a dynamic process. There was no day without discussions between rangers and other on-site stakeholders about where to best position the Surf Live Saving tent during the holiday period, or the department's closure signs in case of sandbar closures. Most importantly, a new sandbar risk sign was installed just after completion of field work, showing changes in the wording of the text as well as a yellow emphasis on the pictorial symbols on the sign. Whilst it is not assumed that the different sign would influence motivational processes, the sign’s effectiveness may have changed.
6.4 Conclusion

Visitors’ quest for risk in nature-based tourism and recreation is a complex phenomenon. Natural areas are never free of risk, and whilst people value the challenges and excitement that environmental risks can provide, they may also depend on risk management tools introduced by land managers to be able to understand and cope with risks in dynamic and unfamiliar natural settings. The challenge for land managing agencies, however, is to find the right balance between allowing for nature-based experiences whilst exercising their duty of care to manage visitor risks involved.

This study offered some insight into the phenomenon of risk in the context of nature-based tourism and recreation and showed that attitudes and opinions of visitors of natural protected areas are highly context dependent. The popularity of Penguin Island, as well as the activity in particular, led visitors to believe that walking the sandbar should be an activity provided within the context of visitor guidance where responsibility for safety is shared between visitors and institutional stakeholders. It is not the goal to isolate visitors from all risks, but it is advisable to take the location and context of the nature-based activity in consideration when deciding on appropriate risk management options for diverse nature-based recreation opportunity settings.


Mills, D., & Shears, R. (2014, June 15). British woman who plunged to her death at beauty spot in remote park in Central Australia 'may have been posing for a photograph'. *Daily Mail Australia*. Retrieved from http://www.dailymail.co.uk


Morgan, D., Moore, K., & Mansell, R. (2005). Adventure tourists on water: Linking expectations, affect, achievement and enjoyment to the sports tourism adventure. *Journal of Sport & Tourism, 10*(1), 73-88. doi:10.1080/14775080500101593


White, K. M., & Hyde, M. K. (2010). Swimming between the flags: A preliminary exploration of the influences on Australians’ intentions to swim between the flags at patrolled beaches. Accident Analysis & Prevention, 42(6), 1831-1838. doi:10.1016/j.aap.2010.05.004


Appendix A - Sandbar Risk Sign Locations

Showing sandbar warning sign locations on the mainland side of the sandbar (above) and sign locations on the island (below)

(ADAPTED FROM GOOGLE MAPS)
Appendix B - Visitor Survey

Q1 How often do you visit Penguin Island?
- [ ] First visit
- [ ] Once a year
- [ ] Once every 1 to 2 years
- [ ] Once every 3 to 5 years
- [ ] Once every 2 to 5 times a year
- [ ] More than 5 times a year
- [ ] On a weekly basis
- [ ] Other (please specify) _____________________

Q2 What was your main purpose of your visit to this park? (You may select as many as apply)
- [ ] Seeing penguins/learn about penguins/learn about the Island's history
- [ ] To enjoy the natural environment
- [ ] For the experience to cross the sandbar
- [ ] Swimming / snorkelling / surfing
- [ ] Social togetherness/spending time as a group
- [ ] Other (please specify) _____________________

Q3 Before crossing the sandbar, did you obtain any meteorological information to plan your crossing? (Select all that apply)
- [ ] Weather information
- [ ] Tidal information
- [ ] Wind information
- [ ] Other (please specify) _____________________
- [ ] I did not obtain meteorological information

Q4 On a scale from 1-5, please rate

a) your swimming ability in an ocean environment

\[\begin{array}{ccccc}
\text{cannot swim} & 1 & 2 & 3 & 4 & 5 \\
\text{swimmer} & & & & & \\
\end{array}\]

b) your level of familiarity with WA marine environments (e.g. knowledge of/experience with rips, currents, tides, wild animals, or related personal protection behaviour)

\[\begin{array}{ccccc}
\text{very low} & 1 & 2 & 3 & 4 & 5 \\
\text{very high} & & & & & \\
\end{array}\]

Q5 Where is your usual place of residence?
- [ ] Australia
- [ ] Overseas

(Please state the postcode)
(Please state which country)

Q6 What is your gender?
- [ ] Male
- [ ] Female

Q7 What is your age group?
- [ ] 18-24
- [ ] 25-34
- [ ] 35-44
- [ ] 45-54
- [ ] 55-64
- [ ] 65 or older

Q8 What is your primary language spoken at home?
- [ ] English
- [ ] Other (please specify) _____________________
Q9  Which best describes you and your travel group? (Please select only one)

☐ 1. By yourself
☐ 2. With friends
☐ 3. With family/partner
☐ 4. With friends and family
☐ 5. With a club/organisation
☐ 6. With a tour group
☐ 7. With school/university group
☐ 8. Other (please specify) ___________________________

Q10  Including yourself, how many people in your personal (i.e. family) group were adults and how many were children?

____ Number of adults
____ Number of children (aged 4 and under)
____ Number of children (aged 5-17)

Q11  Did you use a flotation device for crossing?

☐ 1. Yes
☐ 2. No
Appendix C - Visitor Interview

Semi-structured Interview Script:

**Introductory Questions:**

1. How often do you visit Penguin Island?
2. Why did you visit Penguin Island today?
3. Why did you choose to access the Island using the sandbar today?
4. When did you make the decision to do so? (e.g. came with intention to cross, decided on site)
5. Did you make any preparation for crossing? (e.g. obtaining meteorological info such as weather/tide)
6. Do you cross the sandbar often? How did you experience the first time you crossed it?

**Behavioural beliefs:**

1. What do you think are the good things of crossing the sandbar instead of choosing the ferry?
2. What do you think are the possible negative things of crossing the sandbar instead of choosing the ferry?
3. What do you think might be potential risks of crossing the sandbar (for you and/or for others)?

**Perceived behavioural control:**

1. Do you think there should be any restrictions on crossing the sandbar?
2. On what basis do you think visitors should be allowed to proceed walking the sandbar?
3. Did the warning signs (and/or presence of Surf Life Savers) influence your decision to cross the sandbar in any way?
4. When thinking about crossing the sandbar, what were the important things you considered so that you felt able to cross the sandbar safely? (E.g. swimming ability, knowledge about marine environment, gathered tide/weather information prior, presence of SLSA, seeing other people do it, other)
5. Under which conditions would you reconsider your decision to cross?

**Normative beliefs:**

1. There are signs warning of the dangers of the sandbar - how do you feel about these signs? Did you consider the messages in the sign in your decision to cross?
2. Who do you think would approve you walking the sandbar?
3. Who do you think would disapprove you walking the sandbar?
4. Do you worry what other people might think when you cross the sandbar? (e.g. park management, Surf Life Savers, friends, family, other visitors)
5. Did other people in your group or people at the site encourage or discourage you to cross the sandbar? Why?
**Visitor Management Questions:**

1. Please comment on the signage in relation to the sandbar. Do you think visitors are adequately informed about potential risks?
2. Do you think the area could be better managed? How?
3. Who do you think should be responsible for the safety of people using the sandbar? (e.g. self, Department of Parks and Wildlife, the local council, Surf Life Savers)

Thank you for participating; are there any other thoughts that you have you find important including in the conversation?
I would like to invite you to participate in a research study about the sandbar at Penguin Island, WA. This study is part of my Honours Degree in Tourism at Murdoch University.

There has been some controversy around the sandbar crossing in relation to its safety for visitors, and the Department of Parks and Wildlife (DPaW) actively discourages its use. However, I believe that visitor management should always include the visitors’ perspectives, and the aim of this research is to have a better understanding of the people walking the sandbar and why they choose to do so. This will help the department to be able to cater for the needs of all visitors to Penguin Island.

**Participation in the study will be either in the form of a short questionnaire asking for demographic and visitation information, or in the form of an interview exploring your attitudes about the sandbar. The interview will be tape recorded. Selection to participate in either option is based on a predetermined numerical pattern and will not depend on the choice of the researcher.**

Your involvement in this study is completely voluntary, and you may withdraw at any time during the survey. All information you provide will remain anonymous.

If you like to know more about the project or have any questions, please do not hesitate to contact either myself (Anna Gstaettner) or my supervisors (Dr Diane Lee and Dr Kate Rodger). Information given in surveys and interviews will be analysed by me, Anna Gstaettner, as part of my Murdoch University Honours research. The study findings will be accessible on the Murdoch University Research Repository [http://researchrepository.murdoch.edu.au/theses.html](http://researchrepository.murdoch.edu.au/theses.html) or by contacting my supervisors via email. A summary of findings will also be made available to the Department of Parks and Wildlife.

I thank you for your time and assistance, it is greatly appreciated.

Yours sincerely

Anna Gstaettner  
**Principal Researcher**  
Murdoch University  
90 South Street, MURDOCH, WA, 6150

Dr Diane Lee  
**Supervisor**  
Murdoch University  
90 South Street, MURDOCH, WA, 6150  
d.lee@murdoch.edu.au

Dr Kate Rodger  
**Supervisor**  
Murdoch University  
90 South Street, MURDOCH, WA, 6150  
k.rodger@murdoch.edu.au

---

This study has been approved by the Murdoch University Human Research Ethics Committee (Approval 2014/198). If you have any reservation or complaint about the ethical conduct of this research, and wish to talk with an independent person, you may contact Murdoch University’s Research Ethics Office (Tel. 08 9360 6677 or e-mail ethics@murdoch.edu.au). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.
Appendix E - Consent Form

Consent Form - Visitor interview

I have read and understood the description of the above-named project and have been given a full explanation of the purpose of the study. On this basis I agree to participate in the project as an interviewee, and agree for the interview to be audio recorded as part of this research.

I give consent to publication of the results of the project with the understanding that anonymity will be preserved.

I understand also that I may withdraw from the project at any time during the interview process.

I understand that all information provided by me is treated as confidential and will not be released by the researcher to a third party unless required to do so by law.

Name of Participant: ________________________

Signature of Participant: ________________________  Date: ___/___/_____

I confirm that I have provided the Information Letter concerning this study to the above participant; I have explained the study and have answered all questions asked of me.

Signature of Researcher: ________________________  Date: ___/___/_____