

A comparison of the perceived environmental impacts of consumptive and non-consumptive wildlife tourism

MH Koch

 **orcid.org/0000-0003-1042-1362**

Dissertation accepted in fulfilment of the requirements for the degree [Master of Arts in Tourism Management](#) at the North-West University

Supervisor: Prof P van der Merwe

Graduation: June 2021

Student number: 12519103

DECLARATION OF PERSONAL WORK

I, Machiel Hendrik Koch, identity number 8307105022082 and student number 12519103, hereby declare that this dissertation registered as “A comparison of the perceived environmental impacts of consumptive and non-consumptive wildlife tourism” as part of the completion of my master’s degree in Tourism Management at the Potchefstroom Campus of the North-West University, is being submitted as my own work and complies with the Code of Academic Integrity, as well as other relevant policies, procedure, rules and regulations of the North-West University and has not been submitted before to any institution by myself or any other person in fulfilment (or partial fulfilment) of the requirements for the attainment of any qualification.

I understand and accept that this dissertation, which I am submitting, forms part of the university’s property.

M.H. Koch

Date: 14/12/2020

FINANCIAL ASSISTANCE

- The NWU Master's Bursary, as well as the faculty bursary (Faculty of Economic and Management Science at NWU) assisted for two years.

PROOF OF LANGUAGE EDITING

PROOF OF LANGUAGE EDITING

Dr. L. Hoffman, APed (SATI), APRed (SAVI)

Kroonstad

BA, BA(Hons), MA, DLitt et Phil

Accredited Professional Text Editor – English and Afrikaans (South African Translators' Institute)

Member of the South African Translators' Institute

Cell no: 079 193 5256

Email: larizahoffman@gmail.com

DECLARATION

To whom it may concern

I hereby confirm that I have proofread and edited the following dissertation, including the references.

Title of dissertation

A comparison of the perceived environmental impacts of consumptive and non-consumptive wildlife tourism

Candidate

Machiel Koch



Lariza Hoffman
Kroonstad
24 February 2021

ACKNOWLEDGEMENTS

This dissertation would not have been possible without the help of numerous people who have supported me in the completion of this study. I hereby wish to express my sincere thanks and gratitude to the following people for their contribution:

- ❖ First and foremost, to my Heavenly Father I give all the glory for the strength, willpower and wisdom to complete this study.
- ❖ My study leader, Prof Peet van der Merwe, thank you for your guidance and the commitment and effort you have put into this study. Your leadership and passion for wildlife tourism inspired me to continue. Working with you was a pleasure.
- ❖ My grandmother, Miem du Preez, my father, Mike Koch, my girlfriend, Roline Bronkhorst and other family members and friends, thank you for your loving support, encouragement and faith in me to complete this study.
- ❖ My mother, who has passed away in February 2013 from Parkinson's disease, I wish you could have been here today with me, but the Lord knows best and took you to be with Him.
- ❖ Anette and Alex Oelofse, owners of the game reserve, who granted me access to their property to carry out this research study, thank you for your assistance and support. It is highly appreciated.
- ❖ The reserve management and consumptive and non-consumptive wildlife tourists of the game reserve who were willing to be part of this study, thank you.
- ❖ Lezelle Snyman at the Ferdinand Postma Library (NWU), thank you for your assistance, especially in the article research to conduct the literature study.
- ❖ My sincerest gratitude also to the North-West University, which granted me the opportunity to complete this study and for the financial support through their bursary provision. It was very helpful and came in handy in situations where otherwise I would not have been able to pull through.
- ❖ Dr Lariza Hoffman, thank you for the language and reference editing.

ABSTRACT

The tourism industry is seen as the fastest-growing industry in the world and is recognised as a necessity of human life. This industry can broadly be divided into mass tourism and alternative tourism, with alternative tourism forming part of natural area tourism. Natural area tourism consists of a variety of tourism subsectors, of which wildlife tourism forms part. Africa as a tourism destination has experienced extraordinary growth in the wildlife tourism industry, especially within the framework of consumptive and non-consumptive wildlife tourism. Consumptive wildlife tourism includes activities such as the capturing or killing of animals, while non-consumptive wildlife tourism includes activities where animals are neither caught nor killed.

It is argued that consumptive wildlife tourists (hunters) result in a greater environmental impact upon nature and wildlife than non-consumptive wildlife tourists (ecotourists), because it is believed that the impact from consumptive wildlife tourists, although on a smaller scale, is more intense and concentrated. The questions arise what impact non-consumptive wildlife tourists, who want to escape from other tourists, have on the hundreds of natural area destinations around the world. These tourists raise the risk of hit-and-run tourism, causing an influx of such tourists to the latest wild spot, followed by the abandonment thereof once discovered and degraded by their activities, which can cause severe environmental impacts. Therefore, the primary research goal of this study was to compare the perceived environmental impacts of both consumptive and non-consumptive wildlife tourists.

In order to achieve the primary research goal, four objectives were set and reached during various stages of the study. First, a literature overview of the background of natural area tourism was conducted. The second objective was to analyse the existing literature pertaining to the impact natural area tourism has on the environment, with a specific focus on consumptive and non-consumptive wildlife tourism. The third objective was to discuss the empirical results as obtained from the data collected from two populations, namely the reserve management (supply side) and the consumptive and non-consumptive wildlife tourists (demand side) who participated in the research, in order to determine the perceived impacts these two markets have on the environment at the game reserve. The fourth objective of the study was to draw conclusions and propose recommendations regarding the literature review and the empirical results.

This research was conducted on a game reserve in Namibia that hosts both consumptive and non-consumptive tourism on the same premises. The study adopted a qualitative research method in order to encapsulate all necessary information, while non-probability sampling techniques were used for both research populations (supply and demand side). The reserve management (supply side) was purposefully sampled, and the consumptive and non-consumptive wildlife tourists (demand side) were conveniently sampled. Data were collected through the use of semi-structured interviews

for both research populations. The interviews for the reserve management were conducted in September 2019 at the reserve itself, from which seven respondents were interviewed. Due to the COVID-19 pandemic, online interviews were used to collect data for the consumptive and non-consumptive wildlife tourists who had visited the game reserve during the past three years. In total, ten consumptive and ten non-consumptive wildfire tourists were interviewed.

The empirical results revealed that the total number of non-consumptive wildlife tourists visiting the game reserve was much more than the consumptive wildlife tourists. The overall size and the number of rooms of the lodge hosting the non-consumptive wildlife tourists were much bigger and considerably more than for the consumptive wildlife tourist lodge. Also, the amount of food prepared and consumed by the non-consumptive wildlife tourists on a daily basis was much more than that of the consumptive wildlife tourists. The non-consumptive wildlife tourists also spent less money during their stay at the game reserve than the consumptive wildlife tourists.

From these results, it can be concluded that although both consumptive and non-consumptive wildlife tourists have an impact on the environment at the game reserve, the impact of non-consumptive wildlife tourists is potentially more than that of consumptive wildlife tourists. In order to minimise the potential negative impact of these tourists on the environment, recommendations are made with regard to water usage, electricity usage, the amount of waste generated, recycling, air pollution, soil compaction and vegetation damage as well as the disturbance of wildlife. The reserve management can use these recommendations to implement some strategies to help minimise the negative impacts and maximise the positive ones.

Keywords: consumptive wildlife tourists, environmental impact, natural area tourism, non-consumptive wildlife tourists, protected area tourism, wildlife tourism.

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION AND PROBLEM STATEMENT	20
1.1 INTRODUCTION	20
1.2 BACKGROUND OF THE STUDY	21
1.3 PROBLEM STATEMENT	26
1.4 AIM AND OBJECTIVES OF THE RESEARCH	26
1.5 METHOD OF RESEARCH.....	27
1.5.1 Literature study	27
1.5.2 Empirical study.....	27
1.5.2.1 Research design and method of data collection	27
1.5.2.2 Sampling.....	28
1.5.2.3 Development of the measuring instruments	28
1.5.2.3.1 Interview instrument one – Questionnaire A (supply side)	28
1.5.2.3.2 Interview instrument two – Questionnaire B (demand side).....	29
1.5.2.4 Conducting the research	30
1.5.2.5 Data analysis	31
1.6 ETHICAL CONSIDERATIONS.....	31
1.6.1 Trustworthiness.....	32
1.6.2 Reliability and validity.....	32
1.6.3 Reliability	32
1.6.4 Validity	32
1.7 DEFINITION OF CONCEPTS	34
1.7.1 Tourism.....	34

1.7.2	Ecotourism.....	34
1.7.3	Natural area tourism.....	34
1.7.4	Wildlife tourism.....	34
1.7.5	Protected area	35
1.7.6	Environmental impact.....	35
1.8	CHAPTER LAYOUT.....	35

CHAPTER 2: NATURAL AREA TOURISM: PUTTING IT IN CONTEXT 37

2.1	INTRODUCTION	37
2.2	NATURAL AREA TOURISM.....	37
2.2.1	Defining natural area tourism	37
2.2.2	The different tourism sectors of natural area tourism.....	38
2.3	GEOTOURISM	39
2.3.1	Defining geotourism	39
2.3.2	Characteristics of geotourism.....	40
2.3.3	Geotourists	41
2.3.4	Geotourism development	41
2.3.5	Environmental impacts of geotourism	42
2.4	ADVENTURE TOURISM	42
2.4.1	Defining adventure tourism	42
2.4.2	The geography of adventure tourism in Southern Africa.....	43
2.4.3	Categories of adventure tourism	43
2.4.4	Adventure tourists	45
2.4.5	Environmental impacts of adventure tourism.....	45

2.5	ECOTOURISM.....	46
2.5.1	Defining ecotourism	46
2.5.2	Ecotourism as part of nature-based tourism.....	47
2.5.3	The different pillars of ecotourism	48
2.5.4	Principles and characteristics of ecotourism.....	50
2.6	WILDLIFE TOURISM.....	51
2.6.1	Defining wildlife tourism	51
2.6.2	Categories of wildlife tourism	51
2.6.3	The wildlife tourism product.....	52
2.6.4	The wildlife tourism experience	53
2.6.4.1	Richness or intensity	54
2.6.4.2	Control of encounter	54
2.7	THE TRAVEL MOTIVES OF WILDLIFE TOURISTS.....	55
2.7.1	Describing travel motives	55
2.7.2	Travel motives of consumptive wildlife tourists	55
2.7.3	Travel motives of non-consumptive wildlife tourist.....	57
2.8	CONCLUSION	59
CHAPTER 3: ENVIRONMENTAL IMPACTS OF NATURAL AREA TOURISM.....		61
3.1	INTRODUCTION	61
3.2	DIFFERENT CATEGORIES OF NATURAL AREA TOURISM IMPACTS.....	61
3.2.1	Economic impacts.....	62
3.2.2	Socio-cultural impacts	63
3.2.3	Environmental impacts.....	65

3.2.3.1	Negative environmental impacts	66
3.2.3.2	Positive environmental impacts	71
3.2.3.3	Negative versus positive environmental impacts	74
3.3	MANAGEMENT OF THE IMPACTS OF WILDLIFE TOURISM (CONSUMPTIVE AND NON-CONSUMPTIVE)	74
3.3.1	Models used to manage negative impacts	74
3.3.2	Facility design and appropriateness	77
3.3.3	Site and visitor management.....	79
3.3.3.1	Site management tools	80
3.3.3.2	Visitor management tools.....	80
3.3.4	Eco-efficient practices	81
3.3.5	Energy management.....	81
3.3.6	Waste management.....	82
3.3.7	Water management	83
3.4	CONCLUSION	84
CHAPTER 4: RESEARCH DESIGN AND METHOD		85
4.1	INTRODUCTION	85
4.2	RESEARCH PHILOSOPHY	85
4.3	RESEARCH APPROACH	86
4.4	RESEARCH DESIGN	87
4.5	SAMPLING	89
4.5.1	Sampling techniques.....	89
4.5.2	The sample size.....	92

4.6	RESEARCH METHODS	92
4.6.1	Data collection methods.....	92
4.6.2	Data collection procedure	94
4.6.3	Data recording and analysis.....	95
4.7	CONCLUSION	96
CHAPTER 5: EMPIRICAL RESULTS		98
5.1	INTRODUCTION	98
5.2	RESULTS FROM THE SUPPLY SIDE.....	98
5.2.1	Demographic data of management	98
5.2.2	Background of the game reserve	99
5.2.3	Management's perceptions regarding the impacts of non-consumptive wildlife tourism on the environment.....	101
5.2.3.1	The characteristics of the tourist lodge	101
5.2.3.2	The background of the non-consumptive wildlife tourists	102
5.2.3.3	Challenges	103
5.2.3.4	The perceived environmental impacts of non-consumptive wildlife tourism	104
5.2.4	Management's perceptions regarding the impacts of consumptive wildlife tourism on the environment	105
5.2.4.1	The characteristics of the hunting lodge	105
5.2.4.2	The background of the consumptive wildlife tourists	106
5.2.4.3	Challenges	107
5.2.4.4	The perceived environmental impacts of consumptive wildlife tourism	108
5.3	RESULTS FROM THE DEMAND SIDE	111
5.3.1	Demographic profile	111

5.3.1.1	Gender of respondents	111
5.3.1.2	Age, country of residence and language	112
5.3.1.3	Marital status	114
5.3.1.4	Level of education	115
5.3.1.5	Occupation.....	117
5.3.2	Travel behaviour	118
5.3.2.1	Group size, length of stay and times returned	118
5.3.2.2	Spending.....	120
5.3.2.3	Preferred travel destinations	123
5.3.2.4	Motives for visiting the game reserve	124
5.3.2.5	Environmental impacts with regard to travel behaviour	125
5.3.2.6	Personal behaviour to reduce environmental impacts at the game reserve.....	127
5.3.2.7	Highlights in visiting the game reserve	128
5.3.3	Perceptions regarding the environmental impacts of wildlife tourists (consumptive and non-consumptive) at the game reserve	129
5.3.3.1	Soil loss or erosion.....	130
5.3.3.2	Water pollution	131
5.3.3.3	Vegetation loss	131
5.3.3.4	Disruption of wildlife	132
5.3.3.5	Water use	132
5.3.3.6	Air pollution	133
5.3.3.7	Energy use.....	133
5.3.3.8	Depositing of litter	134
5.3.3.9	Personal behaviour of the wildlife tourists at the game reserve	135

5.3.3.10	Behavioural contributions regarding a greener environment	139
5.3.3.11	Financial contributions	140
5.3.4	The wildlife tourists' (consumptive and non-consumptive) environmentally friendly behaviour at home	145
5.3.4.1	Personal behaviour in order to minimise potential impacts on nature at home	145
5.3.4.2	Recycling methods to help minimise potential impacts on nature at home	149
5.3.4.3	Systems, appliances and water-saving measures at home to help minimise potential impacts on nature	149
5.3.4.4	Organisations the respondents belong to that help towards nature conservation	150
5.3.4.5	The respondents' views on how they see themselves as conservationists	151
5.4	CONCLUSION	151
CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS.....		153
6.1	INTRODUCTION	153
6.2	CONCLUSIONS REGARDING THE STUDY	153
6.2.1	Conclusions with regard to the literature analysis on natural area tourism	153
6.2.1.1	Natural area tourism.....	153
6.2.1.2	Geotourism	154
6.2.1.3	Adventure tourism.....	154
6.2.1.4	Ecotourism.....	154
6.2.1.5	Wildlife tourism.....	155
6.2.2	Conclusions with regard to the literature analysis of the impacts of natural area tourism.....	156
6.2.2.1	Economic impacts.....	156
6.2.2.2	Socio-cultural impacts.....	157

6.2.2.3	Environmental impacts.....	157
6.2.2.4	Management of the negative impacts of wildlife tourism (consumptive and non-consumptive)	159
6.2.3	Conclusions with regard to the empirical results of the research	160
6.2.3.1	Management (supply side).....	160
6.2.3.2	Wildlife tourists (demand side)	164
6.2.3.2.1	Demographic profile of the wildlife tourists (consumptive and non-consumptive)	164
6.2.3.2.2	Perceptions of wildlife tourists (consumptive and non-consumptive) regarding their environmental impacts at the game reserve	166
6.2.3.2.3	Perceptions of wildlife tourists (consumptive and non-consumptive) regarding personal environmentally friendly behaviour at home	171
6.3	RECOMMENDATIONS FROM THE RESEARCH.....	173
6.3.1	Recommendations with regard to consumptive wildlife tourism at the game reserve ..	173
6.3.2	Recommendations with regard to non-consumptive wildlife tourism at the game reserve.....	175
6.3.3	Recommendations for future research	178
6.4	LIMITATIONS OF THE STUDY	178
6.5	CONCLUSION	179
	REFERENCE LIST	180

LIST OF TABLES

Table 1.1: Comparison of the impacts (positive and negative) wildlife tourism (consumptive and non-consumptive) has on the natural environment	24
Table 1.2: Interviewing schedules for the reserve management.....	31
Table 1.3: Interviewing schedules for the wildlife tourists (consumptive and non-consumptive)	31
Table 2.1: Different definitions of ecotourism	46
Table 2.2: Wildlife tourism products	53
Table 2.3: Travel motives of consumptive wildlife tourists	56
Table 2.4: The internal travel motives of non-consumptive wildlife tourists.....	57
Table 2.5: The external travel motives of non-consumptive wildlife tourists.....	59
Table 3.1: Positive and negative economic impacts of natural area tourism.....	62
Table 3.2: Positive and negative socio-cultural impacts as a result of natural area tourism.....	64
Table 3.3: Ways in which the local community benefits from consumptive wildlife tourism.....	73
Table 3.4: Guidelines for environment-friendly designs for wildlife tourism facilities	79
Table 3.5: Guidelines for efficient and reduced energy use.....	82
Table 3.6: Guidelines for waste management	83
Table 3.7: Guidelines for saving water	83
Table 4.1: Interview types	93
Table 5.1: Demographic profile of the reserve management (owner, general manager, consumptive and non-consumptive tourist managers)	98
Table 5.2: Consumptive wildlife tourists: age, country of residence and language spoken	113
Table 5.3: Non-consumptive wildlife tourists: age, country of residence and language spoken ...	113
Table 5.4: Consumptive wildlife tourists: type of hunter, times returned, group size and length of stay.....	118

Table 5.5: Non-consumptive wildlife tourists: type of visitor, times returned, group size and length of stay	119
Table 5.6: Spending of consumptive wildlife tourists	120
Table 5.7: Species hunted by consumptive wildlife tourists	121
Table 5.8: Spending of non-consumptive wildlife tourists	122
Table 5.9: Personal behaviour of the consumptive wildlife tourists at the game reserve.....	136
Table 5.10: Personal behaviour of the non-consumptive wildlife tourists at the game reserve.....	138
Table 5.11: Personal behaviour of consumptive wildlife tourists at home	146
Table 5.12: Personal behaviour of non-consumptive wildlife tourists at home	148
Table 6.1: Environmental impacts of both lodges (consumptive and non-consumptive) as perceived by the game reserve management	160
Table 6.2: Demographic profile of the wildlife tourists (consumptive and non-consumptive).....	164
Table 6.3: Perceptions of wildlife tourists (consumptive and non-consumptive) regarding the use of water and electricity, new consumables in the bathrooms and the cleaning of linen and towels as paying guests at the game reserve	166
Table 6.4: Perceptions of wildlife tourists (consumptive and non-consumptive) regarding their impact on soil loss or erosion, water pollution, vegetation loss, disruption of wildlife, water usage, air pollution, energy usage and the depositing of litter while at the game reserve.....	167
Table 6.5: Perceptions of wildlife tourists (consumptive and non-consumptive) regarding personal contributions towards a greener environment and conservation at the game reserve.....	169
Table 6.6: Perceptions of wildlife tourists (consumptive and non-consumptive) regarding how their lodge contributes towards conservation and greener practices at the game reserve	170
Table 6.7: Wildlife tourists' (consumptive and non-consumptive) recycling, systems, appliances and water-saving measures at home to help minimise potential impacts on the environment.....	172

LIST OF FIGURES

Figure 1.1: Alternative tourism	22
Figure 1.2: Wildlife tourism.....	23
Figure 2.1: Natural area tourism.....	38
Figure 2.2: The relationship of geotourism with other forms of tourism.....	40
Figure 2.3: Adventure tourism activities	44
Figure 2.4: Nature-based tourism subsets.....	48
Figure 2.5: The four pillars of ecotourism	49
Figure 3.1: Impacts of natural area tourism	62
Figure 3.2: The sum of the environment.....	65
Figure 3.3: Ecotourism opportunity spectrum model	76
Figure 3.4: Wildlife tourism accommodation spectrum	78
Figure 5.1: Gender of consumptive wildlife tourists	111
Figure 5.2: Gender of non-consumptive wildlife tourists	112
Figure 5.3: Marital status of consumptive wildlife tourists	114
Figure 5.4: Marital status of non-consumptive wildlife tourists	114
Figure 5.5: Highest level of education of consumptive wildlife tourists.....	115
Figure 5.6: Highest level of education of non-consumptive wildlife tourists	116
Figure 5.7: Occupation of consumptive wildlife tourists	117
Figure 5.8: Occupation of non-consumptive wildlife tourists	117
Figure 5.9: Preferred destinations visited by consumptive and non-consumptive wildlife tourists	123
Figure 5.10: Consumptive and non-consumptive wildlife tourists' motives to travel to the game reserve.....	124

LIST OF APPENDIXES

Appendix A: Interview instrument for the reserve management.....	198
Appendix B: Interview instrument for consumptive and non-consumptive wildlife tourists	202
Appendix C: Letter of consent.....	216
Appendix D: Ethics approval letter.....	217
Appendix E: Theme regarding the background of the game reserve	218
Appendix F: Themes regarding non-consumptive wildlife tourism at the game reserve.....	218
Appendix G: Themes regarding consumptive wildlife tourism at the game reserve	219

CHAPTER 1: INTRODUCTION AND PROBLEM STATEMENT

"If we can teach people about wildlife, they will be touched. Share my wildlife with me, because humans want to save things they love."

~ Steve Irwin ~

=====

1.1 INTRODUCTION

Tourism is the world's fastest-growing industry, according to Gössling (2000:223). Richards (1999:189) defines tourism as being focused on leisure travel outside the normal environment of a person and recognised as a requirement of human life. With its great variety of natural scenery and cultural riches as the main draw of the continent, Africa has always been seen as an exotic tourism destination (Sarmiento & Rink, 2016:1). Tremblay (2001:81) notes that Africa has experienced phenomenal growth within the wildlife tourism industry over the past century, especially in the sense of consumptive and non-consumptive wildlife tourism. This growth can be attributed to the beautiful landscapes, pleasant weather, unique history, abundance of wildlife, different cultures and the variety of tourism products offered by the continent (International Hotel School, 2014).

Namibia, one of the many countries on the African continent, with its semi-arid to arid habitats, has produced a multimillion-dollar industry based on the consumptive and non-consumptive use of wildlife (Novelli, Barnes & Humavindu, 2006:71). The game reserve where the research study has been conducted is located in the heart of the Okonjati district of Namibia, 225 kilometres north of Windhoek, the capital of the country. Home to over 8 000 animals and an impressive variety of bird species, this game reserve is a true conservation and protected area.

The consumptive use of wildlife on this game reserve encompasses activities such as hunting, while the non-consumptive use includes activities such as wildlife photography, game viewing and bird watching, to name but a few. The (wildlife) tourists who visit such a wildlife destination, together with a combination of all their activities, have some kind of impact on nature and the surrounding environment. Butler (1980:5), Prosser (1994) and Ceballos-Lascurain (1996) all argue that (wildlife) tourism in all its forms may contain the seed of its own destruction. Moreover, Carter (1999:32) has concluded that (wildlife) tourism may even destroy the type of tourism on which this particular industry is based, killing the environmental attractions for which visitors go to a specific location to experience these.

According to Spenceley (2005:136), environmental impact refers to an attempt to prejudge the relationship that exists among tourism activities, the impact these activities have on specific

ecosystems in the natural environment and the effect of disturbance it has on wildlife. Encarta (2008) defines environmental impact as the direct and indirect effect of human actions and activities on the natural environment. On the basis of this definition, environmental impact can be described as a balanced or unbalanced relationship among tourism activities and the positive or negative effect these activities have on the environment. In spite of the mostly negative environmental impacts of (wildlife) tourism, positive impacts and effects can also be manifested (Hazbun, 2013:356).

1.2 BACKGROUND OF THE STUDY

The tourism industry, as depicted in Figure 1.1, can be split into two groups, namely mass tourism and alternative tourism (Wearing & Neil, 1999:3). According to Poon (1993), mass tourism refers to the movement of large numbers of organised tourists to popular holiday destinations for recreational purposes. Furthermore, it is a phenomenon that is characterised by the use of standardised packaged leisure products for tourists and mass consumption by tourists. Alternative tourism consists of particular tourism activities, including nature-based tourism, which is also referred to as “natural area tourism” and is one of the study areas of this research.

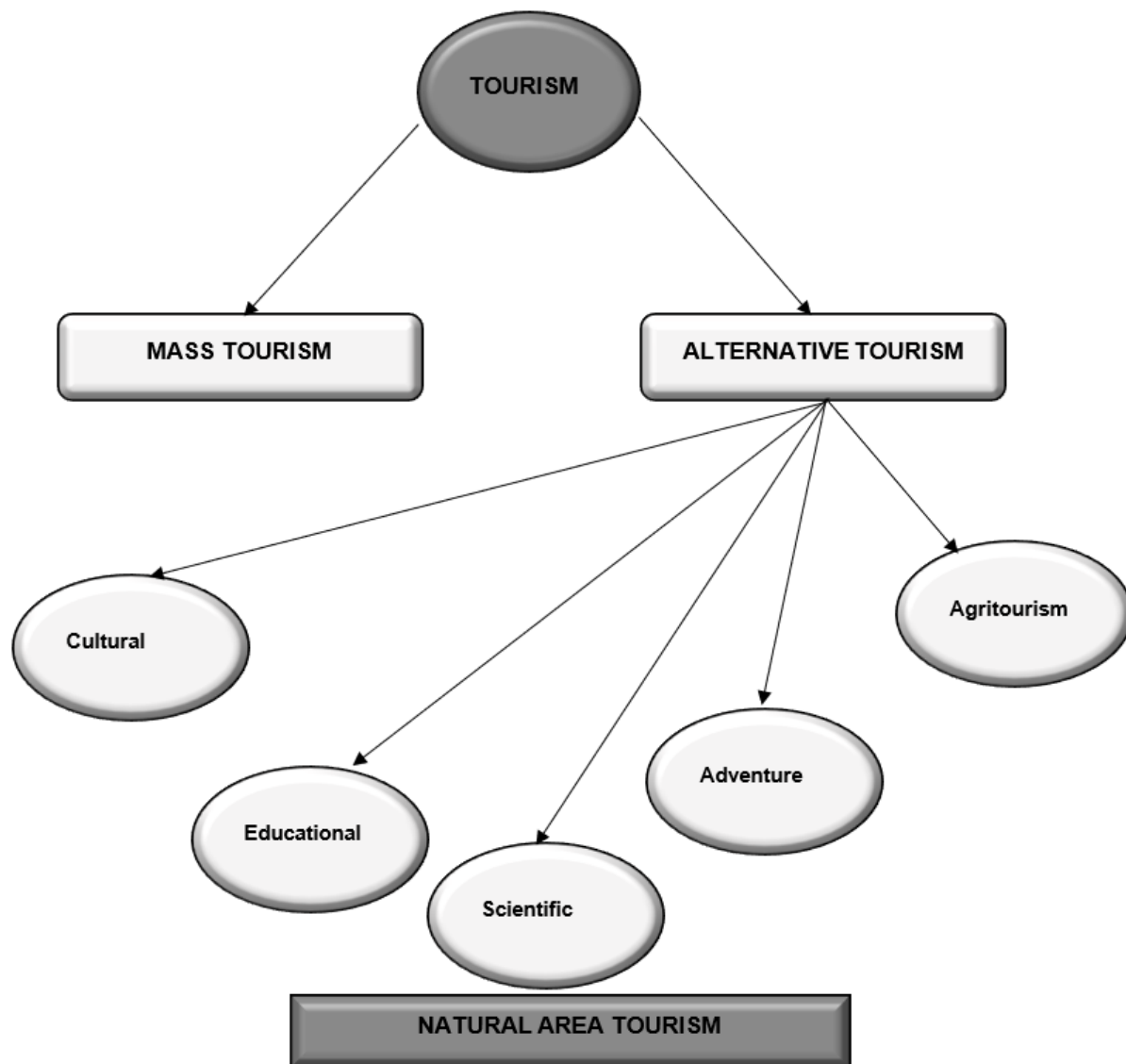


Figure 1.1: Alternative tourism

(Wearing & Neil, 1999:3)

Natural area tourism can be defined as nature-based tourism. Valentine (1992:108) defines nature-based tourism as consisting of experiences that are dependent on and enhanced by nature and for which a natural setting is incidental. According to Higginbottom (2004:2), natural area tourism involves experiencing natural places through active or passive outdoor activities that are sustainable in terms of the impact thereof on the natural environment. Natural area tourism, according to Newsome, Moore and Dowling (2013:14), consists of four different tourism sectors, namely ecotourism, wildlife tourism, geotourism and adventure tourism. As the main focus of this study is on wildlife tourism, this concept is explained next.

Higginbottom (2004:2) and Page and Dowling (2002) describe wildlife tourism as tourism that entails encounters with wild animals, either in their natural habitat or in captivity, and features a variety of activities. Higginbottom (2004:3) further states that the main aim of wildlife tourism is to focus on

fewer tourists with a better-quality experience. According to Sinha (2001:3), wildlife tourism can be categorised as consumptive or non-consumptive, depending on the purpose of recreation (activities) and the level of contact between tourists and wildlife. Consumptive activities include acts such as the capturing or killing of animals (hunting), while non-consumptive activities include ventures where animals are neither caught nor killed (e.g. wildlife watching and wildlife photography) (Commonwealth Australia, 1998). Ecotourism is thus recognised as a form of tourism that is non-consumptive and happens in undisturbed natural settings (Higginbottom, 2004:3; Newsome, Dowling & Moore, 2005:19).

Wildlife tourism, as depicted in Figure 1.2, can therefore be described as an area of overlap between nature-based tourism, ecotourism, the consumption of wildlife (e.g. hunting and recreational fishing), rural tourism and human relationships with wildlife (Page & Dowling, 2002).

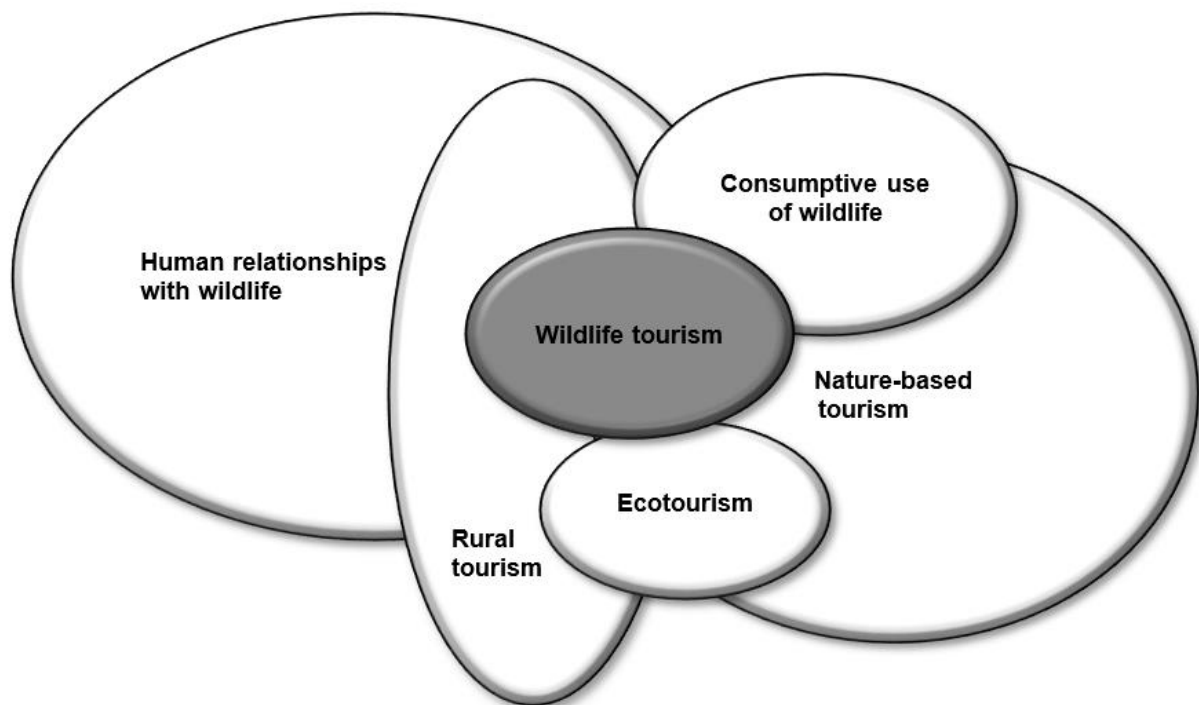


Figure 1.2: Wildlife tourism

(Page & Dowling, 2002)

According to Van der Merwe and Saayman (2003:105), wildlife tourism can include a variety of activities, with the following being the most prominent: hiking trails, game drives, bird watching, hunting (biltong and trophy), recreational fishing, photographic safaris, farm holidays, 4x4 trails, canoeing, abseiling, horse-riding safaris and mountain biking. All of these activities have the possibility of having some kind of negative impact on the natural environment (Turton, 2005:140; Li, Zhang, Lui & Xue, 2006:572; Moore & Polley, 2007:291; Ahmed, Moodley & Sookraih, 2008:73).

In order to get a better idea of the impacts (positive and negative) wildlife tourism has on the natural environment, a comparison from previous studies is portrayed in Table 1.1. This comparison shows the different impacts consumptive and non-consumptive wildlife tourists have on the environment.

Table 1.1: Comparison of the impacts (positive and negative) wildlife tourism (consumptive and non-consumptive) has on the natural environment

Author	Title of study	Positive impacts	Negative impacts
Duffus and Dearden (1990:213-231)	Non-consumptive wildlife-oriented recreation: A conceptual framework.	Well-managed hunting and fishing cause sustainable ecology.	Unmanaged wildlife watching has a negative impact on the behaviour, physiology and reproduction of wildlife.
Roe, Leader-Williams and Dalal-Clayton (1997:37)	Take only photographs to leave only footprints: the environmental impacts of wildlife tourism.	Hunters claim that the least detrimental effect of all types of ecotourism is well-regulated trophy hunting.	
Newsome <i>et al.</i> (2005:43-44)	Wildlife tourism		Non-consumptive tourist disruptions: • animals feeding • breeding; • social behaviour • migration patterns • physical harm from vessels and vehicles • introduction of pathogens, etc.
Caro, Pelkey, Borner, Severre, Campbell, Huish and Woodworth (1998)	The impact of hunting large mammals in Tanzania: an initial assessment.	Hunting offers long-term protection for ecosystems and wildlife species, as long as it is done on a sustainable basis.	
Green and Higginbottom (2001:15)	The negative effects of wildlife tourism on wildlife.		Commercial wildlife viewing is detrimental to wild ecosystems.
Tremblay (2001:81)	Wildlife tourism consumption: consumptive or non-consumptive?		Wildlife-viewing (non-consumptive tourism) typically leads to crowding effects with high degrees of intrusion on habitat and extensive infrastructure needs.

Baker (1997)	Trophy hunting as a sustainable use of wildlife resources in Southern and Eastern Africa.		Wildlife viewing is more harmful to wild habitats than hunting, as it typically includes participants concentrating on time and space with a lower willingness to pay.
Lindsey, Frank, Alexander, Mathieson and Romanach (2006:288)	Trophy hunting creates incentives for wildlife conservation in Africa.		Hunting disturbances can impair the fitness of wildlife populations.
Lovelock (2006)	Tourism in peripheries: perspectives from north and south.		Unregulated hunting can have a substantial impact on the survival of some species.

(Source: Author's own compilation)

The results from Table 1.1 can briefly be summarised next. Firstly, the positive impacts consumptive wildlife tourists contribute towards are as follows: well-managed hunting and fishing cause a sustainable ecology; well-regulated trophy hunting has the least detrimental effect of all types of ecotourism; hunting offers long-term protection for ecosystems and wildlife species as long as it is done on a sustainable basis; and trophy hunting may save the wildlife of Africa. Secondly, consumptive wildlife tourists are responsible for negative impacts, such as hunting that disturbs and impairs the fitness of wildlife populations, and unregulated hunting can have a substantial impact on the survival of some species. On the other hand, non-consumptive wildlife tourists also contribute towards negative impacts such as the following: unmanaged wildlife watching has a negative impact on the behaviour, physiology and reproduction of wildlife; the disturbance of animals' feeding and breeding patterns, social behaviour and migration patterns; physical harm from vessels and vehicles; and the introduction of pathogens. Furthermore, wildlife viewing (non-consumptive tourism) typically leads to crowding effects with high degrees of intrusion on habitat and extensive infrastructure needs, which are more harmful to wild habitats than hunting, as it typically includes participants concentrating on time and space with a lower willingness to pay.

From the above findings, it is clear that both consumptive and non-consumptive wildlife tourists have an impact (positive and negative) on the environment. This impact has the potential to affect the water resources, land resources and energy resources, lead to the degradation of vegetation and soil, cause pollution in all of its forms and disturb the wildlife (Nelson, 2013:210). The type and magnitude of this impact on the environment depend on numerous factors, such as the type of wildlife tourists (consumptive or non-consumptive), the type of activity pursued by the wildlife tourists (consumptive and non-consumptive), the characteristics of the wildlife, the ecology of the area and the time scale under consideration (Roe *et al.*, 1997:19; Choi, Song, Kim & Lee, 2017:4).

1.3 PROBLEM STATEMENT

It is generally argued that non-consumptive wildlife tourism entails greater sympathy, appreciation and learning benefits than consumptive wildlife tourism (Tremblay, 2001:81). However, according to Roe *et al.* (1997:43), non-consumptive wildlife tourists have the need to escape from other tourists and as a consequence, may increase the risk of hit-and-run tourism, resulting in a rapid increase of nature lovers to the latest wild spot discovered, followed by the degraded state of their activities and the abandonment thereof, which could have detrimental effects on the natural environment.

To the contrary, there is the perception that consumptive wildlife tourism (hunting and fishing) results in greater environmental impacts upon wildlife that are more intense and concentrated, but on a smaller scale, than non-consumptive wildlife tourism (Reynolds & Braithwaite, 2001:31). As a consequence, some impacts as a result of wildlife tourism (both consumptive and non-consumptive) are evident and easily recognisable, while others are indirect and difficult to measure (Shackley, 2006:868).

From the above, it is clear that both consumptive and non-consumptive wildlife tourism have impacts (positive and negative) on the natural environment. The types of impact of these two tourism markets and the effect thereof (consumptive and non-consumptive) need to be determined, since it has hardly been studied before. Therefore, this research study aims to compare the perceived environmental impacts of consumptive and non-consumptive wildlife tourism at a selected game reserve in Namibia where both consumptive and non-consumptive wildlife tourists are to be found.

1.4 AIM AND OBJECTIVES OF THE RESEARCH

The main aim of the research is to compare the perceived environmental impacts of consumptive and non-consumptive wildlife tourism.

The research objectives that will help to reach the aim of the study are:

- to do a literature overview of natural area tourism and the different sectors it involves, namely geotourism, adventure tourism, ecotourism and wildlife tourism;
- to analyse the existing literature pertaining to the impact natural area tourism has on the natural environment with a specific focus on consumptive and non-consumptive wildlife tourism;
- to discuss the empirical results, as obtained from the data collected through the qualitative research process, regarding the perceived environmental impacts caused by the consumptive and non-consumptive wildlife tourists to the specific game reserve; and
- to draw conclusions and make recommendations regarding the perceived environmental impacts of the consumptive and non-consumptive wildlife tourists.

1.5 METHOD OF RESEARCH

The research design that was used for this study included both a literature study and an empirical study to enable the researcher to achieve the goal and the objectives of the study.

1.5.1 Literature study

The literature study is presented in three chapters – Chapter 2, Chapter 3 and Chapter 4. In Chapter 2, the emphasis is placed on natural area tourism and the different sectors it consists of. Chapter 3 primarily focuses on the different kinds of impact (positive and negative) natural area tourism has at an economic, socio-cultural and environmental level. Regarding the environmental impacts, specific attention is paid to how consumptive and non-consumptive wildlife tourism each contributes to environmental impact. The literature concerning research design and methods is covered in Chapter 4.

For all three literature chapters (Chapters 2, 3 and 4), several sources of information were used in order to have the full impact of available literature relevant to the study. These sources include academic textbooks, theses and dissertations, academic journals, tourism-related literature and electronic databases, such as Google Scholar and EbscoHost. In the literature study, emphasis is placed on the following keywords: tourism, ecotourism, wildlife tourism, consumptive and non-consumptive wildlife tourism activities, protected areas and environmental impact.

1.5.2 Empirical study

The following subsections describe the research method followed in order to conduct the empirical analysis of the study. To note: the management of the game reserve is referred to as the “supply side”, while the consumptive and non-consumptive wildlife tourists are referred to as the “demand side”. The research method and design, data collection and sampling procedures and the data analysis are briefly explained below. A more in-depth discussion of these aspects of the study is provided in Chapter 4.

1.5.2.1 Research design and method of data collection

A research design is a “blueprint” for the study, which sets out the various procedures followed in order to achieve the research objectives (Malhotra, 2010:102; Berndt & Petzer, 2011:31). According to Malhotra (2010:103), there are basically three research designs: exploratory research, descriptive research and causal research. In this study, an exploratory research design was employed, while action research was used (see Chapter 4 for a detailed explanation).

Regarding research methods, quantitative, qualitative or mixed-method research can be conducted (Kothari, 2004:2). In this study, a qualitative research method was used for both the supply side and

the demand side, which helped to determine the perceived environmental impacts of consumptive and non-consumptive wildlife tourism.

In qualitative research, data collection happens through four distinct field-based activities, namely interviewing, observing, focus groups and questionnaires (Yin, 2011:129). Interviews can be classified into three types, namely open-ended interviews, semi-structured interviews and structured interviews (Maree, 2007). In this study, semi-structured interviews were used to collect data from respondents at both the supply and the demand side.

1.5.2.2 Sampling

According to Maree and Pietersen (2016:192), sampling can be segregated into two major classes, each comprising different methods. These are probability sampling and non-probability sampling. For the purpose of this research study, a non-probability sampling approach was used for both research populations (supply and demand side), whereby the different methods that were used for each population are explained in detail in Chapter 4

1.5.2.3 Development of the measuring instruments

For this study, two separate interview instruments (questionnaires) were designed for the two research populations (supply and demand side). The first interview instrument (Questionnaire A) focused on the reserve management (supply side) and the second interview instrument (Questionnaire B) on the consumptive and non-consumptive wildlife tourists visiting the game reserve (demand side).

Both interview instruments (questionnaires) have been developed through the guidance of similar studies regarding the environmental impact of tourism. These studies include the works of O'Connor (2009), Sucheran (2013), Chen (2015), Silent (2017) and Solberg (2017). After a series of improvements and adjustments, interview instrument one (Questionnaire A) for the reserve management was approved in August 2019, and interview instrument two (Questionnaire B) for the consumptive and non-consumptive wildlife tourists in January 2020. The interview instruments and what they consist of are discussed next.

1.5.2.3.1 Interview instrument one – Questionnaire A (supply side)

The interview instrument was designed to elicit information from the reserve management and consists of three sections (see Appendix A). The works of O'Connor (2009), Silent (2017) and Solberg (2017) were consulted to draft the layout of this questionnaire.

Section A focuses on the demographic data of the reserve management, such as the number of years employed and the characteristics of the game reserve, namely the history, the size, the type

of land use forms, the different types of accommodation available, the number of employees, the different animal species found on the reserve and the success factors of and future plans for the game reserve.

Section B contains questions to the management of the game reserve regarding non-consumptive wildlife tourism. The following topics are covered:

- **The tourist lodge**

The focus here was on the number of rooms, the price per room, the occupancy rate of the rooms and the number of non-consumptive wildlife tourists who can be accommodated at the lodge, the number of employees working at the lodge, the average income generated by the lodge, the types of activities offered to the non-consumptive wildlife tourists while staying at the lodge and the number of vehicles used at the lodge.

- **The profile of non-consumptive wildlife tourists**

This section covers the number of non-consumptive wildlife tourists visiting the tourist lodge annually, their origin and group size, the number of nights these tourists spend at the tourist lodge and the busiest time of the year for the tourist lodge.

- **Challenges**

The focus here is on the volume of food bought and processed at the tourist lodge, the average volume of water used on a daily basis at the tourist lodge, the volume of waste that is generated by the tourist lodge, the recycling methods at the tourist lodge and the challenges regarding the employees of the tourist lodge.

- **Environmental impacts**

This section covers topics regarding the positive and negative contributions the tourist lodge makes towards the environment, the type of behaviour displayed by the non-consumptive wildlife tourists that might have an impact on the environment and the overall (general) impact of the non-consumptive wildlife tourists at the game reserve.

Section C contains the same questions as Section B, but focuses on the consumptive wildlife tourists visiting the game reserve.

1.5.2.3.2 Interview instrument two – Questionnaire B (demand side)

This interview instrument was designed to elicit information from the consumptive and non-consumptive wildlife tourists visiting the game reserve and comprises four sections (see Appendix B). The works of O'Connor (2009), Sucheran (2013), Chen (2015), Silent (2017) and Solberg (2017) were consulted to draft the layout of this questionnaire.

Section A focuses on the demographics of the respondents (consumptive and non-consumptive wildlife tourists) and includes topics such as age, gender, home language and marital status. Additional questions covering country of residence, level of education and occupation were included as well. The data obtained here helped to determine the profile of the consumptive and non-consumptive wildlife tourists visiting the game reserve.

Section B contains questions regarding the respondents' (consumptive and non-consumptive wildlife tourists') travel behaviour and motivations in order to help better understand the impact of these two wildlife tourism markets on the natural environment at the game reserve.

Section C focuses on how the respondents (consumptive and non-consumptive wildlife tourists) perceive their own environmental behaviour (impacts) at the game reserve.

Section D comprises questions seeking to reveal personal environmentally friendly behaviour that the respondents (consumptive and non-consumptive wildlife tourists) have at home.

To note: Sections C and D of the questionnaire include a five-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (5), that the respondents (consumptive and non-consumptive wildlife tourists) have to complete to be able to determine how their behaviour impacts the natural environment at the game reserve and at home. The Likert scale is a popular and helpful tool used to investigate what respondents think or feel about a specific topic (Maree & Pietersen, 2007:167).

1.5.2.4 Conducting the research

The interview with the management of the game reserve was conducted during the last week of September 2019 on the reserve itself. Originally, the interviews with the wildlife tourists (consumptive and non-consumptive) had been scheduled to be conducted on the game reserve during the second and third week of April 2020, but due to COVID-19, the researcher had to adapt to the circumstances and make use of online interviews. The management of the reserve gave permission to help source potential consumptive and non-consumptive wildlife tourists who had visited the game reserve the previous three years and provided the researcher with a list of the names and contact details of these tourists. After that, the researcher scheduled a time and date via email with the respondents for the interviews to be conducted. A letter of consent (see Appendix C) explaining the purpose of the research was attached to each email. A total of ten consumptive and ten non-consumptive wildlife tourists were willing to participate in the study. Each interview took 15 to 20 minutes to complete.

The following tables (Tables 1.2 and 1.3) indicate the day and date the interviews were conducted for both research populations (reserve management and the consumptive and non-consumptive wildlife tourists).

Table 1.2: Interviewing schedules for the reserve management

Management (supply side)	
Respondents	Day of interview
Owner	23 September 2019
General reserve manager	24 September 2019
Consumptive management	25 September 2019
Non-consumptive management	26 September 2019

(Source: Author's own compilation)

Table 1.3: Interviewing schedules for the wildlife tourists (consumptive and non-consumptive)

Consumptive and non-consumptive wildlife tourists (demand side)			
Consumptive wildlife tourists	Day of interview	Non-consumptive wildlife tourists	Day of interview
Respondent 1	02 June 2020	Respondent 1	15 June 2020
Respondent 2	03 June 2020	Respondent 2	15 June 2020
Respondent 3	03 June 2020	Respondent 3	18 June 2020
Respondent 4	05 June 2020	Respondent 4	18 June 2020
Respondent 5	08 June 2020	Respondent 5	22 June 2020
Respondent 6	09 June 2020	Respondent 6	22 June 2020
Respondent 7	10 June 2020	Respondent 7	23 June 2020
Respondent 8	10 June 2020	Respondent 8	24 June 2020
Respondent 9	12 June 2020	Respondent 9	25 June 2020
Respondent 10	12 June 2020	Respondent 10	26 June 2020

(Source: Author's own compilation)

According to Adler and Adler (2011), it is recommended that master's students should sample between 12 and 60 interviews, with 30 being the mean for a viable qualitative research study. The researcher thus interviewed a total of seven respondents from the reserve management (supply side) and ten consumptive and ten non-consumptive wildlife tourists who had visited the game reserve (demand side), totalling 27 respondents

1.5.2.5 Data analysis

For the data analysis, Creswell's (2009:185-189) six steps of analysing and interpreting data were employed and are explained in detail in Chapter 4.

1.6 ETHICAL CONSIDERATIONS

In a study, ethics refers to correct behaviour and involves how research is conducted in a moral and responsible manner (Blumberg, Cooper & Schindler, 2008:154). Ethics in this study was enhanced and ensured through trustworthiness (with reference to credibility, transferability and dependability),

validity and reliability. The manner in which each of these aspects has been implemented in the study is explained next.

1.6.1 Trustworthiness

Jennings (2010:150), Creswell (2013:246) and Nieuwenhuis (2016:110) all include authenticity, credibility, transferability, applicability, dependability and confirmability as important requirements for trustworthiness. Consequently, credibility, transferability and dependability were used to ensure the trustworthiness of the study.

Firstly, credibility was ensured when the researcher chose a research design that fitted the research questions. Secondly, transferability was ensured when the researcher provided the participants from both the supply and demand side with a letter of consent, explaining the purpose of the research, and a copy of the research questions. Lastly, dependability was ensured through the chosen research design and the implementation thereof, the data-gathering techniques and the reflective analysis of the research. The recordings, coding and examination of all the collected data helped to enhance the trustworthiness of the research even more.

1.6.2 Reliability and validity

Reliability and validity, especially with regard to research instruments, are key aspects in qualitative research (Creswell, 2013:63) to ensure the credibility of the research findings. The manner in which each of these aspects has been implemented in the study is explained next.

1.6.3 Reliability

Reliability refers to the degree of stability, trustworthiness and dependability of a measuring instrument (Keyton, 2011:110). The measuring instruments of this research study (Questionnaires A and B) are reliable because similar studies of O'Connor (2009), Sucheran (2013), Chen (2015), Silent (2017) and Solberg (2017), which focused on tourism environmental impacts, were consulted to draft both measuring instruments of this study.

1.6.4 Validity

Validity is the ability of a measuring instrument (e.g. questionnaire) to determine what was meant to be measured and to help assess the accuracy of the measuring instrument (Collis & Hussey, 2015:53). Two types of validity exist, namely content validity and construct validity. Content validity refers to whether the content of the measuring instrument is able to measure the concept that the researcher is trying to measure (Muijs, 2011:71). Content validity also relates to theoretical knowledge of a specific area of research and is improved by asking experts in the field and the respondents participating in a study about their views on the content of the measuring instrument

(Muijis, 2011:71). Construct validity, on the other hand, has to do with whether the measuring instrument (e.g. questionnaire) is measuring the intended construct and its interpretation, and assesses how effectively a measuring instrument can determine future actions or behaviour (Singleton & Straits, 2010:140).

The measuring instruments (Questionnaires A and B) of this research study comply to content and construct validity, as the both measuring instruments (Questionnaires A and B) had been approved by TREES (the Tourism Research in Economic and Environs Society) and the ethics committee of the Faculty of Economic and Management Science at the North-West University with clearance number NWU-01319-19-A4 (see Appendix D).

The study was further designed in a way that took into account the most important principles of conducting research. The following principles were applied to the study:

- **Plagiarism**

All sources used have been given proper recognition and all secondary data are accompanied by in-text references.

- **Confidentiality and anonymity**

The study is an anonymous survey, meaning that the names of the respondents and the answers given by them were treated confidentially.

- **Voluntary participation**

The respondents had the option to choose whether they wanted to participate in the interviews and were free to stop participating at any time without any negative consequences.

- **Academic purpose**

The study findings will only be used for academic purposes. All the data of the study will be archived and stored at the appropriate data repositories of the Research Unit of the North-West University.

- **Incentives**

No monetary or non-monetary incentives were given to the respondents to motivate them to participate in the study or to thank them for their participation.

- **Permission**

The owner of the game reserve was phoned beforehand, requesting the necessary permission to conduct the research on the property and to gain access to the tourists' contact details (through the list provided).

- **Honesty, objectivity and integrity**

The researcher was truthful and as impartial as possible in presenting all of the results. No falsification of the study results or misleading and inaccurate reporting occurred.

- **Protection from harm**

All of the respondents who participated in the research were respected at all times. No physical or psychological harm was inflicted upon any of the respondents.

1.7 DEFINITION OF CONCEPTS

For the purpose of this study, important concepts referred to in the study are briefly defined below.

1.7.1 Tourism

Saayman (2013:3) defines tourism as the overall experience that originates from interaction among visitors, job providers, government systems and communities in the process of providing tourist attractions, entertainment, transport and accommodation. The term “tourist” refers to an individual who travels away from his or her regular place of residence for longer than 24 hours and less than 12 months, while making use of tourism products, such as accommodation, entertainment and transport.

1.7.2 Ecotourism

Ecotourism was first defined by Ceballos-Lascurain in 1987 (quoted by Diamantis, 2004:5) as travelling to relatively undisturbed or uncontaminated natural areas with the specific objective of studying, admiring and enjoying the scenery and its wild plants and animals. After conducting a content analysis of 85 definitions, Fennel (2008:24) defines ecotourism as a sustainable type of natural resource-based tourism that focuses primarily on the experience of and the learning about nature, which are ethically managed to be low-impact, non-consumptive and locally orientated and beneficial. This kind of tourism typically occurs in natural areas and should contribute to the conservation or preservation of such areas.

1.7.3 Natural area tourism

Natural area tourism can be defined as nature-based tourism. Valentine (1992:108) defines nature-based tourism as consisting of experiences that are dependent on and enhanced by nature and for which a natural setting is incidental. According to Higginbottom (2004:2), natural area tourism involves experiencing natural places typically through active or passive outdoor activities that are sustainable in terms of the impact thereof on the natural environment.

1.7.4 Wildlife tourism

Wildlife tourism is based on encounters with non-domestic animals (Higginbottom, 2004:2). These encounters can occur in either the animal’s natural environment or in captivity. The interaction with such animals includes activities that are historically classified as non-consumptive, such as wildlife photography, or consumptive, such as the capture and killing of wild animals through, for example, hunting (in the terrestrial environment) and recreational fishing (in the aquatic environment).

1.7.5 Protected area

A protected area, as described by the International Union for Conservation of Nature (1994), is an area dedicated to the protection and maintenance of natural resources, cultural resources and biological diversity. Six types of protected areas exist, namely strictly protected areas (e.g. scientific reserves, biological sanctuaries and marine sanctuaries), national parks, natural and cultural monuments, habitat management areas, nature and game reserves and protected landscapes (Belsoy, Korir & Yego, 2012:64).

1.7.6 Environmental impact

According to Spenceley (2005:136), the term “environmental impact” refers to an effort to prejudge the relationship between tourism activities, the impact these activities have on specific ecosystems in the natural environment and the disturbance effect these activities have on wildlife. Encarta (2008) defines environmental impact as the direct and indirect effect of human actions and activities on the natural environment. On the basis of these definitions, environmental impact can be described as a balanced or an unbalanced relationship among tourism activities and the positive or negative effect these activities have on the environment.

1.8 CHAPTER LAYOUT

This study consists of five ensuing chapters. A brief description of the layout of each chapter is provided next.

Chapter 2: Natural area tourism: putting it in context

This chapter focuses on natural area tourism and the analysis of the different tourism sectors (geotourism, adventure tourism, ecotourism and wildlife tourism) it is built upon. Specific attention is paid to wildlife tourism which forms the main focus area of the research study. The chapter concludes with a discussion of the different travel motives of consumptive and non-consumptive wildlife tourists.

Chapter 3: Environmental impact of natural area tourism

The aim of Chapter 3 is to conduct a theoretical analysis of the environmental impacts of natural area tourism. To achieve this, all the positive and negative impacts natural area tourism can have on the economy, communities and the environment are highlighted. Also, the development and management aspects of natural area tourism, such as management models, the design of facilities, site and visitor management techniques and eco-efficient practices, are discussed.

Chapter 4: Research design and method

The methodology of the research is considered in this chapter to cover aspects of the study design the sampling, data collection and analysis methods, and so forth, as well as the reasons for choosing the specific design guiding the research.

Chapter 5: Empirical results

The aim of this chapter is to focus on the results of the empirical analysis that had been conducted on the data obtained from the management of the game reserve and the consumptive and non-consumptive wildlife tourists visiting the game reserve. The aims of the empirical research were twofold: firstly, to determine what management perceived the environmental impacts of the wildlife tourists (consumptive and non-consumptive) to be, and secondly, to gain an understanding of the same aspects from the wildlife tourists themselves who had visited the game reserve. Graphs, charts, tables, and so forth, are used to illustrate demographic data as a result of the findings from the empirical research with supporting interview extracts.

Chapter 6: Conclusions and recommendations

The final chapter provides the conclusions and recommendations in order to help minimise the negative environmental impacts and maximise the positive impacts regarding the consumptive and non-consumptive wildlife tourists at the game reserve. Recommendations for future and the limitations of the research are also listed.

CHAPTER 2: NATURAL AREA TOURISM: PUTTING IT IN CONTEXT

“No matter how few possessions you own or how little money you have, loving wildlife and nature will make you rich beyond measure.”

~ Paul Oxton ~

=====

2.1 INTRODUCTION

In Chapter 1, the research problem and the research objectives were presented. Furthermore, the scope of the study was determined, the assumptions on which the study was based were given and the value of the study was addressed. This chapter aims to provide a background of natural area tourism and the different tourism sectors it consists of. These sectors include geotourism, adventure tourism, ecotourism and wildlife tourism. Each of these tourism sectors will be analysed and discussed according to specific topics. In conclusion, the most important travel motives of consumptive and non-consumptive wildlife tourists are listed and discussed.

2.2 NATURAL AREA TOURISM

This chapter starts off by providing a brief history of natural area tourism and the definition thereof. After that, the different sectors natural area tourism consists of, namely geotourism, adventure tourism, ecotourism and wildlife tourism, will be analysed and discussed according to specific topics.

2.2.1 Defining natural area tourism

Natural areas have always attracted people, because people have a need to see, feel, touch and connect with and be motivated by natural areas. Tourists visiting such areas are seeking authentic, inspiring, transformational experiences and are often passionate about nature and conserving nature, as well as the people and wildlife who inhabit such areas (Newsome, Moore & Dowling, 2013:14). All these encounters evoke a powerful connection with nature, which forms the essence of natural area tourism. Consequently, “natural area tourism” is a broad term that involves a range of different tourism activities and experiences that all happen in the outdoors (Newsome *et al.*, 2013:14).

Natural area tourism is synonymous with nature-based tourism, which “consists of experiences that are dependent on nature, that are enhanced by nature and the experiences for which a natural setting is incidental” (Valentine, 1992:108). According to Pennington-Gray and Kerstetter (2002:421), “those who seek out nature-based tourism activities are described as being interested in nature and being physically active”.

2.2.2 The different tourism sectors of natural area tourism

Natural area tourism consists of various tourism sectors, all with unique experiences and activities (Fennell, 2008:20). Newsome *et al.* (2013:14) identify these tourism sectors as ecotourism, wildlife tourism, geotourism and adventure tourism, all with one similarity, namely that it happens in the natural environment. Figure 2.1 illustrates these sectors.

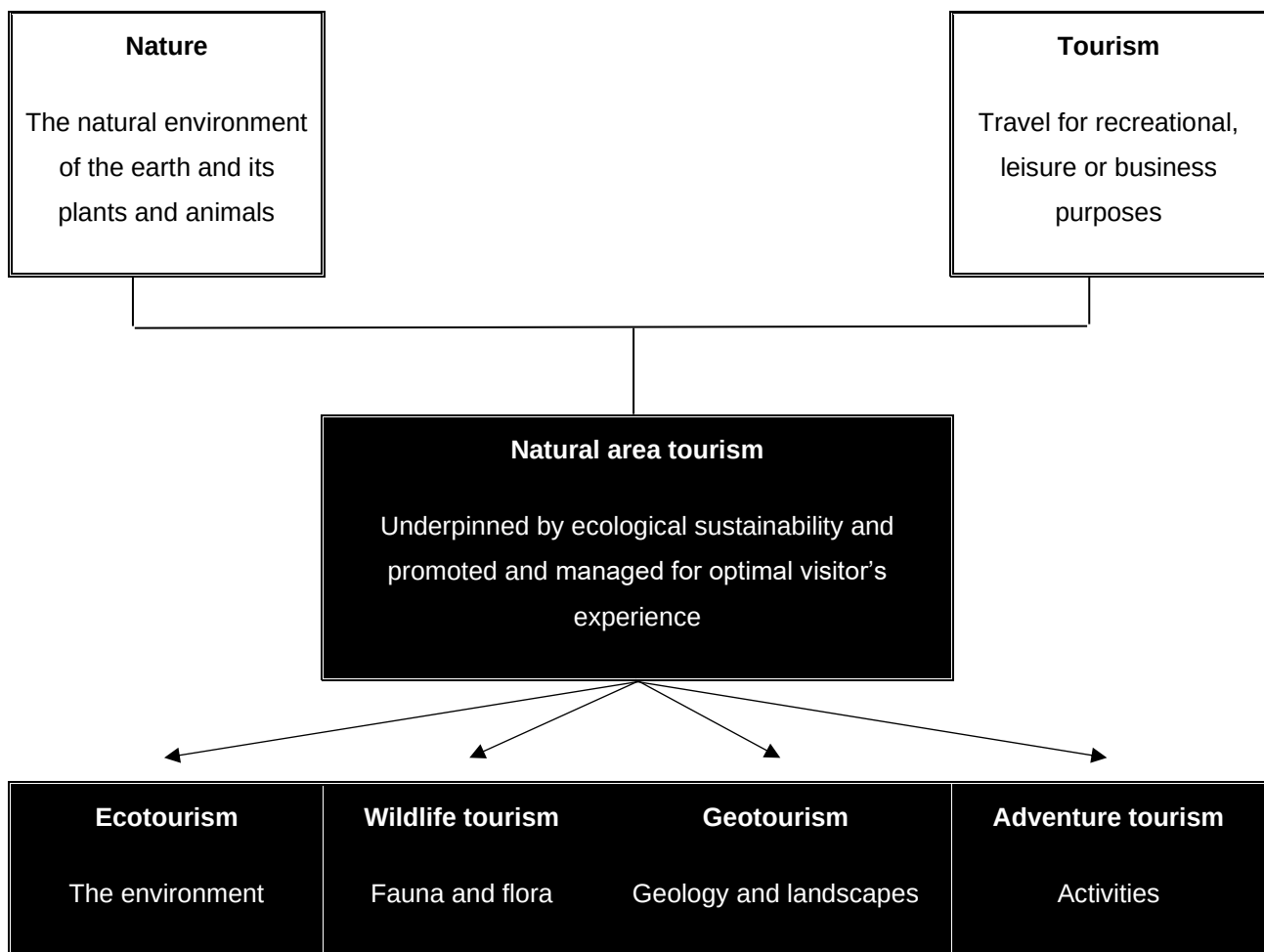


Figure 2.1: Natural area tourism

(Newsome *et al.*, 2013:14)

Each tourism sector is discussed next, with geotourism and adventure tourism being only briefly touched on, as the main focus of this research study is on ecotourism and wildlife tourism. An in-depth analysis of ecotourism and wildlife tourism has been conducted and will be discussed in the study.

2.3 GEOTOURISM

With regard to geotourism, the following subsections focus on the definition of geotourism, the unique characteristics of the industry, who the typical geotourists are, the basic conditions for successful geotourism development and some environmental impacts associated with geotourism.

2.3.1 Defining geotourism

One relatively new type of tourism that is environmentally innovative is geotourism. Newsome and Dowling (2010:4) define geotourism as “a form of natural area tourism that focuses specifically on geology and landscape. According to Stokes *et al.* (2003:3), geotourism is “best practice tourism that sustains, or even enhances, the geographical character of a place, such as its culture, environment, heritage, and the well-being of its residents, and ... incorporates sustainability principles such as ecotourism”. In addition to the “do-no-harm” ethic, geotourism focuses on the beauty and origins of the different landscapes, landforms, plant and animal life of an area and seeks to explain how they were formed (Coenraads & Koivula, 2007:2).

Although geotourism has a connection with ecotourism, cultural tourism and adventure tourism (as indicated in Figure 2.2), it still remains a unique kind of tourism that cannot be compared to any other form of tourism (Dowling, 2011:2). The relationship of geotourism with other forms of tourism is depicted in the following figure.

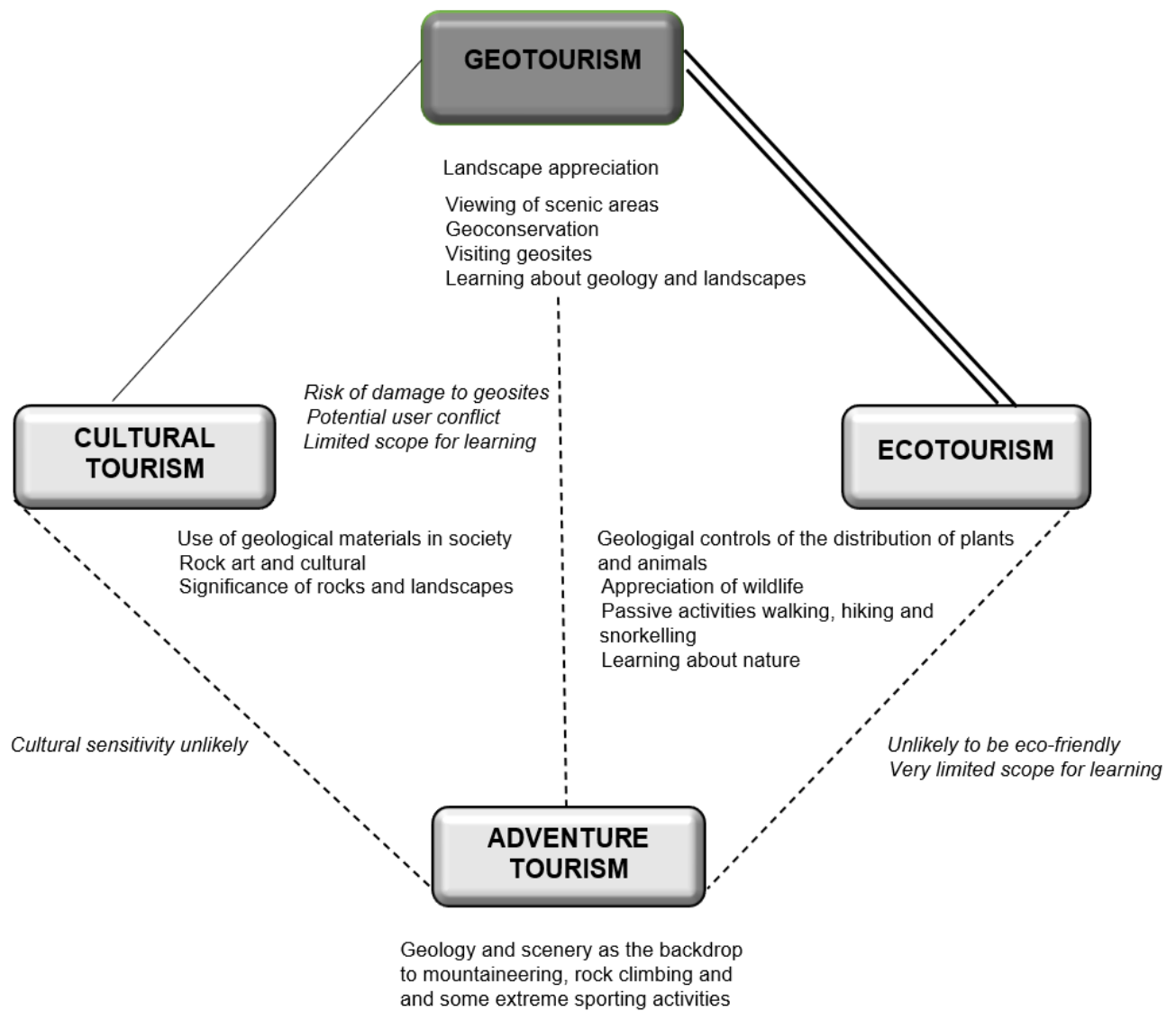


Figure 2.2: The relationship of geotourism with other forms of tourism

(Dowling, 2011:2)

(Solid and dashed lines represent interconnecting pathways. The connection between ecotourism and geotourism is represented as a particularly strong relationship.)

2.3.2 Characteristics of geotourism

According to Dowling and Newsome (2010:4), for geotourism to be seen as authentic, it should adhere to the following characteristics: it should be geologically based in either a natural, rural or urban environment, where it fosters and enhances the conservation of the geological resources; it should be beneficial to the local community by providing employment either as guides or as staff at various geotourist sites, facilities and activities; and, lastly, it should provide tourists with a kind of satisfaction after the visit.

2.3.3 Geotourists

The type of tourist who classifies as a geotourist should have specific characteristics that differentiate them from other tourists. These tourists are generally interested in not only interaction with the local community but also the viewing of different landforms and other geological features. These tourists furthermore comprise either independent travellers or group tourists who visit natural areas where there is a geological attraction. According to McKercher (2002:32), this type of tourist also exhibits a variety of different travel motives, according to which they can be classified as various types of tourists. These types of tourists, according to McKercher (2002:33), are as follows: the purposeful geotourist, whose main motive is to travel and visit a geo-site, having a positive experience; the intentional geotourist, whose travel motives are influenced by the information delivered from or at a specific geo-site; the serendipitous geotourist, for whom geotourism a moderate role play in the decision to visit a geo-site; the accidental geotourist, whose travel motives are not influenced by geotourism and who may not even be aware of a geo-site prior to visiting; and, lastly, the incidental geotourist, for whom geotourism plays no meaningful role in a destination of choice and for whom the experience encountered usually is negative.

2.3.4 Geotourism development

In order for geotourism development to be successful, Allan (2014:16) has identified a variety of factors that need to be considered and adhered to. These factors include the attractions, the accommodation, the access, the facilities and services and the interpretation of information. Each factor is briefly discussed below with reference to Allan (2014:16).

- **Geotourism attractions:** These involve the geological and geomorphic features that contribute to the formation of the “sense of place” for a geo-site.
- **Accommodation:** This factor includes the different kinds of tourist accommodation that is appropriate for geotourism sites, such as geo-lodges and geo-resorts. It is highly recommended to provide green and eco-friendly accommodations at these destinations in order to minimise the environmental impact and enhance the sustainability of the geo-sites.
- **Accessibility:** This factor involves good and efficient access to geo-sites by providing appropriate tracks, paths and walkways, as well as a low-impact transport method that is suitable for tourists with disabilities, senior tourists and families with children. Providing clear maps of the geo-site area also helps to stimulate efficient tourist flow to and from the geo-site.
- **Facilities and services:** These involve the traditional supply of facilities and services as for mass tourism, such as goods, services, infrastructure and superstructure.
- **Interpretation:** This factor involves the provision of information to visitors about the geo-site they are visiting and stimulating them to appreciate the value of the site. Visitors’ centres can contribute to this by improving the interpretation process for the geo-site and developing the

efforts to conserve and sustain the geo-heritage. The three main objectives of interpretation regarding geo-sites are educating visitors about the different sites they are visiting, offering interesting and enjoyable tourism experiences to visitors and enhancing visitors' appreciation, care and respect for the heritage.

2.3.5 Environmental impacts of geotourism

Geotourism can have either a positive or negative impact on the environment. Sustainable development and education, interaction with local communities, the generating of local resident income and job and skills development can all contribute to a positive impact on the environment (Henriques, Dos Reis, Brilha & Mota, 2011:117; Farsani, Coelho, Costa & Neto de Carvalho, 2012). On the other hand, Dowling and Newsome (2010:4) argue that the lack of visitor guidelines at geo-sites and the absence of geo-guides to guide and interpret information to visitors at such sites can result in negative impacts on the natural environment. Dowling and Newsome (2017:116) have identified these impacts as heavy visitation, touching and climbing on landforms, congestion, accessing restricted areas, the creation of informal trails, soil compaction, vegetation damage and the overall degradation of the natural vegetation of the area as a result of motorised vehicles, which can include motorbikes, quad bikes and all-terrain vehicles. Putting in place effective guidelines, as explained in Chapter 3 of this study, will minimise these negative impacts.

2.4 ADVENTURE TOURISM

The topics covered in this section include the definition of adventure tourism, the geography of adventure tourism in Southern Africa, the different categories adventure tourism consists of, the characteristics of the modern-day adventure tourist and the environmental impacts associated with adventure tourism.

2.4.1 Defining adventure tourism

Adventure tourism is different from other forms of tourism, although it shares the same characteristics of geotourism, ecotourism, sustainable tourism, conservation tourism, responsible tourism and community-based tourism by minimising negative impacts on the environment while increasing the benefits of the local community (United Nations World Tourism Organisation [UNWTO], 2014). Cloke and Perkins (1998:185, 189) argue that with adventure tourism, tourists are looking for participatory experiences that involve engaging in active and physically challenging activities in the outdoors that usually require specialised equipment. With adventure tourism, the challenge is controlled and the possible dangers are minimised through procedures, equipment, technology and trained, experienced guides (Trauer, 2004:9; Varley, 2006:184; Beedie, 2013:57). The UNWTO Global Report on Adventure Tourism (2014) defines adventure tourism as “a trip that includes at least two of the following three elements: physical activity, natural environment, and

cultural awareness". In addition, McKay (2014:53) defines adventure tourism as the "sale of a guided adventurous trip or activity where there is some risk, uncertainty and challenge involved". In adventure tourism, the tourists are "actively and physically involved and most people experience strong emotions, such as fear and excitement, whilst participating" (McKay, 2014:53).

2.4.2 The geography of adventure tourism in Southern Africa

Southern Africa is home to a variety of iconic adventure tourism sites that attracts thousands of adventure tourists annually (Visser & Hoogendoorn, 2012:189). These sites include Mount Kilimanjaro in Tanzania, famous for trekking and mountaineering, the Victoria Falls on the border between Zambia and Zimbabwe, renowned for bungee jumping, white-water rafting and elephant-back safaris, the Aliwal Shoal for scuba diving and the Kleinbaai or Gansbaai coast, popular for great white shark cage diving (Buckley, 2007:1428). Regional adventure tourism sites are to be found in Lesotho, Mozambique, Namibia and Swaziland. However, from all of these destinations, South Africa has proved to have the best-developed adventure tourism market, as its strength lies in a large and robust domestic market, together with a continuous expansion of international adventure tourists (Rogerson, 2007:228). These adventure tourists can be classified according to the different adventure activities pursued, which are discussed next.

2.4.3 Categories of adventure tourism

According to Van der Merwe (2009:230), researchers have tried to differentiate between adventure activities by using a behavioural continuum that helps to explain the difference among adventure tourists. These adventure activities, as portrayed in Figure 2.3, can be classified into three segments, namely hard, soft and nature-based adventure, with the difference lying in the level of physical activity, skills required and risks involved (Cloke & Perkins, 1998:185; Buckley, 2006, 2010; Schneider & Vogt, 2012:705).

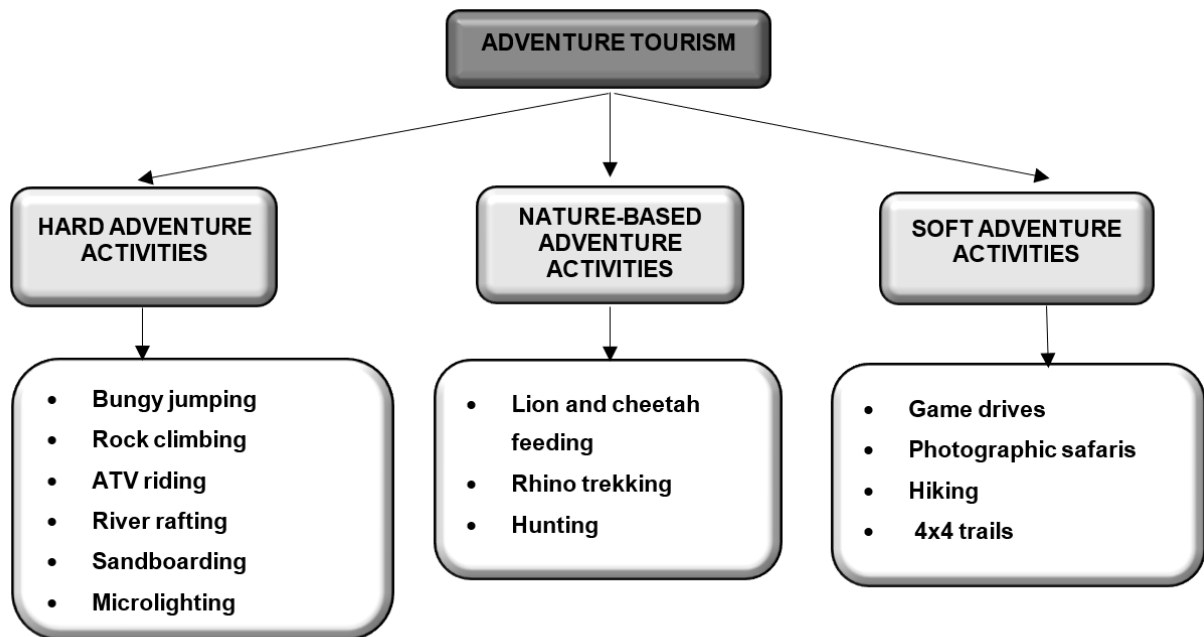


Figure 2.3: Adventure tourism activities

(Buckley, 2006)

- **Hard adventure:** These activities usually involve a substantially high risk and heavy physical activity, attracting “adrenaline junkies”, and are characterised by intense physical exertion. Hard adventure activities are more extreme and perceived to be more of a challenge than soft adventure activities. Bungee jumping, rock climbing, river rafting, sandboarding, microlighting and ATV riding are some activities associated with hard adventure due to the possibility of serious injury or even death (Buckley, 2006).
- **Soft adventure:** This type of adventure involves activities that are less risky and less physical compared to hard adventure activities (Buckley, 2006). Soft adventure activities have some elements of adventure, attracting “non-adrenaline junkies”, and are usually characterised by high levels of safety and fun, such as game drives, photographic safaris, hiking and 4x4 trails (Patterson & Pan, 2002:28; Hudson, 2003:8).
- **Nature-based adventure:** These activities involve physical interaction with animals and are considered risky because any interaction with animals has the potential to become dangerous within seconds (Buckley, 2010:11). This sector also forms part of the bigger wildlife adventure economy (Duffy, 2014:89).

The type of tourist participating in any of the adventure activities listed above should have some of the following unique characteristics explained in the next section.

2.4.4 Adventure tourists

Adventure tourists are characterised according to their demographic profile, their behaviour, the type of activities they are involved in, their different needs, their different motivations and the way in which they prefer to travel. Each characteristic is briefly explained below.

- **Demographic profile:** The typical adventure tourist is between 25 and 55 years old, married, well-educated and an active enthusiast who is willing to spend considerable amounts of money on adventure-related activities. The decisions of these tourists to visit a specific destination are based on the landscape and the attributes of the destination, such as being a natural area (Pomfret & Bramwell, 2014:5).
- **Behaviour:** Adventure tourists prefer to operate independently, although advice and recommendations from friends and family may be important to them (Sung, 2004:262; Pomfret *et al.*, 2014:3).
- **Activities involved in:** Adventure tourists are usually involved in activities that are fitness- or health-orientated, happen in the natural environment and offer some kind of excitement (Pomfret *et al.*, 2014:5).
- **Needs:** The needs of adventure tourists have changed over time. The modern-day adventure tourists are looking for different destinations and activities that offer an adventure experience or something out of the ordinary, which are often found in unexpected tourist destinations (Weber, 2001:372).
- **Motivation:** Adventure tourists prefer to travel environmentally friendly, are conscious of the natural environment, local communities, religions and ethnic groups and are motivated by an inner desire to get away from the routine lifestyle (Weber, 2001:372; Buckley, 2012:962; Pomfret *et al.*, 2014:6; Giddy & Webb, 2016:353).
- **Method of travelling:** Adventure tourists prefer to travel as a couple, as part of a group, as honeymooners or even solo. They usually seek the company of other adventure tourists who enjoy the same outdoor activities as they do (Weber, 2001:372).

In the following section, the environmental impacts associated with adventure tourism are discussed.

2.4.5 Environmental impacts of adventure tourism

The close relationship between adventure tourism and the natural environment means that there is a high potential of environmental impacts that should be considered, as adventure tourism has exceptionally high carbon emissions compared to traditional mass tourism (Simmons & Becken, 2004:16; Buckley, 2006). Adventure tourism often operates in remote and fragile environments (Williams & Soutar, 2005:248), which can have a negative impact on the natural environment and its resources because of the large energy footprint, carbon footprint, water footprint and waste footprint adventure tourists leave behind in such places (Coles, Dinan & Warren, 2016:401). In Chapter 3,

effective guidelines that can be used to help minimise these negative impacts associated with adventure tourism are listed and explained. Furthermore, adventure tourism also contributes to some positive environmental impacts by creating environmentally friendly tour packages for their consumers, training the local community to be more environmentally sustainable and educating tourists not to litter, to mention only a few (Behrens, 2018).

2.5 ECOTOURISM

With regard to ecotourism, the various definitions for ecotourism, the way in which ecotourism forms part of the nature-based tourism phenomenon, the different pillars (cornerstones) on which ecotourism is based and the unique principles and characteristics of ecotourism are discussed.

2.5.1 Defining ecotourism

Since the term “ecotourism” was first used in the literature, much has been written about and debated concerning this complex subject (Weaver & Lawton, 2007:1168). The term was first officially used and defined by the so-called father of ecotourism, Ceballos-Lascurain, in 1987. Since this first definition by Ceballos-Lascurain, many researchers and academics have also attempted to define ecotourism, as indicated in Table 2.1.

Table 2.1: Different definitions of ecotourism

Author	Key aspects of definition
Ceballos-Lascurain (1987, as quoted by Van der Merwe, 2004:16), Björk (2007:27) and Fennell (2008:17)	Undisturbed natural areas; study; enjoyment; appreciation and local culture
Ecotourism Society (1991, as quoted by Blamey, 2001:6)	Responsible travelling; protection of natural areas and local population
Goodwin (1996:288)	Low impact; nature tourism; maintenance of species and habitats; local community; protection of wildlife areas
Weaver (2001:15)	Learning experience; nature; local culture; appreciation; environmentally and socially sustainable
Fennell (2008:24)	Sustainability; natural resource-based tourism; experience; learning; low impact; ethical; local community; conservation
Powell and Ham (2008:468)	Natural areas; conservation, social equity; environmental education; economic viability; host community
TIES (2015)	Responsible travel; natural areas; conserving of the environment; sustainability and well-being of local communities; interpretation and education (staff and guests)

(Source: Author’s own compilation)

Ceballos-Lascurain's original definition of ecotourism was adjusted by Higham (2007:27), Fennell (2008:17) and Van der Merwe (2004:16) by adding the conservation component to it and by recognising the minimisation of the negative impacts of ecotourism on culture and nature and the maximisation of the benefits that ecotourism can bring about. Thus, through the combination of these definitions, ecotourism can be defined as environmentally responsible travel and visits to relatively undisturbed natural areas in order to enjoy and appreciate nature that promotes conservation, has low negative visitor impact and provides beneficially active socio-economic involvement of local populations. The above definitions also highlight that ecotourism occurs in a natural setting. According to Tapper (2006:5), any type of tourism that features nature is generally categorised as nature-based tourism. In the next section, an explanation of how ecotourism forms part of this phenomenon is provided.

2.5.2 Ecotourism as part of nature-based tourism

According to Tourism Western Australia (2006:3), nature-based tourism directly depends on nature and the environment to be successful. Nature-based tourism includes a range of tourism experiences and excursions, with ecotourism as a sub-sector of nature-based tourism, with these experiences and excursions all happening in protected areas, such as national parks and game reserves, where a large part of biodiversity is to be found and concentrated (Kuenzi & McNeely, 2008).

Furthermore, ecotourism forms part of wildlife tourism, but not all wildlife tourism should be seen as ecotourism. Wildlife tourism is concerned with the enjoyment of nature or wildlife and can be either consumptive or non-consumptive (as explained in Chapter 1), while ecotourism is recognised as a form of tourism that is non-consumptive, happens in undisturbed, natural environments and involves an active contribution towards conservation (Goodwin, 2003:168; Higginbottom, 2004:3; Newsome *et al.*, 2005:19). In Figure 2.4, it is shown that ecotourism is regarded as a subset of nature-based tourism and that it occupies a special niche within the wildlife tourism framework.

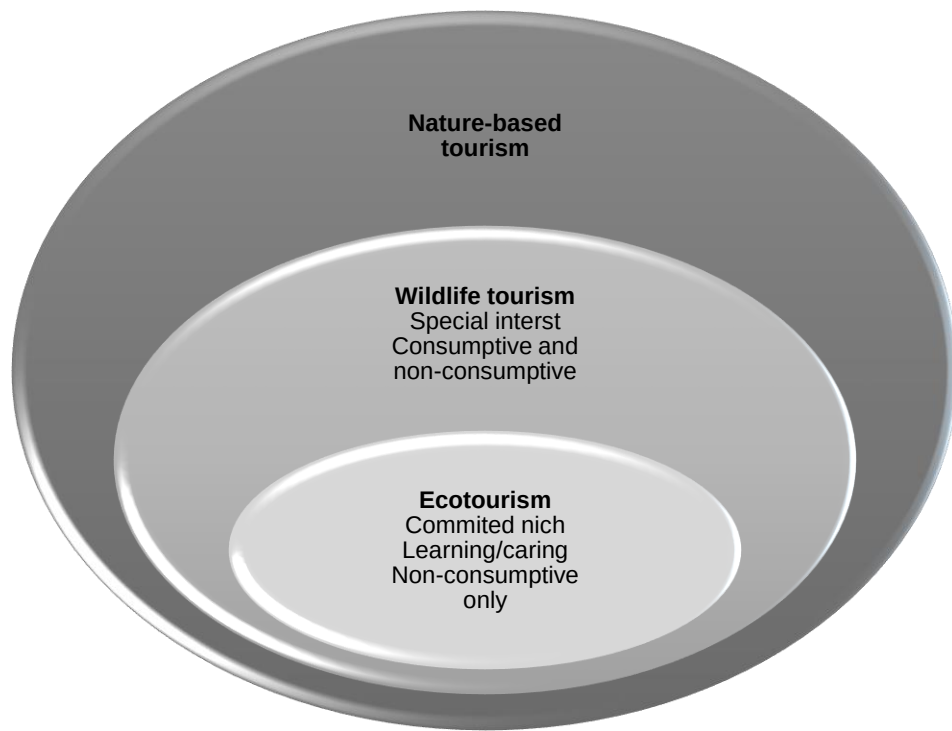


Figure 2.4: Nature-based tourism subsets

(Tourism Western Australia, 2006:3)

2.5.3 The different pillars of ecotourism

Academics and scholars have determined that all ecotourism products should be based on the following: natural and cultural attractions; environmental education; management practices that adhere to the principles of ecological, socio-cultural and economic sustainability; and tourist satisfaction or experience. These four aspects form the cornerstones or pillars on which ecotourism is based (Blamey, 2001:6; Diamantis, 2004:5; Van der Merwe, 2004:19; Weaver, 2005:440; Geldenhuys, 2009:3). The four pillars are depicted in Figure 2.5.

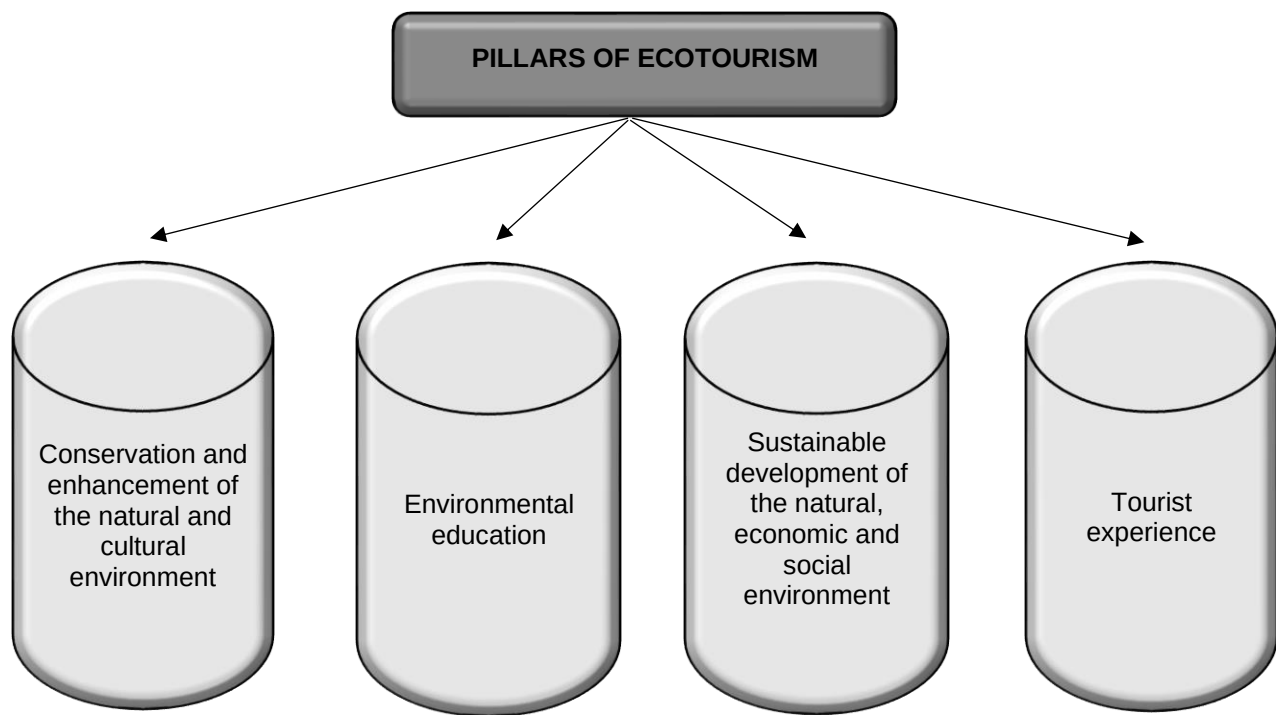


Figure 2.5: The four pillars of ecotourism

(Adapted from Blamey, 2001:6; Diamantis, 2004:5; Van der Merwe, 2004:19; Weaver, 2005:440; Geldenhuys, 2009:3)

The four pillars of ecotourism are discussed below.

Pillar 1: Conservation and enhancement of the natural and cultural environment

The natural environment boasts a variety of vital resources of biodiversity, such as unique natural scenery, rare fauna and flora, unusual geological features and cultural heritage, which make these areas lucrative sites for tourism development projects (Hearne & Salinas, 2002:153; Wood & Glasson, 2005:391; Saayman, 2009:346). Such areas also have the potential to generate revenue for host communities to be self-sufficient and assist in the conservation of local fauna and flora (Hearne & Salinas, 2002:153-154). Furthermore, the development of ecotourism in these areas leads to a variety of outdoor activities and interaction between the tourists and nature and the local culture (Arabatsiz & Grigoroudis, 2010:163). Saayman (2009:170) emphasises the fact that the future of ecotourism in these areas depends on sound environmental practices.

Pillar 2: Environmental education

Tourists to natural and protected areas have an impact on the environment. If left unmanaged, these impacts can lead to unwanted changes in the natural resource and social conditions of an area. Therefore, environmental education and interpretation are critical, not only to prevent avoidable impacts, such as litter, damage to vegetation and noisy or rude behaviour of tourists, but also to minimise unavoidable impacts, such as trampled vegetation and wildlife disturbance (Page & Dowling, 2002:69; Marion & Reid, 2007:5). Education can happen through either formal interpretation, such as lectures, or informal learning opportunities, such as interaction with nature,

and aims to make non-consumptive tourists aware of their own physical and social impacts, to promote enhanced ethics and to encourage tourists to undertake low-impact practices (Weaver, 2005:441; Marion & Reid, 2007:6). Most importantly, environmental education should create an enjoyable and meaningful ecotourism experience (Page & Dowling, 2002:69).

Pillar 3: Sustainable development of the natural, economic and social environment

Ecotourism is inseparably linked with sustainable tourism and, therefore, should adhere to the basic aspects of sustainable development, which are environmental management, social equity and economic development. All three aspects need to be balanced to ensure sustainable tourism product development (Coetzee & Saayman, 2009:131). Community involvement can lead to a situation where not only the local community benefits, such as improving social welfare, education and infrastructure development (Diamantis, 2004:11), but the quality of the tourist's experience is also improved, as tourism is an industry that is greatly reliant on the goodwill, hospitality and helpfulness of the host communities (Van der Merwe, 2004:29; Cole, 2006:630). Community involvement should thus happen as early as the planning stages to ensure community motivation and making correct decisions (Cole, 2006:630).

Pillar 4: Tourist experience

The tourist experience is there to satisfy the needs and wants of current and potential ecotourists through the integration of a variety of factors, such as nature destinations that are remote, tranquil or close by, the creation of an opportunity to learn about wildlife and local cultures and being able to participate in a physical challenge (Chan & Baum, 2007:575-586). Local tourism businesses can also help to improve the tourist experience by understanding and providing in the needs of tourists (Arabatsiz & Grigoroudis, 2010:163).

2.5.4 Principles and characteristics of ecotourism

From the above four pillars on which ecotourism is based, an additional number of ecotourism principles have been identified, supportive of the four pillars. The idea behind these principles is to ensure that ecotourism destinations or attractions provide a true ecotourism experience to tourists; so, adherence to these principles is important (Diamantis & Westlake, 2001:33).

The following are the core principles and characteristics of ecotourism: it should contribute to the conservation of natural and cultural environments; a genuine interest in nature must be fostered; it must be small-scale and non-consumptive; it should be sustainable; it should provide an opportunity to interact with nature and experiencing local cultures; it should provide long-term benefits for the local community; it should provide economic opportunities; it should minimise environmental impacts; it should provide an enlightening travel experience; responsible and ethical behaviour by all stakeholders is required; and it should maintain a balance between the economy and the ecology (Blamey, 2001:12; Fennell, 2008:23; Geldenhuys, 2009:5; Saayman, 2009:70).

It can be argued that when the principles of the carrying capacity and the number of tourists are not considered and properly managed, the natural environment and the biodiversity of an area may be disturbed, leading to negative environmental impacts.

2.6 WILDLIFE TOURISM

In this section about wildlife tourism, the topics discussed are the most appropriate definition for wildlife tourism, the categories of wildlife tourism, the different wildlife tourism products and what constitutes a wildlife tourism experience.

2.6.1 Defining wildlife tourism

Throughout the 20th century, the increasing desire of tourists to experience and interact with the natural environment has stimulated an impressive growth in wildlife tourism, with Africa being one of the most affected continents (Reynolds & Braithwaite, 2001:32). People's desire to interact with wildlife in the natural environment has continued to grow, and visits to areas hosting wildlife have increased (Newsome *et al.*, 2005:3; Rodger, Moore & Newsome, 2007:162). Wildlife tourism in Southern Africa is largely carried out in conservation and protected areas, such as national parks and game reserves that contains a variety of unique natural attractions, biological diversity and world-renowned wildlife (Poonyth, Barnes, Suich & Monamati, 2002:3).

Various scholars have defined wildlife tourism throughout the years, with the most appropriate definition provided Reynolds *et al.* (2001:32), defining wildlife tourism as "the travelling to a destination to view wild animals and the environment". To this, Curtin (2005:2) has added that "pleasure in wildlife tourism derives from factors namely: viewing animals in the natural habitat, seeing a wide range of species, interacting with wild animals in close proximity, experiencing the sense of habitat (place), and sharing experiences with others". In addition, Higginbottom (2004:2) defines wildlife tourism as "tourism based on encounters with non-domestic animals ... [that] can occur in either the animal's natural environment or in captivity. The interaction with the animals includes activities that are historically classified as consumptive and non-consumptive".

2.6.2 Categories of wildlife tourism

Wildlife tourism can be categorised either by the type of animal encountered (wildlife-dependent vs. wildlife-independent), the setting or the degree of confinement of the animal (captive vs. free-ranging) and the tourist activity (consumptive vs. non-consumptive). The various categories of wildlife tourism are provided below (Orams, 1996; Sinha, 2001:3; Higginbottom, 2004:3; Dobson, Jones & Botterill, 2005:1; Newsome *et al.*, 2005:17).

- **Wildlife-dependent versus wildlife-independent**

Wildlife-dependent activities are where wildlife tourists have the deliberate intention and expectation of seeing or interacting with wildlife in a desired chosen habitat. Wildlife-independent activities involve wildlife tourists who travel without the specific intention of experiencing, viewing or interacting with wildlife and regard their wildlife encounter as an added value in their recreational experience (Sinha, 2001:3).

- **Captive versus free-ranging continuum**

These variables reflect the degree or level of confinement of the animals. Animals in a captive setting can be observed in aviaries, zoos, oceanariums and aquariums, while wildlife parks, rehabilitation centres and sea pens represent semi-captive settings. National parks and game reserves represent the free-ranging setting, because in these areas, animals' different migratory patterns, breeding and feeding can be observed at, for example, drinking sites (Newsome *et al.*, 2005:17). According to Orams (1996), this continuum from captive to free-ranging wildlife provides a variety of opportunities for tourists to encounter wildlife in a way that best suits their needs, their desired experience, their ability to control the encounter and, especially, their preparedness to confront what, for many of them, may be their first real interaction with wild or exotic animals.

- **Consumptive versus non-consumptive wildlife tourism**

The consumptive use of wildlife for recreation purposes involves the removal of an animal from the environment through capturing or killing the target animal through hunting (biltong and trophy) or fishing (Sinha, 2001:4). Non-consumptive wildlife tourism, on the other hand, involves activities where wildlife is neither killed nor caught, such as wildlife watching, video recording and photography (Higginbottom, 2004:3; Dobson *et al.*, 2005:1).

It is evident from the above-mentioned discussion that wildlife tourism can be classified according to the motivation of the tourist and the level of interaction between the tourist and wildlife (Sinha, 2001:3).

2.6.3 The wildlife tourism product

A wildlife tourism product, such as any other tourism product, is influenced by the attractions, facilities, accessibility and the image and price of the product (Bennett, 2000). The attractions should be appealing in order to motive wildlife tourists and to serve as a reason for visiting. The facilities should complement the attraction. The accessibility of the wildlife tourism product refers to the roads and paths of the desired destination, which should be easily accessible to all kinds of wildlife tourists, including disabled and elderly tourists. The image wildlife tourists have of a destination is vital for ensuring continued visits, as the image is formed from perceptions and perceptions are formed on the basis of previous experience, word-of-mouth recommendation, marketing, tourists' needs and

satisfaction and the price a wildlife tourism experience is purchased for (Bennett, 2000; Webb, 2003:149).

Furthermore, the quality of a wildlife tourism experience is ensured when the products and services meet the tourists' demand. The demand is determined by segmenting and identifying the target market of a specific product (Reynolds *et al.*, 2001:33). Reynolds *et al.* (2001:33) have identified seven wildlife tourism products, which are portrayed in Table 2.2.

Table 2.2: Wildlife tourism products

Category	Description
Nature-based tourism with wildlife	Many nature-based tours present wildlife as a central yet incidental part of the product.
Locations with good wildlife opportunities	Accommodation facilities are situated in close proximity to a wildlife-rich habitat. They may also be able to attract wildlife by offering food or other enticement.
Artificial attractions based on wildlife	Some species form the basis of an attraction created by humans, where they are held captive or trained, which can have a detrimental effect on the animals.
Specialist animal watching	These tours cater for specialist interests in a species or group of species. Bird watching is a good example.
Habitat-specific tours	These tours are focused on wildlife-rich ecosystems and are usually only accessible by special vehicles or vessels.
Thrill-offering tours	These tours are focused on showing dangerous or large wildlife species that are engaged in spectacular actions in the wilderness.
Hunting/fishing tours	This consumptive use of wildlife may be in the natural habitat or semi-captive or farmed conditions. This may involve killing the animal or releasing it.

(Reynolds *et al.*, 2001:33)

2.6.4 The wildlife tourism experience

A wildlife experience is regarded as an extremely important reason for visiting natural and protected areas such as national parks and game reserves (Saayman & Saayman, 2009:2; Kruger & Saayman, 2010:94; Scholtz *et al.*, 2013:2). Such experiences are enhanced through different activities where wildlife interpretation and interaction can take place in a natural habitat. According to Reynolds *et al.* (2001:35), a wildlife tourism experience may be influenced by the richness or intensity of such an encounter or the control of the encounter.

2.6.4.1 Richness or intensity

Reynolds *et al.* (2001:35) have identified six factors that are essential to a situation in order to create a rich and intense wildlife experience. These factors are listed and briefly explained below.

- **Authenticity:** This refers to the degree of natural behaviour displayed by the fauna and the environment, of which an estimation of the “honesty” of the attraction is given.
- **Intensity:** This refers to the excitement created by the encounter and can be seen as an adrenalin rush for some wildlife tourists (consumptive and non-consumptive).
- **Uniqueness:** For an experience to be exceptional or unique, it must be seen as a rare and uncommon experience that makes wildlife tourists (consumptive and non-consumptive) privileged.
- **Duration:** This refers to the duration wildlife tourists (consumptive and non-consumptive) are exposed to the stimuli, whereby the heightened experience is saturated after a certain point of exposure.
- **Popularity of the species:** The popularity of a species is determined by factors such as the physical appearance of the species, its size, the threat and drama associated with it and the attention the species has enjoyed in the mainstream media.
- **Status of the species:** The status of a species is determined by its rarity. Species that are listed on the rare and endangered lists appear to hold a special attraction for wildlife tourists (consumptive and non-consumptive).

2.6.4.2 Control of encounter

Controlling the encounter is a key determinant for wildlife tourist satisfaction or dissatisfaction. The amount of control the wildlife tourist (consumptive or non-consumptive) has over the experience will have an effect on either the environment or the wildlife itself. Circumstances affecting the sense of control are influenced by the following factors as listed by Sparks (2005:147):

- Is the control under a trained guide?
- Are there rules to be followed and to adhere to?
- How many people are in the group?
- What is the level of exposure to the animal?
- What is the degree of unpredictability and possible risk to the animal?
- How rare is this animal?
- Are the guides armed or are they not?
- What is the level of knowledge of the tourists (consumptive and non-consumptive) who are doing the observation?

The satisfaction of wildlife tourists (consumptive or non-consumptive) is, thus, the result of their perceptions after engaging in the wildlife tourism activities and the degree to which they have been is pleased and fulfilled.

2.7 THE TRAVEL MOTIVES OF WILDLIFE TOURISTS

In this section, a brief description of travel motives is provided, followed by the most important travel motives of consumptive and non-consumptive wildlife tourists.

2.7.1 Describing travel motives

Mulder (2011) identifies basically two factors that motivate people to travel – a person's needs and desires. Needs cause a person to participate in an activity (e.g. a tourist activity) and can be intrinsic, extrinsic or a combination of both (Park & Yoon, 2009:100; Van der Merwe & Saayman, 2013:11), while a desire is a response to something that is lacking, such as something new or different that can neither be found nor provided in the home environment of a person (Kim, Crompton & Botha, 2000:35). A motivation not only functions as a trigger for a travel behaviour but also helps to determine the different aspects of a tourist activity, such as the reasons for travelling, why the specific destination has been chosen and the results obtained or overall satisfaction with the trip. These motivations are influenced by a tourist's socio-demographic, economic and behavioural indicators (Van der Merwe & Saayman, 2013:11). The following section highlights the most important travel motives of consumptive wildlife tourists to countries such as South Africa and Namibia.

2.7.2 Travel motives of consumptive wildlife tourists

Consumptive wildlife tourists can be motivated by more than one motive at a particular time, which can be either intrinsic or extrinsic. Intrinsic motives include aspects such as the game species available at a game reserve or farm, how the rest camp or hunting camp is developed and the variety of additional activities available on the game reserve or farm, such as horse riding (Van der Merwe & Saayman, 2013:11). Extrinsic needs, on the other hand, refer to the products of hunting, such as the trophies and skins for trophy hunters and biltong for biltong hunters (Van der Merwe & Saayman, 2013:11).

Previous studies conducted have identified companionship, social and family experiencing, nature and outdoor activity, viewing and learning about animals, the use of particular equipment and the development of skills as the most important travel motives of consumptive wildlife tourists (hunters) (More, 1984:338; Decker & Connelly, 1989:455; Radder, 2005:1143; Mulder, 2011). For international trophy hunters, Radder (2005:1143) has identified spiritual, emotional, intellectual, self-directed, biological and social motives to be the most important. Table 2.3 depicts these motives and the different variables associated with each motive.

Table 2.3: Travel motives of consumptive wildlife tourists

Motive	Variables
Spiritual	• To be in nature • To be able to reconnect with the land • To experience the majesty of nature • To be submerged in something greater than oneself
Emotional	• The challenge of the hunt • The thrill of the chase • Fun and excitement • The adrenaline rush
Intellectual	• To satisfy curiosity • To see animals in their natural environment • To be able to learn about wildlife • To experience new places, people and cultures • To contribute to conservation
Self-directed	• The collection of different trophies • Being rewarded for alertness, patience and self-restraint • The testing of personal skills • Self-actualisation and achievement
Biological	• Exercise • To get away from work problems • Relaxation • The provision of food
Social	• Fellowship and camaraderie among hunters • Being with family and friends • Heritage or family tradition

(Adapted from Radder, 2005:1141-1144)

Radder (2005:1142) has further identified that hunting is associated with a search for self-fulfilment and excitement and the need to escape from everyday routine, as hunting encourages participation in physically and mentally stimulating activities often found in remote destinations. In this study, these factors are found at the game reserve that is located in a remote area of northern Namibia. Mulder (2011) has identified personal values (“hunting is in my blood and part of my heritage”), excitement, challenge or skills (“hunting is an exciting adventure, a thrill and I enjoy the challenge”) and social interaction (“meeting new people”, “being with like-minded people”) as the most important motives of hunters. In addition, factors such as age, previous hunting experience and income influence the motives of trophy hunters.

From the above discussion, it can be concluded that hunting is an intense intellectual, physical and emotional experience that is rewarded by enjoyment, learning and self-actualisation. This is clear from the following words of a hunter: “This was the moment I had waited for and I was ready ... take a deep breath, let it out slowly, aim, and squeeze the trigger” (Theunissen, 2017).

2.7.3 Travel motives of non-consumptive wildlife tourist

The travel motives of tourists, which include non-consumptive wildlife tourists, have been an area of interest for various scholars since the 1970s in an attempt to identify the reasons for which people travel. MacCannell (1976) suggests that the reason that people travel is to search for authenticity. Crompton (1979:410), on the other hand, believes travel motivations are more diverse and complex than simply searching for authenticity, as MacCannell has suggested. In Crompton's (1979) research, he noted nine motivators why people travel. These motivators included the escape from a perceived environment, the exploration and evaluation of oneself, education, relaxation, novelty, prestige, regression, the enhancement of relationships and for social interaction.

Then there are also push and pull factors. Push (internal) and pull (external) factors of people were first identified by Uysal and Jurowski in 1994. Push factors, according to Cook, Yale and Margua (2010), can be seen as a person's internal forces that "push" him or her to travel, such as a desire for escape, rest, relaxation, prestige, health and fitness, adventure and social interaction. Pull factors refer to external forces of a destination that "pull" a person towards the destination, such as the attractiveness of the destination, the tangible resources of a destination and the tourist's perceptions and expectations of the destination (Cook *et al.*, 2010). Following a review of literature, the internal and external travel motives of non-consumptive wildlife tourists are summarised in Tables 2.4 and 2.5 respectively. The summaries in both tables allude to ecotourism, with non-consumptive wildlife tourism being a sub-set of ecotourism. Furthermore, all these studies were conducted in an ecotourism setting centred on wildlife.

The internal motivations of non-consumptive wildlife tourists mentioned the most in the studies are having fun and being entertained, feeling safe and meeting new people with similar interests. However, social motivations were relatively unimportant to most of the non-consumptive wildlife tourists, while the physical and mental benefits of ecotourism were seen as the most valuable aspects.

Table 2.4: The internal travel motives of non-consumptive wildlife tourists

Internal motivations / push factors	Authors	Study conducted
• Learning about nature • Escaping the urban environment • Resting and relaxing • Being physically active • Having a new experience	Weaver and Lawton (2002)	<i>Overnight ecotourist market segmentation in the Gold Coast hinterland of Australia.</i>
• Escaping normal or daily life • Experiencing something different • Fulfilling the desire to experience wildlife	Cha and Baum (2007:582)	<i>Motivation factors of ecotourists in ecolodge accommodation: The push and pull factors.</i>

Internal motivations / push factors	Authors	Study conducted
Social motivations: • Being together as a family • Meeting people with similar interests • Visiting friends/family Attraction motivations: • Learning and exploring nature • Being physically active • Having fun • Being entertained • Feeling safe	Kwan, Eagles and Gebhardt (2008:715)	<i>Ecolodge patrons' characteristics and motivations: a study of Belize.</i>
• Learning about nature • Experiencing the outdoors	Saleh and Karwacki (1996:70)	<i>Revisiting the ecotourist: The case of Grasslands National Park.</i>
• Desire to learn about nature • Being physically active • Having fun / being entertained • Feeling safe • Experiencing new lifestyles	Tao, Eagles and Smith (2004:164)	<i>Profiling Taiwanese ecotourists using a self-definition approach.</i>
• Novelty/self-development (experiencing new/exciting things, introspection, meeting new people and developing skills) • Fitness and knowledge (keeping physically fit and learning about nature) • Escape (being away from crowds, relaxation and enhancing relationships with friends/family)	Luo and Deng (2008:398)	<i>The new environmental paradigm and nature-based tourism motivation.</i>
• Relaxation/escape (relax mentally, enjoy nature, escape from everyday life and be in a calm atmosphere) • Thrills and excitement (feel excited, stimulated, free) • Self-esteem and personal development (challenge physical abilities and keep physically fit) • Fulfilment (learn about nature, feel a sense of solitude and feel close to nature)	Holden and Sparrowhawk (2002:445)	<i>Understanding the motivations of ecotourists: The case of trekkers in Annapurna, Nepal.</i>
• Being physically active • Having new lifestyle experiences • Meeting people with similar interests • Being introspective/reflecting • Escaping everyday life	Eagles (1992:6)	<i>The travel motivations of Canadian ecotourists.</i>

(Source: Author's own compilation)

Regarding the external motivations as set out in Table 2.5, natural attractions are cited as the most important motivator for non-consumptive wildlife tourists. The majority of the studies also indicate that non-consumptive wildlife tourists are interested in visiting undisturbed nature or wilderness areas, viewing wildlife, experiencing seclusion and tranquillity, learning about local or native cultures and viewing the landscape.

Table 2.5: The external travel motives of non-consumptive wildlife tourists

External motivations / pull factors	Authors	Study conducted
• Seeing nature and wildlife • Getting away from crowds	Weaver and Lawton (2002)	<i>Overnight ecotourist market segmentation in the Gold Coast hinterland of Australia.</i>
• Natural attractions (wildlife, rainforests, nature conservation and local culture) • Eco-activities offered (riverboat tours and jungle walks)	Cha and Baum (2007:582)	<i>Motivation factors of ecotourists in ecolodge accommodation: The push and pull factors.</i>
• Tropical forests • Undisturbed wilderness areas • A warm climate • Sites of archaeological interest • Coral reefs • Wildlife	Kwan <i>et al.</i> (2008:715)	<i>Ecolodge patrons' characteristics and motivations: a study of Belize.</i>
• Viewing nature • Learning about a native culture • Seeking fossils	Saleh and Karwacki (1996:70)	<i>Revisiting the ecotourist: the case of Grasslands National Park.</i>
• Wildlife • Nature conservation • Wilderness/undisturbed areas • Geologic features • Waterfalls • Mountains • Lakes and streams	Tao <i>et al.</i> (2004:164)	<i>Profiling Taiwanese ecotourists using a self-definition approach.</i>
• View scenery • Experience tranquillity • Return to nature	Luo <i>et al.</i> (2008:398)	<i>The new environmental paradigm and nature-based tourism motivation.</i>
• Being in a natural setting • Observing ecological landscapes	Kerstetter, Hou & Lin, (2004:497)	<i>Profiling Taiwanese ecotourists using a behavioural approach.</i>

(Source: Author's own compilation)

It is clear from the above-mentioned travel motives of non-consumptive wildlife tourists that the natural setting is an important feature for these tourists.

2.8 CONCLUSION

This chapter aimed to provide an overview of natural area tourism and the different tourism sectors (geotourism, adventure tourism, ecotourism, wildlife tourism) it is built upon. For each tourism sector, a literature analysis was conducted according to topics that are most relevant to the natural

environment. Thereafter, the different travel motives of the wildlife tourists (consumptive and non-consumptive) were also analysed and discussed. It has been found that both the consumptive and non-consumptive wildlife tourists are driven by multiple motives that are all interrelated, interdependent and overlapping with one another. Through analysing and discussing the different tourism sectors natural area tourism consists of, as well as the travel motives of consumptive and non-consumptive wildlife tourists, this chapter is put in context with the study.

In the next chapter, the focus will be on natural area tourism and the impacts thereof at an economic, socio-cultural and environmental level, whereby a thorough literature analysis regarding environmental impacts will be made, as this forms the main focus of the study.

CHAPTER 3: ENVIRONMENTAL IMPACTS OF NATURAL AREA TOURISM

“Ensure that your footsteps do not leave permanent marks, that your money goes into the right hands and that your travels are supporting the community and conservation efforts. By recognising wildlife as an asset, we might finally become successful in its protection and conservation.”

~ Global Vision International (GVI) ~

=====

3.1 INTRODUCTION

In the previous chapter, the background of natural area tourism and what it consists of were covered. This chapter aims to conduct a literature analysis on the positive and negative impacts of natural area tourism at an economic, socio-cultural and environmental level. Furthermore, the positive and negative environmental impacts consumptive and non-consumptive wildlife tourists contribute towards in protected areas, such as a game reserve, are also analysed. In conclusion, various management models, guidelines and recommendations are identified and discussed in order for the negative environmental impacts to be minimised and the positive environmental impacts maximised.

To note: For this chapter the terms “natural area tourism”, “wildlife tourism” and “consumptive and non-consumptive wildlife tourists” will be interchangeably used because natural area tourism consists of wildlife tourism and ecotourism (cf. Newsome *et al.*, 2013:14), while wildlife tourism consists of consumptive (hunting) and non-consumptive tourists (ecotourism) (cf. Sinha, 2001:3).

3.2 DIFFERENT CATEGORIES OF NATURAL AREA TOURISM IMPACTS

Natural area tourism impacts (be they positive or negative) occur in three main categories (levels), namely economic, socio-cultural and environmental levels (Emerton, 2001:4; Diamantis, 2004:304; Van der Merwe, 2014:15), as illustrated in Figure 3.1. The key focus of this research is environmental impacts, therefore economic and social impacts will be discussed briefly.

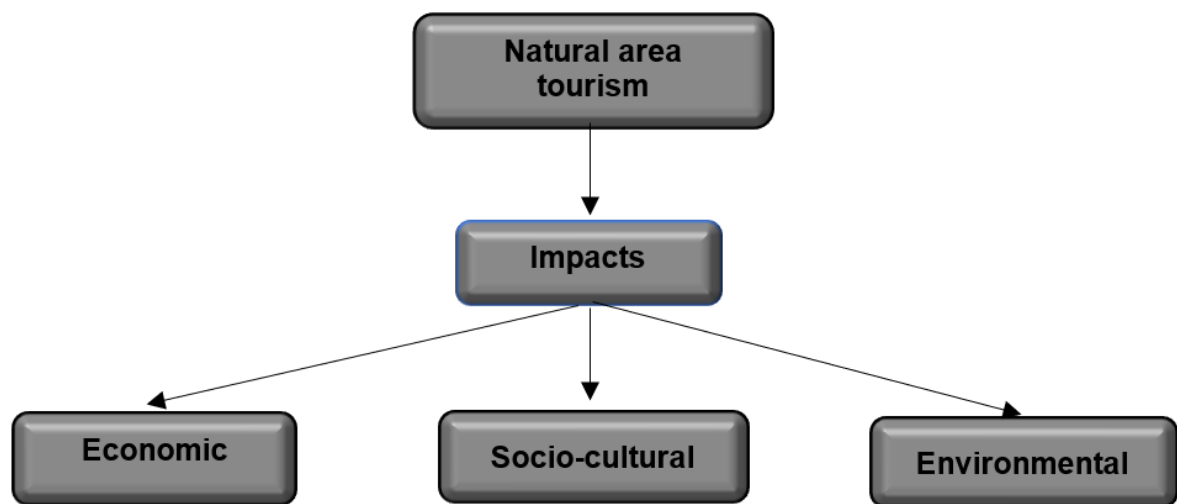


Figure 3.1: Impacts of natural area tourism

(Van der Merwe, 2014:15)

Next, the impacts of each category are discussed.

3.2.1 Economic impacts

According to Saayman (2000:116), there are four basic aspects that need to be considered to determine whether the economy of an area is impacted by natural area tourism. These aspects are the number of (wildlife) tourists to the specific area, their spending in that area, their length of stay in the particular area and the multiplier effect this kind of tourism generates in the area. These impacts or aspects can further be grouped into direct, indirect and induced impacts (Lindberg, 2001:367). Direct impacts refer to the impacts that arise from the initial spending of wildlife tourists in the area, such as entry fees, accommodation and transport. Indirect impacts occur when, for example, wildlife tourism organisations and establishments such as lodges buy goods and services from other tourism-related businesses, generating an indirect impact. Induced impacts arise when the employees of wildlife tourism organisations and establishments, such as tourism managers and guides, spend their income on personal goods and services (Lindberg, 2001:367).

Table 3.1 provides a list of the most common positive and negative economic impacts natural area tourism accounts for.

Table 3.1: Positive and negative economic impacts of natural area tourism

Positive economic impacts	Results
Invisible export	✓ Natural area tourism earns foreign exchange through international wildlife tourists (consumptive and non-consumptive) visiting a country.

Positive economic impacts	Results
Small-, medium- and micro-enterprise opportunities	✓ Natural area tourism creates opportunities for local communities to start up small businesses that can provide goods and services to wildlife tourists (consumptive and non-consumptive).
Employment opportunities	✓ Natural area tourism stimulates the creation of both direct and indirect employment opportunities; direct employment opportunities involve jobs that are created within the wildlife tourism industry, such as guides, while indirect employment opportunities involve jobs that are created by wildlife tourism support services, such as waste removal companies.
Economic development	✓ Natural area tourism will stimulate economic development when the spending of wildlife tourists (consumptive and non-consumptive) circulates throughout the economy of an area and, in turn, leads to an increase in the quality of life of the local community.
Redistribution of wealth	✓ Increasing income to poorer areas and communities through natural area tourism can play a significant role in the redistribution of wealth.
The earning of government revenue	✓ Government income from natural area tourism can be reinvested in the local community, such as the enhancement of basic infrastructure.
Negative economic impacts	Results
Inflation	✗ Natural area tourism can cause an increase in living and property costs.
Leakages	✗ Money leaks out of the economy of the country as goods, services and expertise for natural tourism are imported.
Over-dependence of an economy on natural area tourism	✗ Natural area tourism is vulnerable to external shocks. Over-dependence on natural area tourism will cripple the economy of a region if it is struck by a crisis, such as a natural disaster recession, a health pandemic, such as COVID-19, or terrorism.
Unemployment due to seasonality	✗ A lower demand for natural area tourism in off-peak seasons can contribute to the development of a large number of temporary rather than permanent jobs.

(Adapted from Saayman, 2000:116; Lindberg, 2001:367; Diamantis, 2004:304; George, 2007:299; Ivanovic, Khunou, Reynish, Pawson & Tseane, 2009:271)

3.2.2 Socio-cultural impacts

Socio-cultural impacts can occur when people from different cultural backgrounds meet one another (Diamantis, 2004:16). According to George (2007:300), social impacts occur when the social arrangement of a local community is instantly changed, while cultural impacts are the consequences of long-term changes to the norms, social relationships and cultural practices of a community (Diamantis, 2004:16). The host community and the visitors (consumptive and non-consumptive wildlife tourists) have unique socio-cultural backgrounds and different perceptions, with the tourists visiting live in terms of an unusual time and place, while the members of the local community live in

their ordinary life and home. These two different worlds have the potential to influence each other's respective cultures (Saayman, 2000:138). The economic level of the local community should also be considered, as wildlife tourists (consumptive and non-consumptive) are mostly from highly developed areas, such as Europe and the United States of America, visiting natural areas in countries such as Namibia where the majority of the communities is poor. These tourists may not consider the fact that the local community may not have the same opportunities as they do. Cultural differences, such as the beliefs, values and behaviours of the respective local communities, could also have a significant impact on the parties (Diamantis 2004:16; George, 2007:300).

Table 3.2 provides a list of the positive and negative impacts that can emerge as a result of socio-cultural contact between wildlife tourists (consumptive and non-consumptive) and the host community due to natural area tourism.

Table 3.2: Positive and negative socio-cultural impacts as a result of natural area tourism

Positive socio-cultural impacts	Results
Development of cultural awareness	✓ Wildlife tourists (consumptive and non-consumptive) and the host community are exposed to each other's cultures, which can help to reduce stereotyping and improve understanding of each other's cultural differences.
Preserving history and local heritage	✓ Revenue acquired from wildlife tourists (consumptive and non-consumptive) in an area can be used to help with the preservation and restoration of local heritage.
Promotes international peace	✓ Direct contact between wildlife tourists (consumptive and non-consumptive) and local communities can help to understand and tolerate each other.
Enhances an appreciation of cultural traditions	✓ The host community feels a sense of pride when wildlife tourists (consumptive and non-consumptive) are interested to learn about and appreciate their culture.
Improved infrastructure and public services for the local community	✓ Natural area tourism growth will support the local community through the development of new facilities and services, as well as the enhancement of existing infrastructure.
Negative socio-cultural impacts	Results
Skilled foreign workers are imported for the tourism industry	✗ This may give the local community a sense of economic colonialism.
Antagonism	✗ Local community shows hostility towards wildlife tourists (consumptive and non-consumptive), which, in turn, can cause social unrest.
Westernisation and modification of the culture	✗ The local culture is changed to accommodate the needs of (consumptive and non-consumptive) wildlife visitors.
Staged authenticity	✗ The originality of a culture package for natural area tourism in the natural environment may be doubtful. Many believe that the original significance is lost when a cultural event is staged.

Positive socio-cultural impacts	Results
Health issues	× Wildlife tourists (consumptive and non-consumptive) may introduce disease to the local community, for example HIV/AIDS, Ebola viruses, COVID-19, swine flu and bird flu.

(Adapted from Saayman, 2000:136; Hudman & Jackson, 2003:37; George, 2007:300; Honey, 2008:31)

3.2.3 Environmental impacts

Regarding the three impacts of natural area tourism, this section focuses on environmental impacts that can be either positive or negative. Each impact is discussed thoroughly, as this falls within the main focus of the study. A clear understanding needs to be gained regarding the environment before discussing the impacts that wildlife tourism, as a subset of natural area tourism consisting of consumptive and non-consumptive wildlife tourists, has on the environment. Swarbrooke (1999:50) argues that the environment is often seen primarily as the natural environment, but the environment actually consists of more than just the natural environment. It is thus important to understand which aspects contribute to the sum of the environment before analysing the impacts imposed on it. Figure 3.2 gives a schematic representation of the sum of the environment.

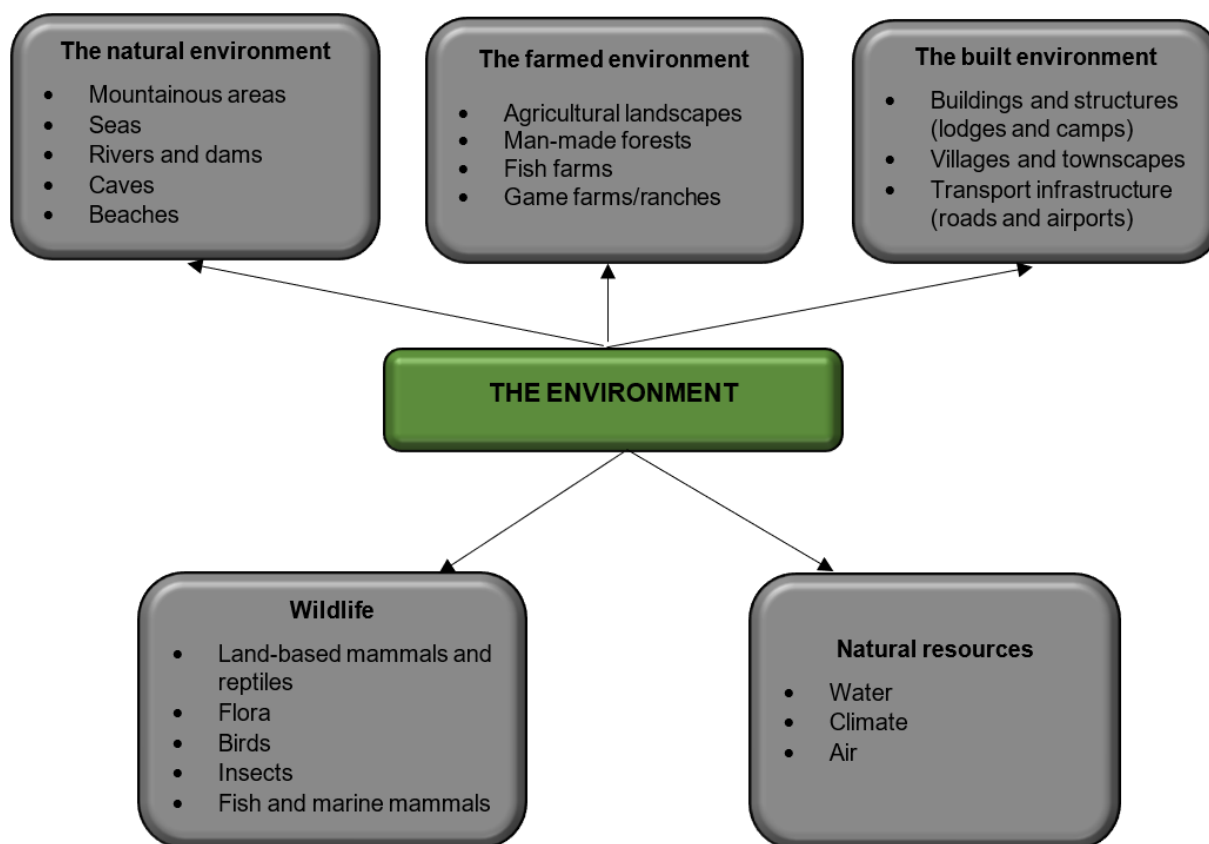


Figure 3.2: The sum of the environment

(Swarbrooke, 1999:50)

The impacts of tourism on the environment can be positive or negative. First, all the negative environmental impacts are analysed and discussed, followed by positive impacts.

3.2.3.1 Negative environmental impacts

Negative environmental impacts occur when the level of use and demand of tourists (in this case, consumptive and non-consumptive wildlife tourists) is greater than the ability of the environment to cope with this within acceptable limits of change. Consequently, the environmental resources that (wildlife) tourism depends on are gradually destroyed (Hunter & Green, 1995). The negative environmental impacts caused by (wildlife) tourism in natural areas can be categorised into the natural resources of the area, pollution and physical impacts (Swarbrooke, 1999:51; Newsome *et al.*, 2002:83; Shaw & Williams, 2002:305; George, 2007:304; Geldenhuys & Saayman, 2009:35).

a) Natural resources

The rapid growth of the natural area tourism industry, with reference to wildfire tourism, can cause a depletion of natural resources, such as water resources, local resources and land (Hunter & Green, 1995; Gössling, Peeters, Hall, Dubois, Geron, Lehmann & Scott, 2012:4). The manner in which each of these resources is impacted negatively by this kind of tourism is discussed next.

- **Water resources**

Water, and especially fresh water, is one of the most critical natural resources. Natural area (wildlife) tourism has the potential to gradually overuse this resource either through the accommodation sector, such as the building of luxury lodges and facilities like swimming pools, or through being overused (shower, bath, toilet, etc.) by the wildlife tourists (consumptive and non-consumptive) themselves visiting wildlife destinations. All of this can result in water shortages and a degradation of the freshwater supply (George, 2007:308; Gössling *et al.*, 2012:7).

- **Local resources**

Local resources are being put under pressure by wildlife tourists (consumptive and non-consumptive) in the form of energy consumption (the heating and cooling of rooms, lighting, hot water, etc.), the preparation of food for the tourists at different accommodation facilities and the building of recreational facilities, such as swimming pools and spas at tourist destinations. To add to this, the seasonal character of the wildlife tourism industry is another concern, where many destinations in wildlife areas experience an influx of tourists during the high (busy) season, placing a high demand on these resources to meet the expectations of the tourists (Gössling *et al.*, 2012:7).

- **Land**

Land degradation occurs when the land in natural areas is cleared of vegetation for the construction of wildlife tourism facilities, such as accommodation, paths and roads. This causes a disturbance to the natural wildlife found in the area and a degradation of the minerals in the soil, the fertile soils and the water supply (surface and underground) in the area (Hunter & Green, 1995)

b) Pollution

The wildlife tourism industry, including wildlife tourism (consumptive and non-consumptive), causes the same type of pollution as any other tourism industry. Pollution can take many forms, for instance water pollution, air pollution, noise pollution, littering and the production of solid waste, the releasing of sewage, oil and chemicals and architectural or visual pollution (George, 2007:307).

- **Water pollution**

The most appropriate example is when wastewater from accommodation facilities, kitchens and other installations gets discharged into the water systems (surface and underground) in a natural or protected area that hosts wildlife tourists (George, 2007:307).

- **Air pollution**

According to Andereck (1993:27), the largest amount of wildlife tourism-related air pollution is as a result of the industry's automobiles, which emit by far the most carbon monoxide of all transportation modes. This, together with the production and use of energy, can all be linked to acid rain, global warming and photochemical pollution. Islam (2013:120) has also identified that transport by air, road and rail are continuing to increase as a result of the rising number of wildlife tourists (consumptive and non-consumptive) around the world.

- **Noise pollution**

Noise pollution, as a result of aeroplanes, helicopters, recreational vehicles, building operations and wildlife tourist activities such as hunting and game drives, can cause stress and disturbance to wildlife in sensitive and protected areas. This stress and disturbance can further affect the behaviour patterns of wildlife, such as the mating, foraging and resting periods of the animals (Sunlu, 2003:264).

- **Solid waste and littering**

In areas where there is a high concentration of wildlife tourism activities and attractive natural attractions, waste management and littering can be a serious issue. Improper disposal of waste can cause significant damage to the natural environment, rivers and scenic areas in these areas. For example, when solid waste collection and disposal are poorly managed, such as wildlife tourists (consumptive and non-consumptive) leaving their litter at

accommodation areas and camping sites, it can have a severe impact on the natural environment and be a threat to both human and animal life (Islam, 2013:120).

- **Sewage**

The construction of different facilities for consumptive and non-consumptive wildlife tourists, such as camping sites, lodges and recreational areas, often leads to sewage pollution as a result of an increase in the volume of wastewater that is generated. This wastewater has the potential to pollute the surface and underground water bodies, damaging the fauna and flora of such areas (Page & Connell, 2009:430). Sewage pollution also causes health hazards for humans and animals alike (Islam, 2013:124).

- **Aesthetic pollution**

A lack of land use planning and building regulations by owners of wildlife tourism establishments, such as game farms or ranches, can facilitate in the sprawling development of accommodation facilities, such as lodges and campsites, and other supporting wildlife tourism infrastructures, such as roads, parking areas, service areas and waste disposal facilities. The aesthetic appearance of these destinations is diminished through the construction and building of such facilities that clash with the surrounding environment, creating architectural or visual pollution (Mathieson & Wall, 1982:121; Andereck, 1993:30).

c) Physical impacts

The physical impacts most likely to be caused by wildlife tourists (consumptive and non-consumptive) can be divided into two types: impacts caused by development and impacts caused by activities.

- **Impacts caused by development**

- *Construction and infrastructure development*

The development of wildlife tourism facilities, such as accommodation, restaurants and recreation facilities, can cause soil erosion, land degradation, the loss of wildlife habitats and the deterioration of the scenery of a natural area (Sunlu, 2003:265).

- *Deforestation and intensified or unsustainable use of land*

The construction of a variety of wildlife tourism facilities requires the clearing and filling-up of large areas of land that is usually located in natural or sensitive areas. These actions not only cause severe disturbance to the natural environment but can also lead to the destruction of ecosystems and microhabitats (Sunlu, 2003:265).

- **Impacts from wildlife tourists' activities**

- *Trampling*

The trampling of vegetation and soil occurs when both consumptive or non-consumptive wildlife tourists use the same trail or road over and over again to take photographs, investigate flora or create an informal trail for their own purposes, causing damage such as the prevention of seed germination, which can lead to erosion and finally a loss of natural biodiversity (Newsome, Moore & Dowling, 2013:14).

- *Disturbance of wildlife*

The destruction of habitats, the approaching of animals while foraging, the disruption of breeding patterns, the deliberate burning of the veld for better game-viewing experiences, tourists picking rare plants, spotlighting and noisy activities such as game drives and hunting are all examples of how wildlife in natural and protected areas can be disturbed by the presence and activities of wildlife tourists (consumptive and non-consumptive) (Islam, 2013:121; Newsome *et al.*, 2013:14).

The above-mentioned negative environmental impacts can further be categorised as either direct or indirect. Direct impacts are easy to recognise, to manage and to regulate, as the cause and effect thereof are usually obvious. For example, a newly constructed lodge in a natural area that provides employment to the local community can cause direct impacts such as soil erosion and compaction, the disturbance of wildlife, trampling, the removal of vegetation and litter. Meanwhile, indirect impacts, also known as secondary impacts, have a more profound effect on the environment and are more difficult to measure because the impacts are usually invisible, inconspicuous and implicit. Examples of indirect impacts are the reclamation of land for infrastructure, water and air pollution and the purchase of souvenirs made from threatened or endangered species (Bond, Child, De la Harpe, Jones, Barnes & Anderson, 2004:30; Belsoy, Korir & Yego, 2012:66). These impacts (direct and indirect) can further be classified according to their nature as random or predictable, local or widespread, temporary or permanent and short-term or long-term impacts (Belsoy *et al.*, 2012:67).

Consumptive wildlife tourism (specifically trophy hunting) also attributes to the following negative impacts on the environment:

- **Consumptive wildlife tourism affects reproductive patterns**

According to Milner, Nilsen and Andreassen (2007:37), selective harvesting from trophy hunters affects the performance of wildlife populations in various ways. The off-take of too many immature animals can result in skewed population structures (Damm, 2008:5). Also, the selective off-take of prime animals, such as male lions, for trophies has an impact on the reproduction of healthy males, leading to reduced cub survival due to changes in socio-spatial behaviour (Davidson, Valeix, Loveridge, Madzikanda & Macdonald, 2011:114). Thus,

evolutionary changes in wildlife populations may result from the selection of only the best trophy animals (Allendorf & Hard, 2009:9987).

- **Consumptive wildlife tourism affects genetic diversity**

Farming for trophy animals can have detrimental effects on the survival of biodiversity and the ecosystem through selective breeding to provide rare varieties such as hybrids (e.g. black and blue wildebeest, black impala and golden oryx) (Lindsey, 2008:45). Furthermore, increasing the number of trophy species by adding non-native species to game farms not only affects the health of animals but also causes a deviation in the genetic structure of these species as well as the environment into which they have been introduced (International Union for Conservation of Nature – IUCN, 2012).

- **Consumptive wildlife tourism affects ecosystems**

The requirement to close (fence) game farms that contain trophy species can disrupt the patterns of natural migration in some species of wildlife, while some game farms may even be overstocked and rapidly become degraded (Bond *et al.*, 2004:30; Barnett & Patterson 2005; Lindsey, 2008:45). Lindsey, Frank, Alexander and Mathieson (2005:113) and Marker, Mills and Macdonald (2003:1291) have also noted that non-huntable species are being persecuted on some game farms or ranches to avoid competition for trophies.

- **Consumptive wildlife tourism causes the inequitable distribution of benefits**

This happens when hunting programmes are not well managed and private landowners overstock or disrupt the balance of the ecosystem with fences, predator control and the introduction of non-native species (Leader-Williams, Baldus & Smith, 2009:299). On state or communal land, the unfair distribution of benefits from trophy hunting may lead to the mismanagement of resources, such as inadequate quota setting, overharvesting, unsuitable allocation of hunting areas and corruption. This may cause the local population not to receive revenue from hunting, which can result in poaching or the grazing of livestock in protected areas (Lindsey, 2008:45).

- **Other impacts as a result of consumptive wildlife tourism**

These impacts refer to so-called canned lion hunting and the use of bait to lure predators into a specific area to be shot (Lindsey *et al.*, 2005:114).

Now that the most common negative environmental impacts as a result of natural area tourism, with specific reference to wildlife tourism (consisting of consumptive and non-consumptive tourists), have been analysed and discussed, the positive impacts this type of tourism has on the environment also need to be identified and discussed.

3.2.3.2 Positive environmental impacts

Positive impacts of natural area (wildlife) tourism on the environment have also been proven to exist. The most important positive impacts this type of tourism contributes to include nature conservation, the improvement of degraded and disturbed areas, the improvement and protection of biodiversity, the establishment and expansion of national parks or game reserves and the creation of wildlife reserves (Newsome, Moore & Dowling, 2002:79; Diamantes, 2004:15). Natural area (wildlife) tourism has also helped wildlife where fauna and flora species were at the verge of extinction and can be seen as a tool for encouraging game reserve or farm owners to conserve wildlife found on their land, as it can create an income from the demand of this market (consumptive wildlife tourists) (Page & Connell, 2009:435). Furthermore, increased public awareness regarding environmental problems and the appreciation of nature can sprout from wildlife tourists (consumptive and non-consumptive) who come into close contact with nature. This can lead to more environmentally friendly behaviour that may help to preserve the environment as tourists are confronted with the value of nature (George, 2007:308).

Lindsey, Frank, Alexander, Mathieson and Romanach (2006:288) and Lindsey, Roulet and Romanach (2007:461) have found additional positive impacts of natural area (wildlife) tourism, such as consumptive wildlife tourism (specifically trophy hunting), on the environment, which are listed and explained next.

- **Consumptive wildlife tourism is sustainable**

Consumptive wildlife tourists focus on a low off-take rate on male animals only of given species (typically 2% of male populations) in order not to jeopardise wildlife populations and thus could play a key role in the conservation of endangered species. On private land, consumptive activities, such as hunting, have been vital in assisting in the recovery of several endangered species, such as the bontebok (*Damaliscus Dorcas*), black wildebeest (*Connochaetes Gnu*), the Cape mountain zebra (*Equus Zebra*) and white rhino, to name but a few. In areas where hunting operators were given control over hunting areas and huntable species for multiple seasons, sustainable hunting has emerged (Lindsey *et al.*, 2006:288).

- **Consumptive wildlife tourism creates financial incentives for conservation**

Consumptive wildlife tourism in South Africa has helped to create wildlife land use across an area of 1,4 million km², thus more than doubling the area of land used as for the non-consumptive wildlife tourism market. African countries have also identified large blocks of communal land for wildlife utilisation where hunting is the primary land use form. In countries such as Botswana, Namibia, Zambia and Zimbabwe that have a lot of communal land, hunting plays an important role in community conservation schemes and is seen as a key component (Lindsey *et al.*, 2006:288).

- **Consumptive wildlife tourism generates revenues in areas where non-consumptive wildlife tourism (ecotourism) is not viable**

Consumptive wildlife tourism such as hunting has several advantages over non-consumptive wildlife tourism that enable this industry to generate revenues under a wider range of scenarios; for example, hunting is more viable in remote areas lacking infrastructure, beautiful scenery or high densities of viewable wildlife (Wilkie & Carpenter, 1999:340). The revenue and income generated from the consumptive wildlife tourism industry are vital in many parts of Africa, as there are not enough non-consumptive wildlife tourists to generate an income in protected areas. Even in the most visited countries, such as South Africa and Tanzania, the non-consumptive wildlife tourism industry revenue is just sufficient to cover the costs for some of the national parks and game reserves, and certainly not to justify wildlife as a land use option outside of these protected areas. Thus, the consumptive wildlife tourism industry revenue is significant because it enables wildlife production to be a viable land use form across a wider range of land uses than would be possible from the non-consumptive wildlife tourism industry alone (Lindsey *et al.*, 2006:288).

- **Consumptive wildlife tourism is a tool for the control of problem animals**

Consumptive wildlife activities have the potential to generate revenue from problem animals (crop raiders or livestock killers) that would have died anyway as a result of local people. More than 50% of consumptive wildlife tourists are willing to pay more or the same as typical trophy fees to hunt problem animals, even though they are poor trophies (Lindsey *et al.*, 2007:464).

- **Consumptive wildlife tourism helps to reduce illegal hunting (poaching)**

Private and community landowners in countries such as South Africa, Namibia, Botswana and Zimbabwe use the revenue generated through trophy hunting to pay guards and buy equipment to help manage and protect wildlife. The income generated from trophy hunting is also put to good use where these revenues are used to pay anti-poaching units in the fight against rhino poaching and to help improve the natural habitat for game animals (Lindsey *et al.*, 2007:464).

- **Consumptive wildlife tourism generates high revenues from low volumes of hunters**

According to Lindsey *et al.* (2007:464), trophy hunting generates considerably more income per client than ecotourism. Also, the environmental impact, such as littering, the use of fossil fuel and habitat conversion for infrastructure development, is less than that of ecotourism because of a smaller number of hunters (Mayaka, Hendriks, Wesseler & Prins, 2004:68).

- **Consumptive wildlife tourism causes a low leakage of revenue**

Ecotourism holiday packages are mostly booked through international agents, resulting in a substantial loss of revenue from host countries. By comparison, the majority of hunting operators operating in Africa are based in countries in Africa where most hunting is carried out, resulting in limited revenue leakage (Lindsey *et al.*, 2006:264).

In addition to the above, consumptive wildlife tourism also contributes to the local community in various ways, as set out in Table 3.3.

Table 3.3: Ways in which the local community benefits from consumptive wildlife tourism

Types of benefit	Benefits to the local community
Improvement of the environment	• Hunting provides economic incentives to rural villagers • Hunting encourages villagers to maintain local wildlife within a pristine and natural environment • Presence of hunting operators helps stimulate wildlife and habitat preservation • Hunting acts as an important source of government revenue for wildlife and habitat conservation
Provision of food	• Hunting produces meat for local people • Hunting helps reduce and control crop damage • Hunting creates incentives that favour wild game over domestic animals • Wildlife are more resistant to droughts and diseases than domestic animals
Provision of water	• Hunting operators help to establish secure water sources in arid areas • Wells are dug that are used by local people as well as wildlife
Minimisation of poverty and provision of employment	• Hunting helps to turn the liability of wildlife into an asset • Hunting helps to minimise rural poverty • Hunting directly employs a large number of people (trackers, skimmers, cooks, cleaners, etc.) • Hunting requires very little or no infrastructure
Enhancing the role of women	• Local women sell agricultural products, jewellery, pottery and other items to hunters
Health and medicine	• Outfitter companies provide health care to rural people living in remote areas where hunting occurs • Hunters can provide simple medications for malaria, diarrhoea, eye infections, etc., which reduce the suffering of local people
Small business enterprises	• Small local businesses are being developed around the hunting industry, where the local community has the opportunity to sell their local arts and craft, pottery, jewellery and clothing to hunters • Other enterprises are also developed, such as entertainment, transport and taxidermies, and roads and bridges are constructed
Agriculture	• Hunting can have a scarecrow effect on wildlife and help to keep wild animals off cultivated fields • Rural people sell their agricultural products, such as corn, vegetables and fruit to hunters and hunting camps

(Adapted from Jackson, 1996:15)

3.2.3.3 Negative versus positive environmental impacts

All of the above-mentioned practices affect the public's perception regarding consumptive wildlife tourism, which makes this industry more difficult to justify as a conservation tool (Lindsey, 2008:45). On the other hand, proponents of the non-consumptive wildlife tourism industry often assume that this industry is more environmentally friendly, because it is assumed that non-consumptive tourist group sizes tend to be small and that these tourists are interested in many aspects of the environment and therefore will respect it (Wall, 1994:6). Non-consumptive wildlife tourist may be encouraged to take only photographs and leave only footprints, but even footprints make their mark. The fact that non-consumptive wildlife tourists have chosen an expensive wildlife-based holiday does not necessarily mean that they care about the long-term impact of their activity on the environment. Many of these non-consumptive wildlife tourists feel that they have paid a lot of money for what they perceive as a great adventure and assume they have an inalienable right to see and do whatever they want (Panos, 1995:8).

As a result, the environmental impacts from the non-consumptive wildlife tourism industry may be more significant than those of the consumptive wildlife tourism industry, as non-consumptive wildlife tourism tends to take place in unspoilt environments that are often ecologically fragile, contain rare species and may be inhabited by indigenous people with unique cultures (Cochrane, 1995). On the other hand, even if wildlife tourism is well planned and well regulated, it would not necessarily be a panacea for the environment. The type and magnitude of impacts depend on the type of wildlife tourist (consumptive and non-consumptive), the intensity of development and usage (long-term vs. short-term tourism planning) and the adaptation and modification of wildlife tourism sites (Ikiara & Okech, 2002). Therefore, effective strategies, plans and models need to be identified, implemented, monitored and managed in order to minimise the negative impacts and increase the positive ones. This is discussed in the following section.

3.3 MANAGEMENT OF THE IMPACTS OF WILDLIFE TOURISM (CONSUMPTIVE AND NON-CONSUMPTIVE)

In the context of wildlife tourism impact management, nothing is more important than ensuring that the natural environment is not affected negatively by this kind of tourism. This can be achieved through the use of different management models that address negative environmental impacts, effective facility design and appropriateness, site and visitor management strategies and eco-efficient practices that include energy management, waste management and water management.

3.3.1 Models used to manage negative impacts

Through the years, a variety of management models have been developed to manage the negative impacts of tourism in natural areas. Two of these models are the Recreation Opportunity Spectrum

(ROS) model and the Limits of Acceptable Change (LAC) model. Both these models seek to protect the natural resources and the environment while, at the same time, providing tourists with an enlightening nature experience. Although these models have not explicitly been developed for wildlife tourism planning and management, they provide important aspects that can be used in the field of wildlife tourism (Fennell, 2008:66). The need for a more comprehensive approach that considers a variety of (wildlife) tourism opportunities has led to the Tourism Opportunity Spectrum (TOS) model. The TOS model has been developed as a modification of the ROS model, incorporating accessibility, social interaction, on-site management, the acceptability of (wildlife) tourism impacts and the regulation of the development of different (wildlife) tourism facilities (Geldenhuys, 2004:33; Fennell, 2008:66). The TOS model also assists in the decision-making process for different (wildlife) tourism activities and whether such activities should be permitted or prohibited (Boyd & Butler, 1996:559; Butler & Waldbrook, 2003:26; Fennell, 2008:66).

A limitation of the TOS model is that it does not necessarily address all the conditions under which (wildlife) tourism development and activities take place. This is where the Ecotourism Opportunity Spectrum (ECOS) model comes in. Boyd and Butler (1996:558) have developed this model to concentrate specifically on ecotourism. Consequently, it can be applied and adapted to wildlife tourism, as wildlife tourism consists of both consumptive and non-consumptive tourism, while non-consumptive tourism also refers to ecotourism (Higginbottom, 2004:3; Newsome, Dowling & Moore, 2005:19). This model is a combination of the existing ROS and TOS models and is illustrated in Figure 3.3.

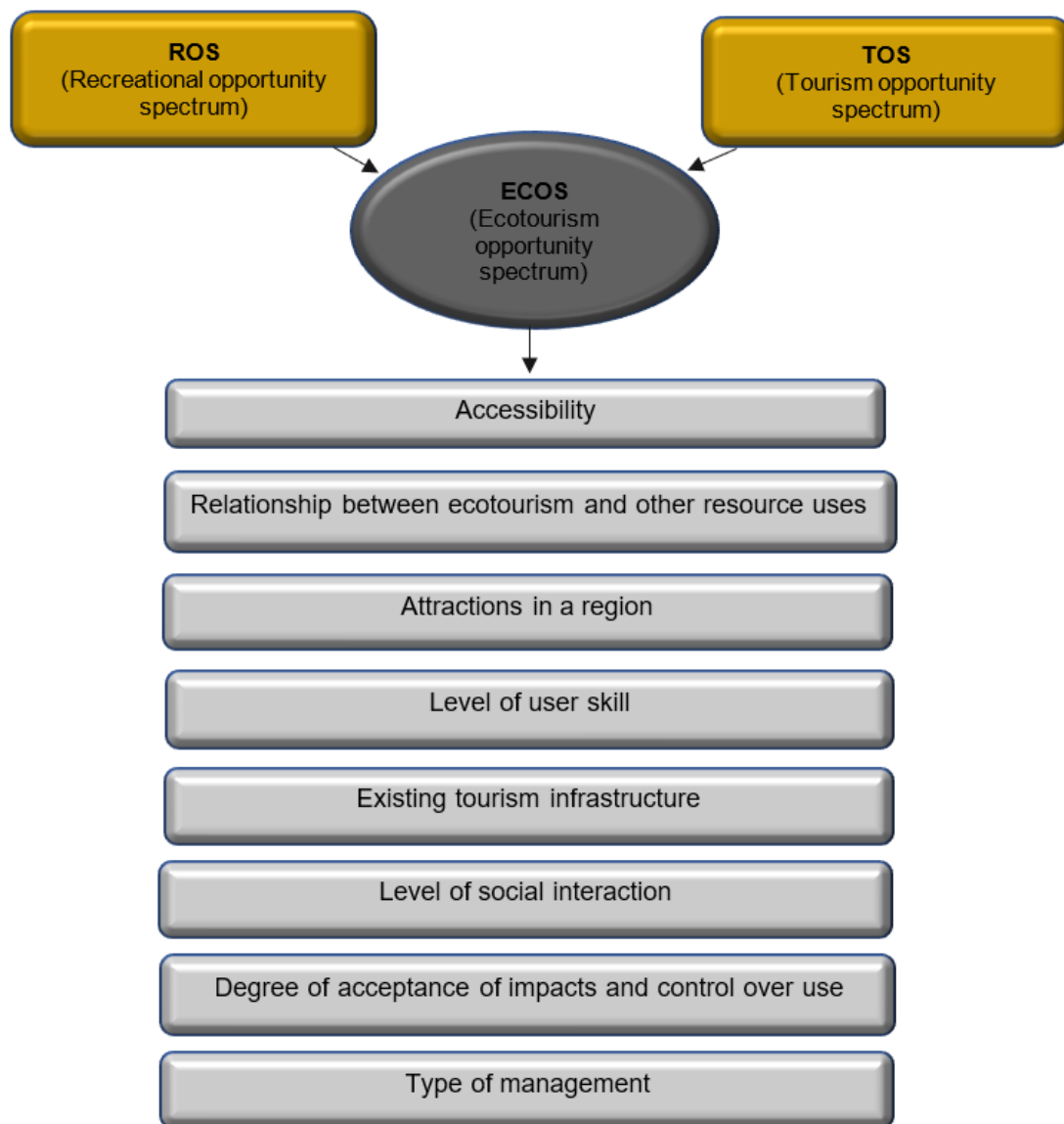


Figure 3.3: Ecotourism opportunity spectrum model

(Adapted from Boyd & Butler, 1996:561)

The ECOS model has been developed to help analyse the various factors that may affect the management of wildlife tourism and participation in ecotourism (natural) areas or sites (Neth, 2008:51). It can also be applied as a tool before the development of wildlife tourism commences in an area through the use of the following eight factors (Boyd & Butler, 1996:561; Neth, 2008:51):

- **Accessibility** refers to the ease of access to a particular natural environment or location and the means of accessibility and transport used within that area or site.
- **The relationship between ecotourism and other resource uses** relates to the involvement of other resource users, such as local communities, and their compatibility with wildlife tourism and its values.

- **The attractions in a region** concern the type of attractions and experiences provided to wildlife tourists.
- **The level of user skill** refers to the wildlife tourist's prior knowledge, level of skills and experience needed with regard to a specific natural area or site.
- **Existing tourism infrastructure** refers to the provision of different types of facilities that will meet the requirements of the wildlife tourists.
- **The level of social interaction** means the level of interaction between the wildlife tourists, other types of tourists and the local community.
- **The degree of acceptance of impacts and control over use** relates to the degree of impact of wildlife tourism and the type of regulation that exists regarding these impacts.
- **The type of management** relates to whether the development of wildlife tourism can be sustained over the long term, maintaining the sustainability of the natural resource within the natural area or site.

The conclusion can be made that the different management models can be applied to manage the negative impacts of wildlife tourism on the environment, to identify indicators for desirable environmental conditions in areas, to list all biological resources that are vulnerable, to determine the carrying capacity of an area, to ensure that there is participation among different stakeholders and to continuously monitor and evaluate the accessibility of an area or site. Now, after the most appropriate management models have been discussed, proper facility design and the appropriateness thereof need to be looked at.

3.3.2 Facility design and appropriateness

Wildlife tourism is recognised as an environmentally responsible form of tourism, and therefore, the architectural design of facilities has to become more environmentally sensitive as well (Page & Dowling, 2002:210). This can be achieved through the careful planning and design of these facilities. During the whole development process of such facilities, two key components must be taken into account, namely the wildlife tourists' (consumptive and non-consumptive) satisfaction and the environment (Saayman, 2009:365). Consumptive and non-consumptive wildlife tourists want to have an authentic nature experience; therefore, the facilities must be developed in such a way that the ambience of the natural environment is maintained and enhanced (Page & Dowling, 2002:210; Saayman, 2009:365).

Wight (1997:211) and Fennell (2008:203) have provided a range with regard to the different types of accommodation facilities for wildlife tourists and its appropriateness. This range varies from hard to soft, where the "hard" side signifies the more primitive and closer-to-nature experience, and the "soft" side a more modern and weaker experience. Figure 3.4 displays this range of the accommodation continuum.

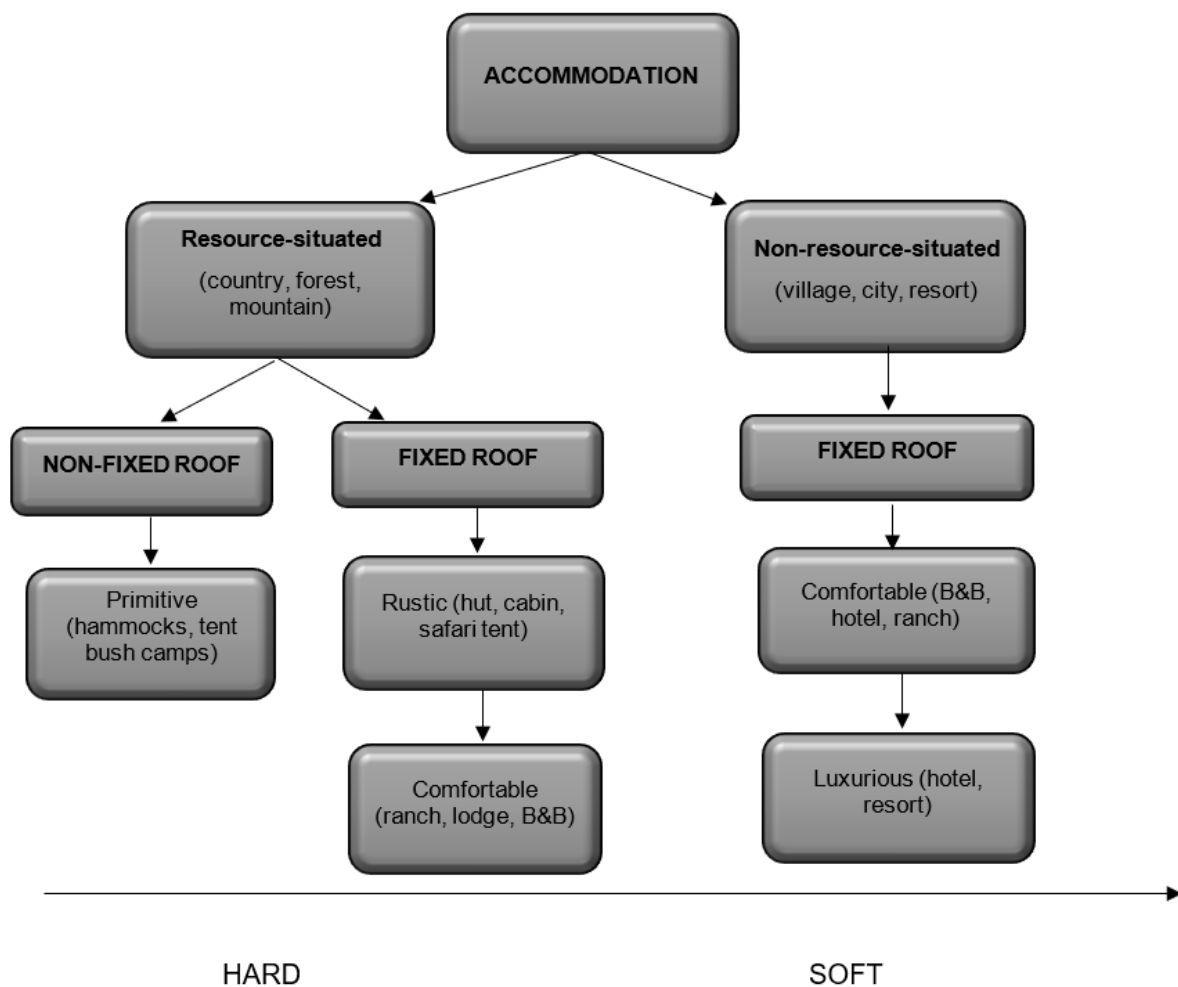


Figure 3.4: Wildlife tourism accommodation spectrum

(Adapted from Wight, 1997:211; Fennell, 2008:203)

The question, in terms of the environment, is which accommodation type is appropriate for consumptive and non-consumptive wildlife tourists. Wildlife tourism facilities should focus on a low-impact approach, together with environmental ethics that may necessitate a complete paradigm shift from the conventional design of tourism facilities (Fennell, 2008:199).

According to Andersen (as quoted by Wight 1997:214), the following aspects need to be considered when providing wildlife tourism accommodation:

- Is the type of accommodation a representation of the setting, and does it fit in with the natural surroundings?
- Have an environmental impacts assessment and analysis of the area been conducted to ensure credibility and sensitivity to the environment with regard to its location, building methods used, eco-efficiency status and conservation practices?
- Does the building design ensure the maintenance of natural ecosystems and sensitive areas?

- Does the accommodation fit in with the cultural preferences or preferences of the local community?
- Does the accommodation feature and include environment-based interpretive experiences for wildlife tourists (consumptive and non-consumptive)?
- Is the accommodation accessible to people with physical disabilities and older guests?

As far as the environment is concerned, wildlife tourism has a role to play in the global environmental situation by adapting and implementing environmentally responsive and alternative technologies with regard to facility design and building (Page & Dowling, 2002:219). Table 3.4 provides some examples with regard to efficient, environment-friendly designs. (These were among the aspects queried in the questionnaire of the consumptive and non-consumptive wildlife tourists.)

Table 3.4: Guidelines for environment-friendly designs for wildlife tourism facilities

• Make use of local natural materials in the facility design as far as possible. • Foresee that local architectural styles are used by architects in the design to help improve the aesthetic impact of facilities on the environment. • Ensure the use of natural light and natural heating and shading in the facility design by making use of free natural resources. • Make sure that roofs and heating pipes are insulated. • Install double-glazed windows that will help to transfer heat. • Install automatically closing doors that will help prevent the loss of either warm or cool air. • Indigenous plant species should be incorporated in the landscape design.
--

(DEAT, 2003:20)

Now that effective guidelines regarding facility design and its appropriateness for wildlife tourism have been identified, the next step is to manage the tourism sites and the wildlife tourists (consumptive and non-consumptive) visiting these sites.

3.3.3 Site and visitor management

Without proper regulation and management strategies, such as site and visitor management, problems like vegetation trampling, soil erosion, visitor crowding and the degradation of cultural resources will be intensified by wildlife tourists (Page & Dowling, 2002:229; Marion & Reid, 2007:5; Wearing & Neil, 2009:37). Site management focuses on manipulating the environment by means of zoning, visitor movement and infrastructure design and layout. Visitor management refers to regulating the behaviour of the wildlife tourists (consumptive and non-consumptive) and their amount of use, which can be achieved by limiting the number of tourists and educating them regarding their uses (Geldenhuys, 2004:37; Eagles, Bowman & Chang-Hung, 2005:47; Newsome *et al.*, 2005:31).

The different tools of site and visitor management and how each can help to minimise environmental impacts are briefly explained next.

3.3.3.1 Site management tools

Zoning has to do with some sections of a site or area being assigned specific uses. The intention of zoning is to restrict tourists' access to and limit their activities in such areas (Geldenhuys, 2004:41; Eagles *et al.*, 2005:47; Newsome *et al.*, 2005:178; Holden, 2008:184). Visitors' movement can be controlled, especially in sensitive or protected areas through the use of physical structures, such as clearly posted signs, and sufficient trails and paths. Infrastructure development is also important since it determines how the site or area will be used by the tourists, for example, planning the layout so that most of the facilities are in relatively close proximity to one another (Eagles *et al.*, 2005:47).

3.3.3.2 Visitor management tools

For effective visitor management, two basic principles should be adhered to: the number of (wildlife) tourists should be kept low, and these tourists should have minimal negative impact on the natural environment (Lück, 2003:189; Geldenhuys, 2004:28; Honey, 2008:29). In order to achieve this, the ideal number of wildlife tourists (consumptive and non-consumptive) to a site should be determined. This is commonly referred to as the carrying capacity (Geldenhuys, 2004:28; Holden, 2008:187). If the carrying capacity of a site is exceeded, the environmental threshold level will be breached, which will cause a degradation of the natural environment (Holden, 2008:188). Carrying capacity can be divided into four categories, namely the ecological, physical, facility and social capacity (Geldenhuys, 2004:29).

- The ecological capacity helps to determine the type and degree of disturbance (wildlife) tourists (consumptive and non-consumptive) exert on an animal community.
- The physical capacity determines the level where the (wildlife) tourists' satisfaction declines because of overcrowding.
- The facility capacity determines how many wildlife tourists can be accommodated by a facility.
- The social capacity determines the level of change as a result of tourists' attitudes towards the local community.

The information given to wildlife tourists (consumptive and non-consumptive) plays an important role in guiding their behaviour. Education programmes must, therefore, be designed in such a way to encourage tourists to consider the impact of their actions and should aim to promote an ethical attitude towards the environment they are visiting (Eagles *et al.*, 2002:132; Marion & Reid, 2007:6).

Lastly, placing a limitation on the usage of wildlife tourists (consumptive and non-consumptive) is another way in which environmental impacts can be managed. This can be done through the

restriction of wildlife tourists in fragile or sensitive areas, the issuing of only a limited number of permits for specific zones, such as campsites, forbidding off-road driving, promoting off-peak use and limiting the time that wildlife tourists may spend in certain areas (Geldenhuys, 2004:39; Fennell, 2008:60).

3.3.4 Eco-efficient practices

Eco-efficiency is defined by Kelly, Haider, Williams and Englund (2007:377) as “reducing the amount of energy and natural resources used, as well as wastes and pollutants discharged through the production of goods and services”. In order for wildlife tourism to keep functioning, the natural environment, its ecosystems and the natural resources have to be intact (Holden, 2008:210). According to Coetzee and Saayman (2009:131), for wildlife tourism to be able to contribute to the long-term well-being of the planet and to minimise negative environmental impacts, it is essential that wildlife tourism establishments and the wildlife tourists (consumptive and non-consumptive) who visit these places adopt and use eco-efficient practices of energy, waste and water management (DEAT, 2003:19), which are discussed next. (These aspects were tested in the questionnaires of the management of the game reserve and the consumptive and non-consumptive wildlife tourists).

3.3.5 Energy management

In the accommodation sector, heating and cooling, by means of conventional electric methods, are major consumers of electricity and therefore major contributors to the generation of greenhouse gasses, which adds to global warming. It is therefore important to make use of renewable energy sources, wherever possible, in order to reduce the need for coal-produced electricity (Beeton, 1998:91).

Solar energy is a popular source of renewable energy and can be utilised in wildlife tourism establishments in many ways, for example to heat or cool spaces, to generate hot water and to produce electricity. Another source of renewable energy that can be used is wind energy, which is more economical than solar power. Thus, should the conditions of an area be favourable, this energy source could be considered (Beeton, 1998:91; Becken & Hay, 2007:213). Table 3.5 provides some guidelines for using energy efficiently and reducing energy use.

Table 3.5: Guidelines for efficient and reduced energy use

- | |
|--|
| <ul style="list-style-type: none">• Use washing machines and dishwashers that are energy-efficient.• Readjust the hot water thermostat of geysers from the normal 60°C to less than 50°C.• Replace all light bulbs with energy-saving light bulbs.• Train the staff to turn off lights and the heating and cooling systems in rooms that are unoccupied.• Insulate heating pipes and roofs.• Minimise the use of air-conditioning by making use of natural ventilation.• Install motion detectors to activate lights in the rooms. |
|--|

(DEAT, 2003:31; Queiros, 2003:76)

3.3.6 Waste management

Waste disposal is a global problem and is specifically relevant to the wildlife tourism industry as wildlife tourists (both consumptive and non-consumptive) are producers of waste. According to Saayman (2009:377), waste can be classified into two types: hard (or solid) waste and wastewater. Hard or solid waste includes paper, tin, glass, plastic and kitchen waste, such as peels, bones and left-over food. Wastewater or greywater is produced in kitchens and ablutions, and black water comes from toilets. Both these types of waste can lead to the pollution of freshwater systems (surface and underground water), rivers and dams and the visual pollution of the natural environment (Nath, 1999:290; DEAT, 2003:34; Kandari & Chandra, 2004:121). It is, therefore, important that wildlife tourism establishments, such as lodges and campsites, should aim to minimise their generation of waste and all the negative impacts associated with it.

Three fundamental principles for managing waste have been identified, which are reducing, reusing and recycling waste (Middleton & Hawkins, 1998:137; DEAT, 2003:35; Kandari & Chandra, 2004:121). The manner in which each of these principles can be applied in the wildlife tourism industry is explained next.

- **Reduce:** Wildlife tourism establishments, such as lodges, can reduce the amount of waste by negotiating with suppliers to use environment-friendly packaging or less packaging.
- **Reuse:** The management of wildlife tourism establishments can find alternative uses for waste materials or choose to provide tourists with products such as aluminium water bottles that can be reused, instead of offering single-serving plastic water bottles.
- **Recycle:** Wildlife tourism managers can introduce a recycling programme at the wildlife tourism facility, where all waste gets separated into different bins for plastic, paper, glass, tin, food or wet waste and toxic waste, such as camera batteries.

Table 3.6 provides some guidelines for effective waste management at wildlife tourism accommodation sites.

Table 3.6: Guidelines for waste management

- Avoid buying products that contain environmentally hazardous substances.
- Rather use biodegradable products, soap and cleaning materials.
- Negotiate with suppliers to pack products in bulk in order to minimise packaging.
- Buy recycled and recyclable products, such as recyclable bin liners.
- Initiate a recycling programme at the accommodation facilities.
- Buy locally produced goods.
- Compost food waste on site and use it as an organic fertiliser.

(Middleton & Hawkins, 1998:137; DEAT, 2003:35; Kandari & Chandra, 2004:121)

3.3.7 Water management

When wildlife tourism development occurs in places where water is scarce, water will inevitably become a contested resource between the local community, wildlife tourists (consumptive and non-consumptive) and the wildlife found in the area. Consequently, water is regarded as a vital natural resource in order to sustain the tourism industry. The level of water consumption in the wildlife tourism industry is extremely high, and wildlife tourists (consumptive and non-consumptive) should assume responsibility for helping to conserve this precious resource (Holden, 2008:84). Table 3.7 provides some water-saving guidelines that managers of wildlife tourism establishments can use to minimise water usage.

Table 3.7: Guidelines for saving water

- Install low-flow or dual-flush toilets and waterless urinals.
- Install flow restrictors in each shower and tap.
- Make use of water-efficient washing machines and dishwashers.
- Greywater from bathrooms can be used for irrigation, landscaping and to flush toilets.
- Treat all sewage effectively so that the surface and groundwater bodies do not get contaminated.
- Septic tanks should be located away from domestic water supplies, groundwater, rivers and dams.
- At each accommodation unit, install rainwater tanks that can be used to flush the toilets.
- Place water-saving information cards in rooms.

(DEAT, 2003:28)

3.4 CONCLUSION

The aim of this chapter was to determine the positive and negative impacts natural area tourism (with reference to consumptive and non-consumptive wildlife tourism) has on an economic, socio-cultural and environment level of an area. The impacts on both the economic and socio-cultural levels were identified and briefly discussed, with a more thorough analysis and discussion of the positive and negative impacts of this industry on the environment.

One thing that differentiates this tourism industry from other tourism industries is that the majority of impacts occur in nature. Furthermore, it was determined that the consumptive wildlife tourism industry (hunters) has unique impacts (positive and negative) compared to those of the non-consumptive wildlife tourism industry. Regarding the negative environmental impacts, effective management models, appropriate facility designs, site and visitor management plans and eco-efficient practices were identified, analysed and discussed in order to help minimise the negative impacts and maximise the positive impacts of the wildlife tourism industry on the environment.

In the next chapter, the research design and methods that were used in this study will be discussed.

CHAPTER 4: RESEARCH DESIGN AND METHOD

“Progress is impossible without change, and those who cannot change their minds cannot change anything.”

~ George Bernard Shaw ~

=====

4.1 INTRODUCTION

This chapter covers the different research strategies, the research design and the sampling method used in the study. Each aspect will be discussed, after which an explanation will be given regarding how it was implemented in this research study. The main aim and objectives of the study were determined and explained in Chapter 1. Methodology refers to how data are collected, organised and analysed, which happen through the research design, the setting, the sampling method and the data collection and analysis technique used (Burns & Grove, 2003:488; Polit & Hungler, 2004:233).

4.2 RESEARCH PHILOSOPHY

A research philosophy, according to Waite and Hawker (2009:685), is a collection of beliefs for a research study regarding the fundamental nature of knowledge, reality and existences of the study. It is thus important to understand the conceptual assumptions that underlie various research paradigms (Collis & Hussey, 2015:47), because a philosophical orientation has implications regarding the way the research questions, methodology and methods of a particular study are designed (Grix, 2004:57). Two basic research paradigms – positivism and interpretivism – have been identified by Mack (2010:57), while Onwuegbuzie and Leech (2005:27) have identified a third paradigm, namely pragmatism. Each of these research philosophies is briefly discussed next.

According to Saunders, Lewis and Thornhill (2012:135), positivism relates to the philosophical stance of the natural scientist and entails working with an observable social reality to produce law-like generalisations. It further promises unambiguous and accurate knowledge, where the positivist researcher focuses on a strictly scientific empiricist method designed to yield pure data and facts uninfluenced by human interpretation or bias. Positivism adopts a clear quantitative approach to research in order for a social reality to be investigated (Adams, Khan, Raeside & White, 2014:81). Cohen, Manion and Morrison (2007:11) argue that positivism is less effective when applying it in order to study human behaviour because of its complexity and the fact that the balance and regularity of the natural world are notably in contrast to each other. This has led to the emergence of the interpretivism paradigm.

Interpretivism aims to recognise, clarify and demystify social reality through the eyes of various participants and is also called “constructivism” since it emphasises the ability of a person to construct meaning (Cohen *et al.*, 2007:19; Mack, 2010:7). This is achieved by engaging with and studying people in their natural environments, enabling a researcher to have an in-depth subjective perception of their lives (Van Maanen, 1983:9).

Pragmatism is not committed to any kind of philosophical system and argues that researchers should have a choice in combining different paradigm methods by selecting them based on their usefulness in answering the research question (Creswell, 2014:39; Collis & Hussey, 2015:54).

In terms of philosophical orientation, this research study adopted the interpretivism paradigm to accomplish the objectives of the study.

4.3 RESEARCH APPROACH

A research approach is a plan and a procedure that a researcher uses, which span the steps from the general assumption to the comprehensive data collection, analysis and interpretation methods (Creswell, 2009:3). Research approaches can be classified into quantitative, qualitative and mixed methods (Williams, 2007:65; Creswell, 2008:3; Mertler & Charles, 2011:33). The positivism philosophy guides the quantitative approach, and the interpretivism paradigm informs the qualitative approach, while the mixed methodology approach is underpinned by the pragmatism paradigm. Below is a brief explanation of each research approach.

Quantitative research involves describing the phenomenon by gathering numerical data that are interpreted using mathematically based techniques, such as statistical tests (Muijis, 2004:13). It attempts to measure the data and generalise the findings of the samples with the intention to create, confirm or validate relationships and to establish assumptions that relate to the theory (Leedy & Ormrod, 2001:102). Quantitative research methods are more specifically related to descriptive and causal research designs than to qualitative methods, which are more applicable to exploratory designs. According to Muijis (2004:11), there are two types of quantitative research approaches – experimental and non-experimental – where experimental research basically differs from non-experimental in that the former includes manipulating some of the study variables, while the latter does not influence the variables.

The qualitative research approach is defined by Van Maanen (1983:9) as “an array of interpretative techniques which seek to describe, decode, translate and otherwise come to terms with the meaning, not the frequency of certain more or less naturally occurring phenomena”. It presents detailed, non-numerical data information and is primarily explorative. Qualitative research focuses primarily on the gathering of detailed amounts of primary data from relatively limited samples of subjects by asking questions or observing behaviour (Hair, Bush & Ortinau, 2000:216).

This type of research design is much cheaper than quantitative research, which makes it a popular option among researchers to consider (McDaniel & Gates, 2001:109). The basic weaknesses of this design are that it does not necessarily reflect a population that is of interest to the researcher and that the ability of the researcher to generalise qualitative data to larger segments is restricted, as the information is unstructured and the sample sizes are typically small (McDaniel & Gates, 2001:216).

Mixed-method research includes aspects of both the qualitative and quantitative research approaches and can take three basic forms depending on the extent to which each method has been incorporated in a study. The emphasis can be on the qualitative approach or on the quantitative approach or equal emphasis on both approaches (Creswell, 2008:3; Mertler & Charles, 2011:33).

This study incorporated a qualitative research approach as it was mostly guided by the research goal and objectives, the research questions, the extent of time and resources available (due to COVID-19), and existing knowledge and ease of access to the participants (whereby the demand side had to be telephonically interviewed via Skype or WhatsApp video calling due to COVID-19 (cf. Saunders *et al.*, 2012:173).

4.4 RESEARCH DESIGN

A research design is a general plan that a researcher follows in order to answer the research questions (Saunders, Lewis & Thornhill, 2008:136). Burns, Bush and Sinha (2014:51) and Clow and James (2014:27) have categorised research designs into three categories: descriptive, causal and exploratory.

Descriptive research provides information regarding current conditions, situations and events and considers the relationship between variables (Robson, 2002:59; Burns *et al.*, 2014:57). According to Williams (2007:66), descriptive research allows for the identification of the characteristics of a particular condition on an observational basis or the discovery of the correlation between two or more variables.

Causal research seeks to identify possible causal relationships regarding the effect that one variable has on another (Ross, 2012:3; Clow & James, 2014:29). This type of research emphasises the studying of a situation or a problem in order to explain the relationships between variables (Saunders *et al.*, 2008:140). The goal of casual research is to eliminate all other possible causes except for the one being studied (Clow & James, 2014:29).

Exploratory research involves examining a problem or a situation in order to identify variables that can be studied further and, in some cases, to define a problem (Clow & James, 2014:27). Exploratory research seeks to find out “what is happening, to seek new insights, to ask questions and to assess phenomena in a new light” (Robson, 2002:59). Thus, in cases where the exact nature of a problem

is unknown, exploratory research can be applied (Saunders *et al.*, 2008:140), which enhances the fact that exploratory research is more suitable for a qualitative approach. Methods that can be used in exploratory research include conceptual studies, case study research, ethnography, grounded theory and action research. These methods can be summarised as follows:

- Conceptual studies are based on secondary sources linked with the understanding of concepts and aimed at contributing to the existing body of knowledge and understanding (Jennings, 2010:218).
- Case study research has more than one meaning, as it can be used to describe a unit of analysis or to describe a research method, but it all depends on the underlying philosophical assumptions of the researcher (Jennings, 2010:185; Nieuwenhuis, 2016:107). The researcher can make use of a variety of data collection procedures over a specific period (Creswell, 2014:14). Case study research can be positivist, interpretive or critical in nature. However, Creswell (2013:97) regards case study research as a type of design in qualitative research that can be an object of study as well as a product of the inquiry. From an interpretivist perspective, typical characteristics of case studies are that they strive towards a comprehensive understanding of how participants relate and interact with one another in a specific situation and how they make meaning of a phenomenon under study (Nieuwenhuis, 2016:75).
- Ethnography studies refer to the study of behaviour patterns, language and actions or interaction in natural settings over a prolonged time (Creswell, 2014:14). The term stems from two Greek words, namely *ethnos*, which means “people”, and *graphein*, which means “to write”. Thus, ethnography essentially means “writing about people”. In the anthropology field, ethnography entails the description of a community or group and focuses on the social systems and cultural heritage thereof (Creswell, 2014:14; Nieuwenhuis, 2016:109).
- Grounded theory studies inductively derive from the abstract theory of process, action or interaction grounded in the views of participants. The researcher enters the world of the participants and establishes rapport with them (Creswell, 2014:14). It is a process comprising multiple stages of data collection, refinement and defining categories of information (Creswell, 2014:14; Nieuwenhuis, 2016:109). Data collection, data analysis and theory stand in a reciprocal relationship with one another in these studies (Jennings, 2010:168; Nieuwenhuis, 2016:109).
- Action research starts with identifying a problem, collecting data (through the use of a variety of data-gathering techniques), analysing the data, taking action to resolve the problem and assessing or evaluating the outcome of the intervention (Jennings, 2010:187; Nieuwenhuis, 2016:110). Typically, the participants in the research “own” the problem, and they become partners in carrying out the research (Nieuwenhuis, 2016:110).

This study was exploratory in nature, whereby action research was used and the researcher acted as a mediator between the participants, in this case the management of the game reserve (supply side) and the consumptive and non-consumptive wildlife tourists (demand side) visiting the game reserve. This was done to help plan and implement an intervention that ought to alleviate the problem experience, in this case environmental impacts (cf. Nieuwenhuis, 2016:74).

4.5 SAMPLING

Sampling is the process of selecting a small portion of the study population for data collection and analysis in order to draw conclusions or identify a trend. A good sample should resemble the population from which it came in all of its characteristics (Johnson & Christensen, 2014:248). Sampling methods are classified as either probability sampling or non-probability sampling (Cohen *et al.*, 2007:110). The next section will discuss both of the sampling methods and their various sampling techniques, after which the sampling method that suited this study the best will be explained.

4.5.1 Sampling techniques

With probability sampling techniques, the chances of representatives of the larger population being chosen for the sample are known. It can also be stated that the likelihood (probability) of each member being selected for the sample is the same (Gravetter & Forzano, 2011:143; Mertler & Charles, 2011:102; Johnson & Christensen, 2014:273). It requires the researcher to have extensive knowledge of the population, because all individuals in the population should be listed and this information, in most cases, is not always available (Gravetter & Forzano, 2011:143).

The different types of probability sampling are as follows:

- **Random sampling:** With this sampling technique, each unit within the population is given an equal chance to be selected. The samples (units) can be handpicked, using computer programs or through the use of tables of random numbers (Mertler & Charles, 2011:102; Johnson & Christensen, 2014:251).
- **Systematic sampling:** With this technique, the sample size is divided by the population size, and this fraction produces an (n) number for selection – in other words, sample size divided by population size = n. Systematic sampling may also be preferred if there is any doubt about the completeness of the sampling frame; consequently, it is important that the sampling frame itself should be fully randomised or “mixed up” (Jennings, 2010:142).
- **Stratified sampling:** This technique is used when the researcher wants to ensure that subgroups within the population are proportionally represented in the sample (Mertler & Charles, 2011:102). The technique can also be used in cases where recognisable subgroups of the population have to be considered to ensure an appropriate representation of classes (Gravetter & Forzano, 2011:147).

- **Cluster sampling:** This technique involves the researcher choosing between groups that already exist rather than individuals (Gravetter & Forzano, 2011:149; Mertler & Charles, 2011:102).

In non-probability sampling, the chances of members of the bigger population being selected for the sample are unknown (Mertler & Charles, 2011:103), and as such, they are biased (Saunders, 2008:218). This is because the researcher does not know the population and is unable to list the members of the population (Gravetter & Forzano, 2011:143).

Non-probability sampling includes the following types (Mertler & Charles, 2011:103; Johnson & Christensen, 2014:273):

- **Convenience sampling:** This technique involves using sections of units or people who are easily accessible and willing to participate. It is an expeditious and inexpensive method of sampling (McDaniel & Gates, 2010:435; Rasinger, 2013:51). According to Mertler and Charles (2011:103), the results from convenience sampling should be generalised with caution. However, researchers often use convenience sampling because of practical constraints.
- **Quota sampling:** By using this technique, the researcher identifies major groups or subgroups of interest and determines the number of people to be included in each group (Johnson & Christensen, 2014:265). It further ensures that subgroups are represented, which enhances the representative status of convenience sampling (Gravetter & Forzano, 2011:152).
- **Purposive sampling:** This technique is applied when the researcher decides who should be included in the research study based on the contribution that such a person can make towards the research study (Jennings, 2010:139). The selected participants are the key informants on the topic under investigation. This technique is associated with the qualitative research approach (Jennings, 2010:140; Creswell, 2013:154-155, where expert sampling and total population sampling are the two basic methods.
 - **Expert sampling** is applied when the researcher wants to include people with specialised knowledge and skills who are regarded as experts by the researcher (Jennings, 2010:140). Jennings (2010:140) explains that expert sampling is useful when research is expected to take a long time before it provides conclusive results, when there is a lack of observation evidence, when there are new areas of research under investigation and to determine whether further study in the particular field or topic is worth the effort.
 - **Total population sampling** is a technique by which the full population that meets the criteria of a study is included. This technique is used when the population under investigation is relatively small (Jennings, 2010:140).

- **Snowball sampling:** This technique is applied when each research participant who accepts being in a research study is requested to identify one or more additional persons who meet specific criteria and characteristics and may be willing to participate in the study. This sampling method can be used to locate members of populations that are hard to find or when no sampling frame is available (Jennings, 2010:141).

The sampling procedure of this study was done in three phases. The first stage involved the identification of the study area. The second stage had to do with the selection of the study sites within the study area, and the third stage involved the recruitment of respondents for the study.

- **Stage 1 – Selection of the study area**
A location that was characterised as a wildlife tourism product and hosting both consumptive and non-consumptive wildlife tourists was selected as the study area. In this case, a specific game reserve located in Namibia was selected as the study area.
- **Stage 2 – Selection of the study sites**
Two study sites were selected by the researcher, namely a tourist lodge where non-consumptive wildlife tourists (ecotourists) were to be found, and a hunting lodge where consumptive wildlife tourists (trophy hunters) were accommodated.
- **Stage 3 – Selection of the respondents**
The selected respondents consisted of two populations. The first population, namely the reserve management, also known as the supply side, consisted of the owner, the general manager and the consumptive and non-consumptive wildlife tourism managers. The second population, namely the wildlife tourists, also known as the demand side, consisted of the consumptive and non-consumptive wildlife tourists who visited the game reserve.

For the purposes of this study, a non-probability sampling technique was used for both research populations (supply and demand side). For the first population (supply side), the researcher adopted a purposeful sampling method, as the reserve management was purposefully selected to participate in the study. For the second population (demand side), a convenience sampling method was used due to the COVID-19 pandemic. Convenience sampling in this research study was done, whereby the owner of the game reserve provided the researcher with a list of names of consumptive and non-consumptive wildlife tourists who had visited the game reserve during the previous three years. From this list, the researcher conveniently selected respondents to participate in the research. When a particular respondent was not available or did not want to participate in the study, the next respondent on the list was selected.

4.5.2 The sample size

With regard to the reserve management (supply side), the entire population, consisting of seven respondents, was selected. As for the wildlife tourists (demand side), ten consumptive and ten non-consumptive tourists were willing to participate in the research.

Adler and Adler (2011) recommend that master's students should sample between 12 and 60 participants for interviews, with 30 being the mean for a viable qualitative research study. Therefore, the researcher interviewed a total of seven respondents from the reserve management (supply side) and ten consumptive and ten non-consumptive wildlife tourists who visited the game reserve (demand side), totalling 27 respondents.

4.6 RESEARCH METHODS

Research methods are the specific procedures and techniques used to collect and analyse data (Crotty, 1998:3; Dawson, 2009:14). A research study employs both primary and secondary data sources. Primary data refer to information obtained first-hand by the researcher on the variables of interest for the specific purposes of the study and can happen through three basic approaches, namely experiments, surveys and field research. Secondary data, on the other hand, refer to information gathered from sources that already exist, such as academic textbooks, articles, scholarly journals, library and scientific databases, the Internet, theses and dissertations (Sekaran, 2008:220).

4.6.1 Data collection methods

There are basically four qualitative data collection methods that a researcher can use, namely interviews, observations, focus groups and questionnaires (Corbetta, 2003:12-13). Each method is briefly explained below.

- **Interviews**

Interviews provide rich, detailed information and insights into the subject under investigation (Clow & James, 2014:28). This method of collecting data involves the presentation of oral-verbal stimuli and a reply in terms of oral-verbal responses (Kothari, 2004:97). Three types of interviews exist, namely structured interviews, semi-structured interviews and unstructured interviews (Saunders *et al.*, 2008:306; Sekeran, 2008:225; Singleton & Straits, 2010:266). These interview types are summarised in Table 4.1. Interviews, especially face-to-face interviews, tend to have a high response rate (Singleton & Straits, 2010:283), where the researcher not only controls the interpretation of the findings but also has control over the interview itself (Clow & James, 2014:109). Thus, interviews can be regarded as one of the most cost-effective methods of qualitative research.

Table 4.1: Interview types

Type	Method	Description
Structured interview	An interview schedule is used, offering a range of questions that are often closed and pre-coded with fixed choices.	Structured interviews include the use of a predetermined questionnaire, which is fixed and standard (Saunders <i>et al.</i> , 2008). Structured interviews require a high degree of formality and are rigid in nature (Robson, 1993).
Semi-structured interview	An interview guide is used, where questions can be varied in wording and position. Further questions may be added, and interviewees are encouraged to answer the questions freely.	Semi-structured interviews allow questions that are non-directive and allow respondents to react to the subject in their own way. Semi-structured interviews are defined as a process in which the interviewer has a collection of predetermined questions but is free to change the order thereof on the basis of what he/she considers necessary in the context of the conversation (Robson, 1993). Semi-structured interviews often encourage the interviewer to omit some questions, to adjust the way in which questions are formulated, to provide clarification and to provide additional questions that are regarded as relevant (Robson, 1993).
Unstructured interview	The interviewer has only a list of topics to be covered, and the style of posing questions about these topics may vary among interviews.	Unstructured interviews are informal by nature. These interviews are used to extensively investigate a field in which the interviewer has a special interest (Saunders <i>et al.</i> , 2008). However, there are some disadvantages to this approach (Patton, 2002): • It requires more time to obtain the necessary data. • It is more prone to questioning and prejudice. • Good interviewing skills are required (rapid insights, on-the-spot questions). • Data are difficult to obtain and interpret. • The varying questions and responses of each interview make it difficult to examine and compile themes.

(Adapted from Matthews, 2009:104)

- **Observation**

Observation is a method used to gather data about behaviour and cannot be used to describe the motives behind the behaviour (Clow & James, 2014:128). Observations allow data to be collected in a natural setting and at various locations at the same time. According to Dawson (2009:32), an observation can either be disguised or undisguised. In an undisguised observation, the individuals know that they are being observed, whereas in disguised observation, they are not aware of it, with the added advantage that the participants' behaviour is not affected by knowing they are being observed (Clow & James, 2014:131).

- **Focus groups**

Focus groups are also called “discussion groups” or “group interviews” (Dawson, 2009:29), where data are generated by interaction among group participants (Ritchie & Lewis, 2003:171). Focus group discussions are aimed at gathering the observations, interpretations and views of the participants on a particular topic. Focus groups are relatively inexpensive and can provide fairly dependable data within a short time frame. Focus groups can also be more efficient than interviews (Adams *et al.*, 2014:111). The biggest downside of a focus group conversation is that individuals can come to a consensus on a thought or concept through the informal leadership of one or two individuals (Clow & James, 2014:98). In addition, some individuals may not feel comfortable speaking in a group setting, and only socially appropriate responses may emerge.

- **Questionnaire**

A questionnaire is a series of questions that draw the requested information from a sample using a structured answer (Neelankavil, 2007:184-185). Questionnaires can be self-administered (e.g. delivery and collection questionnaires, mail questionnaires and Internet-mediated questionnaires) or interviewer-administered (e.g. face to face or through the telephone or Internet) (Saunders *et al.*, 2008:362; Sekaran, 2008:224). Self-administered questionnaires have the advantage of more effective data collection in terms of time, resources and costs on the part of the researcher (Sekaran, 2008:224). Moreover, both self-administered and interviewer-administered questionnaires are convenient for respondents, as they can choose a desirable time to respond. Through questionnaires, privacy can also be maintained, as respondents may be more willing to share personal details or socially unacceptable actions in self-directed questionnaires rather than face-to-face interviews (Singleton & Straits, 2010:266). Drawbacks of self-administered questionnaires are that it is not possible to retrieve and compile additional information and that they are correlated with poor response rates and run a higher risk of missing data (Bryman & Bell, 2007:233-234).

The nature of this research study required the use of semi-structured interviews (by means of interviewer-administered questionnaires) for both research populations (supply and demand side), as semi-structured interviews can be used in qualitative research (Nieuwenhuis, 2016:74; Cohen & Crabtree, 2006). The intention was to conduct face-to-face interviews with the wildlife tourists (consumptive and non-consumptive) at the game reserve. However, this method was changed to telephonic interviews (Skype and WhatsApp video calling) due to COVID-19.

4.6.2 Data collection procedure

The interviews with the management of the game reserve (supply side) were conducted during the last week of September 2019 on the game reserve itself. Originally, the interviews with the

consumptive and non-consumptive wildlife tourists (demand side) had been scheduled to be done on the game reserve during the second and third week of April 2020. However, due to the COVID-19 pandemic, the researcher had to adapt to circumstances, and so online interviews were selected as the data collection method. The management of the reserve gave permission to help with the sourcing of potential participants who had visited the game reserve the previous three years and provided the researcher with a list of names and contact details of consumptive and non-consumptive wildlife tourists. After that, the researcher made contact via email with each of the wildlife tourists (consumptive and non-consumptive) listed, scheduling a set date and time for the interview to be conducted either through Skype or WhatsApp video calling, depending on the respondent's preference. Each wildlife tourist was also provided with a letter of consent, explaining the goal of the research study (see Appendix C). In the end, ten consumptive and ten non-consumptive wildlife tourists were willing to participate in the study. Each interview took 15 to 20 minutes to complete.

4.6.3 Data recording and analysis

The thematic content analysis for both research populations was carried out in semi-structured interviews. Creswell's (2009:185-189) six steps of analysing and interpreting data were employed. The steps as followed in this research are set out below.

Step 1: Organise and prepare the data for analysis

In order to make the data collection an effective process in which the researcher could obtain access to what the participants said in the semi-structured interviews, the interviews were recorded using an audio voice recorder. Handwritten notes were also taken during the interviews. None of the respondents had any objection to the researcher recording the interviews. After the semi-structured interviews with the respondents of the supply and demand side had been recorded, the data obtained through the interviews were transcribed using Microsoft Word 2010. Each answer of the respondents from both the supply and the demand side was individually placed underneath the specific question posed. Thereafter, tables were drawn for the coding process. The handwritten notes that had been taken during the interviews with both the supply side and the demand side were also used during the analysis of the data. This led to Step 2.

Step 2: Read through all the data

After the preparation had been completed, the researcher read through all the data from both the supply side and the demand side as a first general step. This was done to obtain a general sense of the information and to reflect on the overall "direction" of the data in terms of the general ideas of the respondents, the overall depth of the information, the credibility of the information compared to the literature and how the information was going to be used. While reading, the researcher made notes

on general thoughts for later use or reference. All of the main ideas were highlighted and written down. This led to the start of the detailed analysis and coding, as described by Creswell (2013:184-185; 2014:197).

Step 3: Start detail analysis with a coding process

The interviewer-administered questionnaires of both the supply and demand side (except for the Likert scales the demand side had to complete) were a mixture of open and closed-ended questions. The transcriptions of each respondent from both the supply and the demand side were coded from beginning to end as a means of maximising the researcher's objectivity by mitigating the opportunity of concluding specific questions. When specific ideas came to mind throughout the coding process, they were noted down. As this process was progressing, Step 4 as described by Creswell (2013:185, 2014:197) was automatically started.

Step 4: Identifying themes

The coding started to generate a small number of categories or themes. It was interesting that the themes were similar to those of the different sections as set out in the questionnaires. The next logical step was to report the data.

Step 5: Reporting the data

Microsoft Office Excel 2010 was used to analyse the demographical data gathered of both the supply and demand side, after which graphs, charts, tables, and so forth, were constructed to illustrate the data with supporting interview extracts as a result of the semi-structured interviews that had been conducted with both research populations (supply and demand side).

Step 6: Making an interpretation or meaning of the data

This was done by presenting the results and findings of the research in this study, after conclusions and recommendations had been made based upon these findings, which are presented in Chapter 6 of the study

4.7 CONCLUSION

This chapter discussed the research methodology of the study. Attention was given to the research process itself, which can be classified as a qualitative approach. A non-probability sampling technique was used for both research populations. For the first research population, which consisted of the reserve management (supply side), a purposeful sampling technique was used, while a convenient sampling technique was used for the second research population that consisted of consumptive and non-consumptive wildlife tourists (demand side).

Semi-structured interviews were applied for both research populations. This encouraged the respondents to express their opinions and experiences openly and provided them with opportunities to ask additional questions relevant to the research topic, resulting in the gathering of authentic data. The gathered data were analysed using Creswell's generic six steps for qualitative data analysis.

In the next chapter, the results of the study are presented and discussed.

CHAPTER 5: EMPIRICAL RESULTS

“The proper use of science is not to conquer nature but to live in it.”

~ Barry Commoner ~

=====

5.1 INTRODUCTION

This chapter aims to interpret the empirical results of the study as set out in the third objective of Chapter 1. This chapter consists of two sections. The first section addresses the results from the supply side, namely the reserve management, while the second section presents the results from the demand side, namely the consumptive and non-consumptive wildlife tourists.

5.2 RESULTS FROM THE SUPPLY SIDE

The data in this section are a presentation of the results regarding the demographic profile of the reserve management, the background of the game reserve and management's views of the environmental impacts of the wildlife tourists (consumptive and non-consumptive) at the game reserve.

5.2.1 Demographic data of management

Table 5.1 presents the demographic data of the respondents from the game reserve management. The results show that the majority of the respondents have been employed by the reserve for a number of years, which could potentially be attributed to the fact that the game reserve is a family-run business ever since it started back in 1975, as indicated by Respondent 1 –

We have owned the game reserve since 1975 up to now, thus 44 years.

Table 5.1: Demographic profile of the reserve management (owner, general manager, consumptive and non-consumptive tourist managers)

Respondents	Gender	Years employed in the position
Respondent 1 (owner)	Female	37
Respondent 2 (general manager)	Male	15
Respondent 3 (consumptive tourist manger)	Male	40
Respondent 4 (consumptive tourist manager)	Female	18
Respondent 5 (non-consumptive tourist manager)	Female	8
Respondent 6 (non-consumptive tourist manager)	Female	3
Respondent 7 (non-consumptive tourist manager)	Female	5

5.2.2 Background of the game reserve

The following results give feedback regarding the background of the game reserve. The data are presented by a single theme and guided by several categories that were used in the semi-structured interviews for the management (see Appendix E). The results show feedback on the history, size and demographics of the game reserve.

The information obtained here is a summary of the demographics of the game reserve provided by Respondents 1 and 2 of the management.

- Brief history

The game reserve started in 1975 as a cattle farm. Game species were relocated to the farm as a result of the game capture operations in which the then owner was involved in.

The game reserve started back in 1975 by Jan Oelofse. It was originally a cattle farm of 5 000 hectares. Game was mainly relocated here because of the excess animals captured during the game capture operations Jan Oelofse were [sic] involved in.
(Respondent 1)

- Size

The property expanded through the years to its current size of 35 000 hectares.

- Main land use forms

The main land use forms of the game reserve are trophy hunting and ecotourism. Hunting first started as a result of the abundance of male animals present on the reserve, which needed to be managed. Thereafter, ecotourism started as a result of a wildlife film crew that needed accommodation for a film shoot of the red elephants found in this area and elephant poaching.

The hunting side of the business started because there were too many male animals from different species on the reserve then. There were originally only four rooms on the farm for the hunters. In 1980/81 a film company wanted to shoot a movie about elephants and the whole poaching scenario that goes along with it. Sixty people of the film crew needed accommodation for at least three months; that's how the tourist lodge first started. Since then, hunting and ecotourism are present on the reserve.
(Respondent 2)

- Integration of hunting and tourism

The successful integration of trophy hunting and ecotourism on one reserve has several advantages –

During financially tough times, like the recession we experienced in 2008, we have lost 50% income, but thankfully, of these two pillars of the business (hunting and ecotourism), the one helped to support the other financially and vice versa. (Respondent 2)

The following by-products have originated as a result of hunting: intensive breeding of animals, the selling of venison (game meat) and the live sale of game species through auctions as seen from the following comments made by Respondent 2.

The intensive breeding of wildlife on the reserve is very important, not only for the hunting side of the business but also for the ecotourists visiting the game reserve. Good management practices are in place to see that it is done on [sic] a sustainable manner.

All the excess meat gets processed in the butchery on the game reserve. After processing, the meat is being used in the restaurant of both the ecotourism and hunting lodge. There are also orders from consumers, whereby 2 500 to 3 000 kilograms of game meat (venison) are transported on a weekly basis to the harbour in Walvis Bay, where it then gets exported. Farm labourers and the general public can buy processed game meat directly from the butchery at a minimal price. All the intestines of the game that has been hunted are minced up and sold as pet's mince. From the hunting side of the business, there is a minimal waste because almost all of the animal is being used.

Each year, there are live game sales done on the game reserve. These sales are determined by the demand of the potential buyer.

Regarding ecotourism, the demand for photographic safaris on the reserve has increased tremendously. Ecotourism, on the other hand, also helps to maintain what has been built up at the reserve through the years –

The last four years, the ecotourism market is the busiest market because access to Namibia are [sic] easier these days. There is also a high demand for photographic safaris and this will increase drastically on the reserve if there are direct flights from America to Namibia. (Respondent 1)

- Species

Currently, the game reserve roughly hosts 8 000 head of game, with 23 species suitable for hunting. (Respondent 2)

- Employment

The game reserve employs a number of people on a permanent basis at both the tourist lodge and the hunting lodge, as indicated by the following comments of respondents 1 and 2.

There are 38 employees working at the game reserve. From this number, 30 of these employees are employed at the, at the tourism lodge as either general managers, chefs, cleaners, maintenance, etc., and eight 8 employees at the hunting lodge, which ranges from professional hunters, managers, cleaners, chefs, maintenance, etc.
(Respondent 1)

All of the employees, together with their families, reside permanently on the game reserve. The employees' children receive basic education at the school that was built on the property several years ago. The school is financially supported by the reserve.

The employees have their own house on the game reserve where they stay with their families. There is also a school on the game reserve for the employees' children.
(Respondent 2)

- Future plans

The plans of the game reserve regarding trophy hunting in future is to attract the Chinese hunting market, because of external pressure the anti-hunting organisations based in America and Europe is putting on hunters and the hunting industry itself. For ecotourism, the focus needs to shift to more high-end tourism markets, which, as a result, will generate more income with a smaller carbon footprint impact on the natural environment.

5.2.3 Management's perceptions regarding the impacts of non-consumptive wildlife tourism on the environment

This section focuses on the perceptions of the game reserve management regarding aspects that might contribute to environmental impacts as a result of non-consumptive wildlife tourism at the game reserve. Themes that emerged from the semi-structured interviews included the characteristics of the tourist lodge, the background of the non-consumptive wildlife tourists, such as origin, group size and duration of stay, the most important challenges management faced regarding the non-consumptive wildlife tourists and the perceived environmental impacts non-consumptive wildlife tourism accounted for at the game reserve (see Appendix F).

5.2.3.1 The characteristics of the tourist lodge

The following section focuses on the comments from Respondents 1, 5 and 6 regarding the layout of the tourist lodge, the income generated by the tourist lodge, the busiest time of the year for the

tourist lodge, the marketing strategy of the tourist lodge and return visits of non-consumptive wildlife tourists visiting the game reserve.

- Layout

The tourist lodge consists of a lounge area, a dining area, a bar area, a kitchen area, a variety of accommodation options which can accommodate 50 guests at a time, and a garden, lawn and swimming pool. (Respondent 5)

- Income generated

The smaller rooms cost N\$ 1640 per person per night, while the luxury rooms cost up to N\$ 2500 per person per night. (Respondent 5)

- The busiest time of the year

International tourists tend to visit the game reserve from July up to November, while the local tourists choose December and January for visiting the reserve. (Respondent 6)

- Marketing strategy

The non-consumptive wildlife tourism (ecotourism) side of the business is being marketed by German and local agents who visit international tourist and travel shows worldwide. (Respondent 5)

- Return visits

From the estimated 14 600 non-consumptive wildlife tourists that visit the game reserve each year, 4% to 7% from these tourists return to the game reserve again. (Respondent 1)

5.2.3.2 The background of the non-consumptive wildlife tourists

This section focuses on the origin, group size and the duration of stay of the non-consumptive wildlife tourists at the game reserve. Respondents 2 and 6 gave the following feedback regarding these topics.

- Origin and group size of non-consumptive wildlife tourists

Seventy percent of the ecotourists comes from Germany. The rest are local tourists or from other parts of the world. The average group size consists of between two and six tourists. (Respondent 2)

- Duration of stay

The majority of the ecotourist only stay for one night at the lodge. (Respondent 6)

5.2.3.3 Challenges

The volume of food, water use, waste generated, recycling and employees stand out as the most important challenges with regard to the non-consumptive wildlife tourists. Respondents 1, 2, 5, and 6 explained why.

- Volume of food

The volume of food prepared at the ecolodge on a daily basis has to cater for at least 40 to 50 guests. Every day, three meals (breakfast, lunch and dinner) are prepared for the guests. Lunch is only prepared according to pre-orders made by the tourists themselves. Added to the above, are [sic] a coffee station where snacks and refreshments are served daily for the guests of the ecolodge. (Respondent 5)

- Water-use

The tourist lodge uses approximately 20 500 litres of water on a daily basis. This is due to the fact that bedding, towels, linen, preparation of food and general cleaning need to be done on a daily basis before new guests arrive. (Respondent 1)

The amount of water usage at the tourist lodge are [sic] seven times more than that of the hunting lodge, because ecotourists stay an average of one night, and the hunters stay an average of seven nights. This puts a big demand on the underground water source of the reserve. (Respondent 2)

- Waste generated

The waste generated at the tourist lodge adds up to 10 500 kilograms in a month's time, and consists mostly of left-over food, plastic, paper waste, consumables in the room (soap and shampoo) and personal waste the ecotourists bring with them to the reserve. Greywater is also another big challenge at the tourists' lodge. (Respondent 1)

- Recycling

Non-recyclable waste gets collected on a daily basis where it gets burnt at the dumpsite situated on the property. (Respondent 6)

- Employees

The staff is a big challenge because it is difficult to get hold of good staff, especially kitchen staff. All the staff are trained by senior management of the lodge in order for them to be able to multitask. For instance, a receptionist can help out at the bar if needed to. (Respondent 5)

5.2.3.4 The perceived environmental impacts of non-consumptive wildlife tourism

In this section, the focus is on the positive and negative contributions the tourist lodge has on the environment and what effect the non-consumptive wildlife tourists' behaviour has on the environment of the game reserve (impact). Respondents 1, 2, 5, 6 and 7 commented as follows:

- The positive contributions of the tourist lodge towards the environment

The museum, which is currently under maintenance, will soon be open to the tourists to inform and educate them about the natural environment as well as the wildlife found on the game reserve. (Respondent 2)

We are trying to minimise the amount of plastic water bottles used at the tourist lodge; for example, the tourists each receives a mug to drink water with, while on a game drive, [water is] provided from glass bottles that has [sic] been refilled at the lodge. (Respondent 6)

The biggest positive impact the tourist lodge has on the environment is that it generates extra funding for the wildlife. It also helps to increase job employment and provides primary education for children of the staff. (Respondent 7)

All recycling at the tourist lodge are [sic] done by the employees themselves, where all paper, plastic, tin and glass are separated into recycling bins. Food waste, such as peels, bones, left-over food, etc., are [sic] thrown out into the veld for animals to scavenge on. The greywater is treated by means of a French drain system, after which it gets drained out into an evaporation pond where it is then reused in the garden of the lodge. (Respondent 1)

- The negative contributions of the tourist lodge towards the environment

The use of six vehicles for game drives at the tourist lodge can cause a variety of impacts that range from air pollution, soil compaction, damaging of vegetation and the disturbance of wildlife, to name but a few examples. (Respondent 2)

The generating of waste materials and the wasting of water are the biggest negative impacts at the tourist lodge. (Respondent 6)

- Behaviour of non-consumptive wildlife tourists

The majority of the tourists are so detached from everything around them that they show no interest in nature or wildlife. Sometimes they even get offended if they see how we feed our lions and cheetahs. Other times, the tourists also want to know why they have to pay a rhino levy; then we as staff have to explain to them the whole rhino-poaching scenario and that we are trying to protect the rhinos on the reserve. (Respondent 5)

The guests' selfish behaviour towards the environment when they want to use the jacuzzi when they see how dry the surrounding environment is. They feel they have paid for that service, and they want it. (Respondent 6)

A TripAdvisor comment recently from one of the ecotourists who visited read that "They are capturing the zebra." And she could hear the zebra screaming, and that it is unethical to the animal. (Respondent 7)

- Overall impact

Respondent 2 commented on the overall impact non-consumptive wildlife tourists have at the game reserve.

The majority of tourists who visit the lodge are there to enjoy themselves, regardless [of] what impact they might have on the environment; for example, they don't switch off the lights and the air-conditioning systems if they leave their rooms. They overfill their plates with food at dinner and only eat a little bit; the rest of the food then needs to be thrown away. During game drives, they are usually noisy and they also litter more than the hunters do. Their mindset is one like they will use it because they have paid for it.

5.2.4 Management's perceptions regarding the impacts of consumptive wildlife tourism on the environment

This section focuses on the perceptions management had regarding aspects that might contribute to environmental impacts as a result of consumptive wildlife tourism at the game reserve. Themes that emerged from the semi-structured interviews included the characteristics of the hunting lodge, the background of the consumptive wildlife tourists, such as origin, group size and duration of stay, the most important challenges management faced regarding the consumptive wildlife tourists and the perceived environmental impacts, consumptive wildlife tourism accounted for at the game reserve (see Appendix G).

5.2.4.1 The characteristics of the hunting lodge

This section focuses on comments of Respondents 1 and 2 regarding the layout of the hunting lodge, the income generated by the hunting lodge, the busiest time of the year for the hunting lodge, the marketing strategy of the hunting lodge and the return visits of consumptive wildlife tourists to the game reserve.

- Layout

The hunting lodge consists of a lounge area, a dining area, a bar area, a kitchen area, a total of six en-suite rooms that can accommodate 12 hunters at a time and a small lawn and swimming pool. (Respondent 2)

- Income generated

The average price a hunter pay is USD\$450 per night. This price includes the accommodation, the meals, a private guide (professional hunter), the hunting vehicle and any additional activities on offer at the reserve. It excludes all species hunted and the trophy-handling fees. (Respondent 1)

- The busiest time of the year

Although trophy hunting is open from February up until November, the preferred time for hunters to come and hunt is during the winter months; thus, from May to the end of August. (Respondent 2)

- Marketing strategy

The marketing of the hunting lodge is done by myself and usually one professional hunter, where we attend international hunting shows, such as Safari Club International, once a year. At these shows, we make contact with potential hunters through personal contact, as well as through hunting packages that's on offer. Photos of trophy animals and videos of previous hunting trips are also displayed. (Respondent 2)

- Returned visits

From the 50 consumptive wildlife tourists that visit the game reserve each year, 40% to 50% from the hunters return to the game reserve to hunt again. One of our clients came back 26 times to hunt. It all depends on their financial situation and the availability of species there is to hunt. (Respondent 2)

5.2.4.2 The background of the consumptive wildlife tourists

This section focuses on the origin, group size, duration of stay, number of animals being shot and the preferred species hunted by the consumptive wildlife tourists at the game reserve. Respondents 1, 2 and 3 gave the following feedback regarding these topics.

- Origin and group size of hunters

Most trophy hunters that visit the hunting lodge are from North America, Canada and Europe, with an average group size that consists of two people, mainly a husband and wife. (Respondent 1)

- Duration of stay

The duration trophy hunters stay varies from seven to 14 days depending on the type of hunt (plain game or big five). (Respondent 2)

- Number of animals hunted and preferred species to hunt

The number of animals shot by a single hunter varies between four to ten, with kudu and oryx as the most preferred species to hunt. (Respondent 3)

5.2.4.3 Challenges

The volume of food, water use, waste generated, recycling, modern-day trends and animal rights group stand out as the most important challenges with regard to the consumptive wildlife tourists. Respondents 2, 3, and 4 explained why.

- Volume of food

Two meals (breakfast and dinner) have to be prepared for the hunters on a daily basis. Lunch consists of light snacks and refreshments, pre-packed in a lunch bag that the hunters enjoy in the veld where they are hunting. (Respondent 4)

- Water use

The water source used at the hunting lodge is from a borehole. This water is used for daily chores, like the cleaning of the rooms, the washing of linen and towels, the preparation of food, the washing of clothes and the watering of the lawn in front of the lodge. The greywater that the lodge generates is also treated by means of a French-drain system. This water then gets drained out into watering troths for animals to drink, usually in the dry season; otherwise, it is used to water the grass. (Respondent 2)

- Waste generated

The waste at the hunting lodge consists mostly of left-over food and recycle waste, such as tin cans and the accumulation of wastewater from the kitchen and bathrooms. (Respondent 2)

- Recycling

All the waste that can't be recycled or made compost of, is collected on a weekly basis, where it is taken to a dumpsite on the reserve to be burnt. (Respondent 4)

- Trends in the market

Modern-day trends in the hunting market is [sic] that more female hunters get involved in hunting and that the whole hunting safari tends to be a family vacation where the wife and children comes [sic] along for the adventure. A new trend among hunting organisations worldwide, such as Safari Club International, is where trophy hunters nowadays have to focus on older bulls and rams to hunt, because photos are taken of these animals' teeth, horns, ridges on the horns and the overall growth patterns on the skulls, and then compared against

photos from other animals of the same species, after which points are then awarded to the animal with the best results. (Respondent 3)

- **Animal-rights groups**

Animal rights groups are seen as a serious challenge within the hunting community, as these organisations have a direct and indirect effect on the global hunting industry, as indicated by the following respondent.

A direct effect can be the stopping of all hunting operations worldwide. An indirect effect can be the ban of all animal by-products, such as trophies, hides and horns into countries such as North America, Canada and Europe, where the majority of trophy hunters originate from. If this happens, the result will be a severe financial loss for countries where hunting operations exist. It will also cause a decline in wildlife species and the conservation and protection of natural habitats. (Respondent 2)

5.2.4.4 The perceived environmental impacts of consumptive wildlife tourism

In this section, the focus is on the positive and negative contributions the hunting lodge makes to the environment and the effect the consumptive wildlife tourists' behaviour has on the environment of the game reserve (impact). Respondents 1, 2, 3 and 4 commented as follows:

- **The positive contributions the hunting lodge has towards the environment**

The hunting lodge indirectly helps to contribute towards conservation, through the professional hunters that exchange their own personal knowledge about the environment with the hunters. (Respondent 4)

The hunting lodge has different ways of recycling. Firstly, all the left-over food that can't be used again, such as peels, bones, etc., are turned into compost, which are [sic] then used again in the vegetable garden of the hunting lodge. Secondly, the food that can be used again is frozen and reused the following day or is given to the staff. All plastics, such as water bottles, eating utensils, etc., are replaced by aluminium ones. (Respondent 2)

- **The negative contributions of the hunting lodge towards the environment**

There are two negative impacts the hunting lodge contributes to. First is the killing of animals when they are hunted and the second is the spooking of animals when the hunters use rifles that are not fitted with silencers while hunting. The second contribution is the wasting of water through the huge bathtubs in the rooms that use at least 200 litres of water to fill. (Respondent 4)

- Behaviour of consumptive wildlife tourists

The following comments of Respondents 2, 3 and 4 indicates that trophy hunter's behaviour at the game reserve has a positive impact on the natural environment that benefit conservation.

Trophy hunters' overall attitude and knowledge about nature and animals help to benefit conservation at the game reserve, and the hunters understand why they have to shoot the older bulls or rams in a herd, in order for the younger bull or ram to mate with the females so that new genes can be established within the herd. They also have an understanding that the animal numbers on the reserve need to be managed according to the reserve's carrying capacity. (Respondent 2)

All of the trophy hunters' behaviours who have hunted here before are for conservation, and the professional hunter plays a big role regarding this, because it is his task to establish and instil a sense of conservation towards nature in the hunters' mind. Trophy hunters also do a lot of research beforehand of the animals that they want to hunt, and from my own personal experience, I can say that hunters' overall knowledge about nature is much better than that of the ecotourists. (Respondent 3)

Trophy hunters are more environmentally orientated, with a better understanding about nature. They are also willing to learn more about the environment, and they want to be in nature, hiking or driving while looking for a trophy animal to hunt. It is as if they have a completely different mindset than the ecotourist. It seems that they are still connected to nature. (Respondent 4)

The hunters are satisfied with less food and smaller portions of food compared to the ecotourist. (Respondent 4)

- Overall impact

As seen from the feedback of Respondent 1, the overall impact of the consumptive wildlife tourists on the environment is minimal.

Taking into account, water usage, electricity usage, generating of waste, pollution, disturbance of wildlife and the damaging of vegetation, it is clear that the consumptive wildlife tourists' actions far less destructive is on the environment than the non-consumptive wildlife tourists. The consumptive wildlife tourists group size is also much smaller than that of the non-consumptive wildlife tourists group size and the consumptive wildlife tourists are more environmentally orientated, with a passion for conservation than the non-consumptive wildlife tourists.

The findings from the supply side can be summarised as follows. Looking at sections 5.2.3.1 and 5.2.4.1 respectively, it is clear that the consumptive wildlife tourists return visits to the game farm, higher is compared to the return visits of the non-consumptive wildlife tourist, meaning a saving on marketing costs. The consumptive wildlife tourists overall spending at the game reserve is also remarkably higher than that of the non-consumptive wildlife tourists. With regards to group size and duration of stay (sections 5.2.3.2 and 5.2.4.2,) the consumptive wildlife tourist groups size is smaller, meaning less impact than that of the non-consumptive wildlife tourists group size. The consumptive wildlife tourists also stay longer. Thus, fewer tourists that stay longer with higher spending (in this case the consumptive wildlife tourists) means less environmental impacts, as the studies of Mbaiwa, (2003:462) and Gressier, (2014:209) also indicates, namely hunters (consumptive wildlife tourists) impact on the natural environment is far less than that of photographic tourists (non-consumptive wildlife tourists).

With regards to sections, 5.2.3.3 and 5.2.4.3 it is clear that the non-consumptive wildlife tourist's volume of food, water usage and waste generated on a daily basis at the game farm perceived to be higher is compared to that of the consumptive wildlife tourists, which means more waste impacting on the natural environment. The study of Belsoy, Korir & Yego, (2012:68) correlates to the above findings, showing that non-consumptive wildlife tourists' activities in protected areas, a negative impact on the natural environment has. Furthermore, (as indicated in sections 5.2.3.4 and 5.2.4.4) the number of vehicles used at the tourist lodge is also more than the vehicles used at the hunting lodge, which has the potential to contribute to more negative environmental impacts such as the releasing of more CO² emissions into the atmosphere, the compaction of the soil that leads to soil erosion, the damaging of vegetation and the disturbance of wildlife. George (2007:308), Gössling *et al.* (2012:7) and Islam (2013:120) also state that non-consumptive wildlife tourists have a high impact on the natural environment, especially at accommodation and camping sites. The non-consumptive wildlife tourists also display selfish behaviour, as it came forth from the interviewee's responses, with little to no interest in nature and wildlife, whereby the consumptive wildlife tourist's behaviour perceived by management to be more environmentally friendly. Lindsey *et al.* (2006, 2007) studies has indicated that the behaviour of consumptive wildlife tourists tends to have a positive impact on the environment that benefits conservation.

From the interviewee's responses, it is clear that management (supply side) perceives that the non-consumptive wildlife tourists impact on the natural environment at the game reserve to be greater than that of the consumptive wildlife tourist, making the consumptive wildlife tourist a more environmentally friendly market.

5.3 RESULTS FROM THE DEMAND SIDE

This section presents the data obtained from the interviews with the wildlife tourists (consumptive and non-consumptive). The data are discussed according to the following sections:

- Section 5.3.1 portrays the demographic profile of the wildlife tourists (consumptive and non-consumptive).
- Section 5.3.2 discusses the travel behaviour of the wildlife tourists (consumptive and non-consumptive).
- Section 5.3.3 discusses the perceptions regarding the environmental impacts of the wildlife tourists (consumptive and non-consumptive) at the game reserve.
- Section 5.3.4 discusses the personal environmentally friendly behaviour of the wildlife tourists (consumptive and non-consumptive) at home.

5.3.1 Demographic profile

The demographic profile of the 20 respondents (ten consumptive and ten non-consumptive wildlife tourists) is presented through descriptive statistics by means of graphs and tables. The demographic details include year born, gender, marital status, language spoken, country of residence, level of education and occupation.

5.3.1.1 Gender of respondents

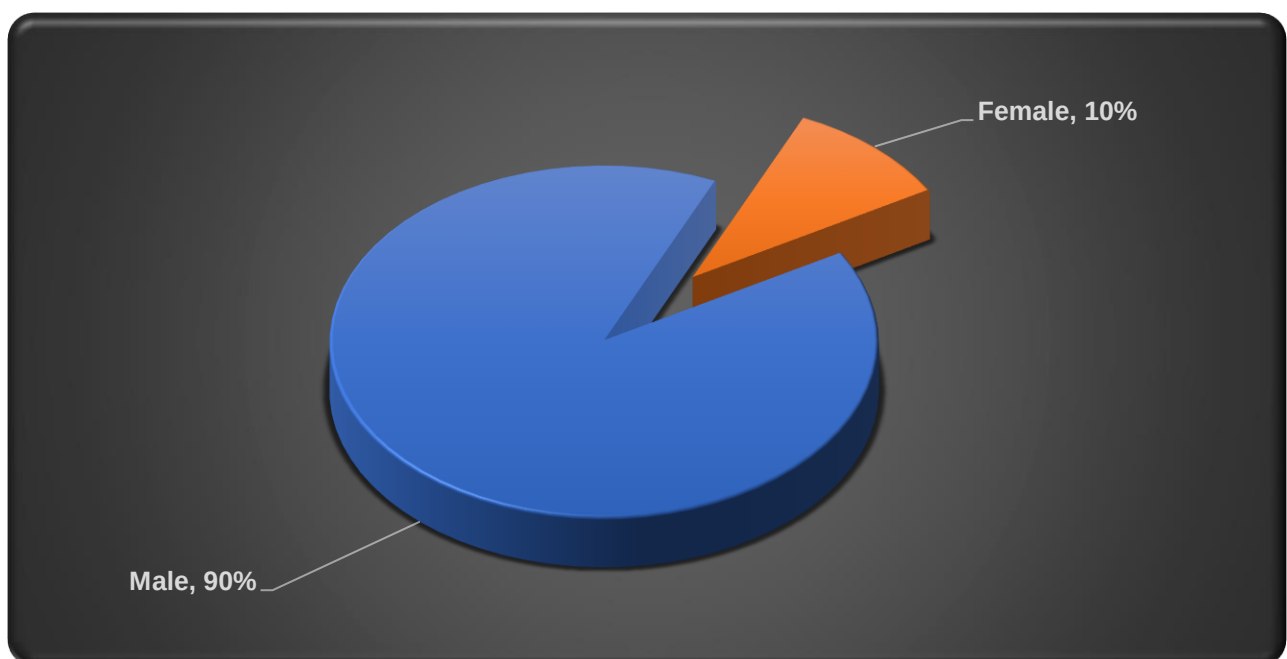


Figure 5.1: Gender of consumptive wildlife tourists

According to Figure 5.1, 10% of the respondents are female and 90% are male consumptive wildlife tourists. This profile matches research done by Van Coller (2017:3), which indicated that most consumptive tourists are male.

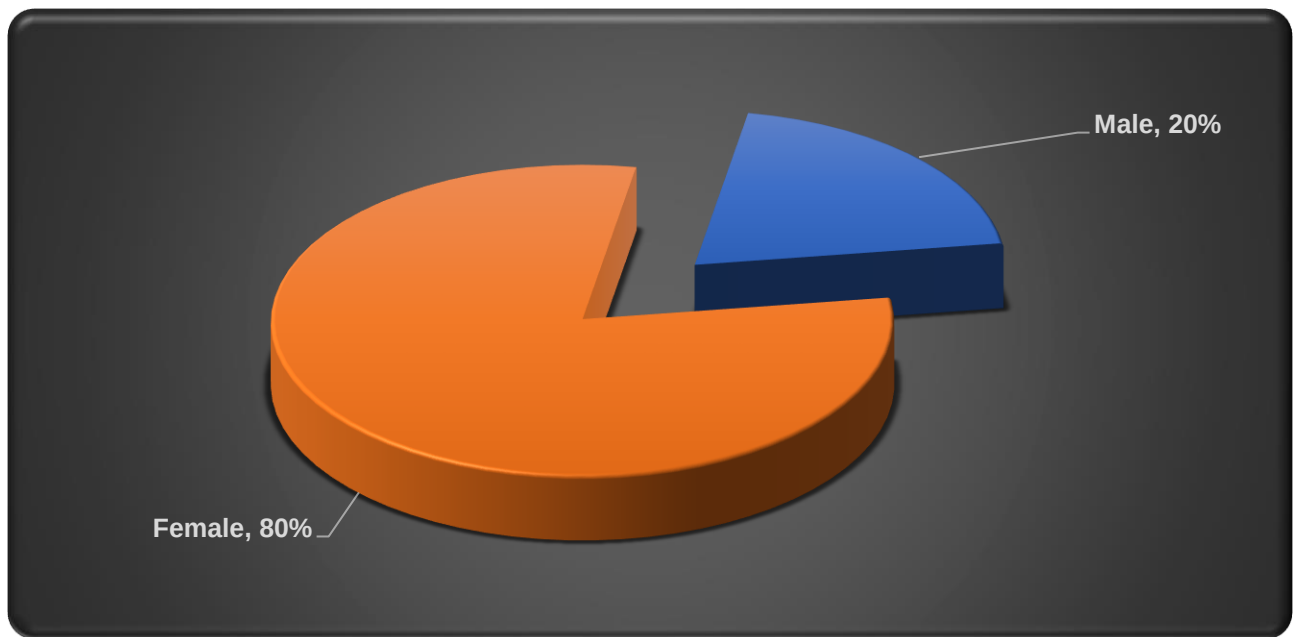


Figure 5.2: Gender of non-consumptive wildlife tourists

Figure 5.2 shows that 20% of the non-consumptive wildlife tourists at the game reserve are male and 80% are female. Research by Zografos and Allcroft (2007:54), Deng and Li (2015:260), Mahdzar and Gani (2018:147) and Higham, Thompson-Carr (2001) had similar findings regarding the gender of non-consumptive tourists. The conclusion is made that a higher percentage of non-consumptive wildlife tourists is female, which differs from consumptive wildlife tourism that is predominantly male-orientated.

5.3.1.2 Age, country of residence and language

According to Table 5.2, the consumptive wildlife tourists who have participated in the research are all English-speaking, with 80% coming from the United States of America (USA). On average, they are 55 years old. Research by Van Coller (2017:3) has shown that the majority of consumptive wildlife tourists to South Africa are older than 51 years. Van der Merwe, Saayman, Warren and Krugell (2010:71) indicate that hunters who hunt in South Africa are between 40 and 65 years old. Thus, this research is in line with previous research conducted.

Table 5.2: Consumptive wildlife tourists: age, country of residence and language spoken

	Country of residence	Language
Respondent 1	USA	English
Respondent 2	USA	English
Respondent 3	USA	English
Respondent 4	Canada	English
Respondent 5	USA	English
Respondent 6	USA	English
Respondent 7	USA	English
Respondent 8	Canada	English
Respondent 9	USA	English
Respondent 10	USA	English

Age	<30 years	31-40 years	41-50 years	51-60 years	61+ years	Average
			50%	20%	30%	55 years

Table 5.3 indicates that the majority of the non-consumptive wildlife tourists who have participated in the research are German-speaking (80%), with 60% coming from Namibia. On average, they are 52 years old. Research done by Epler Wood (2002:22) and Konu and Kajala (2012:35) has identified the average age of non-consumptive wildlife tourists who visit protected areas to be between 35 and 65 years. The age of these tourists varies with regard to activities and costs.

Table 5.3: Non-consumptive wildlife tourists: age, country of residence and language spoken

	Country of residence	Language
Respondent 1	Namibia	German
Respondent 2	Namibia	German
Respondent 3	Namibia	Afrikaans
Respondent 4	Namibia	Russian
Respondent 5	Germany	German
Respondent 6	Germany	German
Respondent 7	Germany	German
Respondent 8	Germany	German
Respondent 9	Germany	German
Respondent 10	Germany	German

Age	<30 years	31-40 years	41-50 years	51-60 years	61+ years	Average
	10%	20%	20%	20%	30%	52 years

5.3.1.3 Marital status

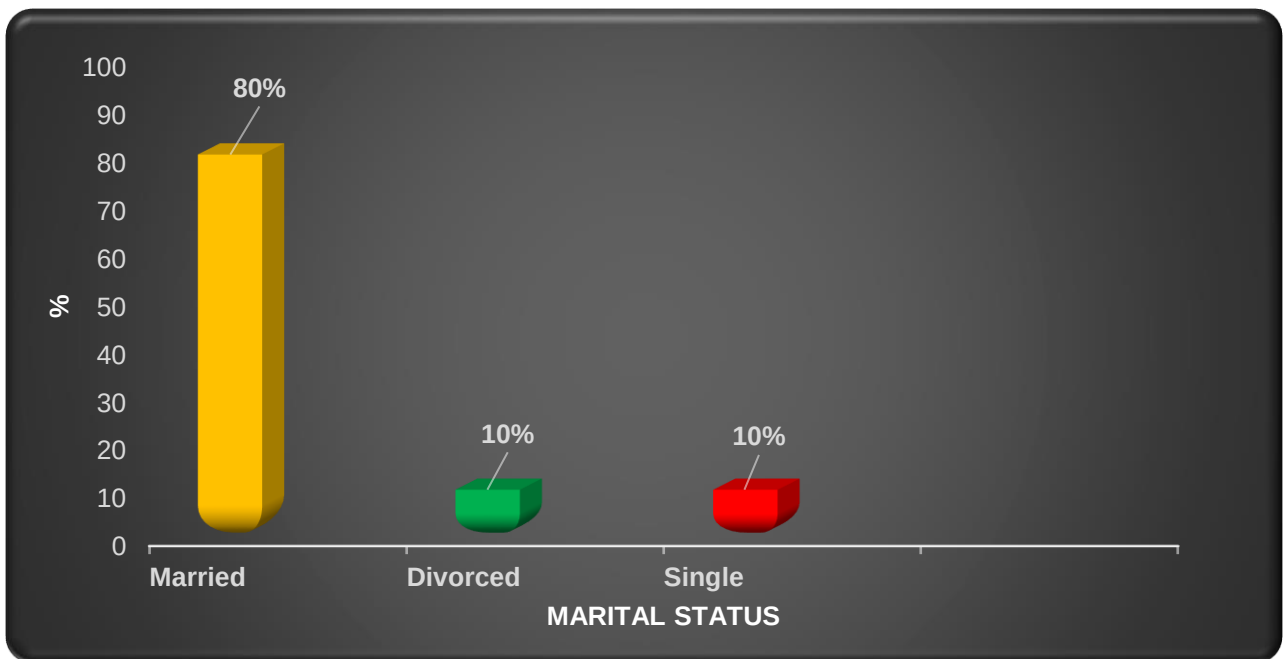


Figure 5.3: Marital status of consumptive wildlife tourists

As indicated in Figure 5.3, the semi-structured interviews indicated that 80% of the consumptive wildlife tourists at the game reserve were married, 10% divorced and 10% single. Findings of Van der Merwe *et al.* (2010:71) and Van Coller (2017:3) support the above finding by indicating that most trophy consumptive wildlife tourists are married.

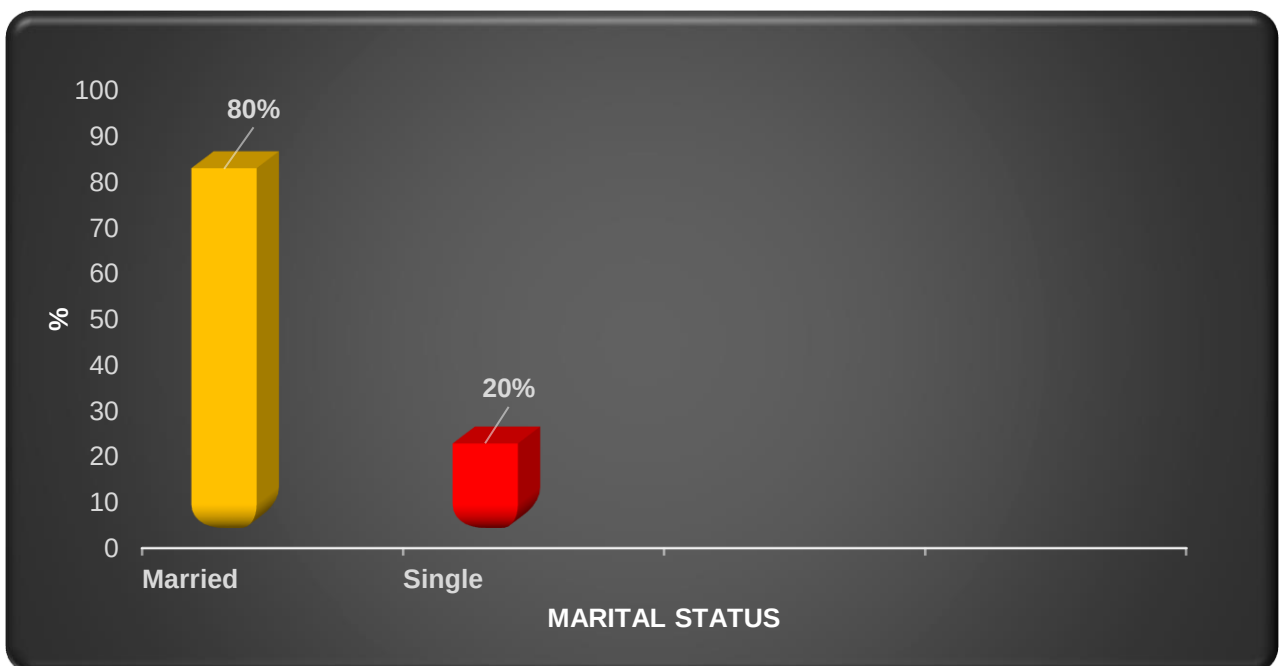


Figure 5.4: Marital status of non-consumptive wildlife tourists

Figure 5.4 shows that 80% of the non-consumptive wildlife tourists who participated in the research were married, followed by 20% who were single. Research conducted by Kruger, Viljoen and Saayman (2016:10) and Kruger and Saayman (2014:8) confirms that most ecotourists are married.

5.3.1.4 Level of education

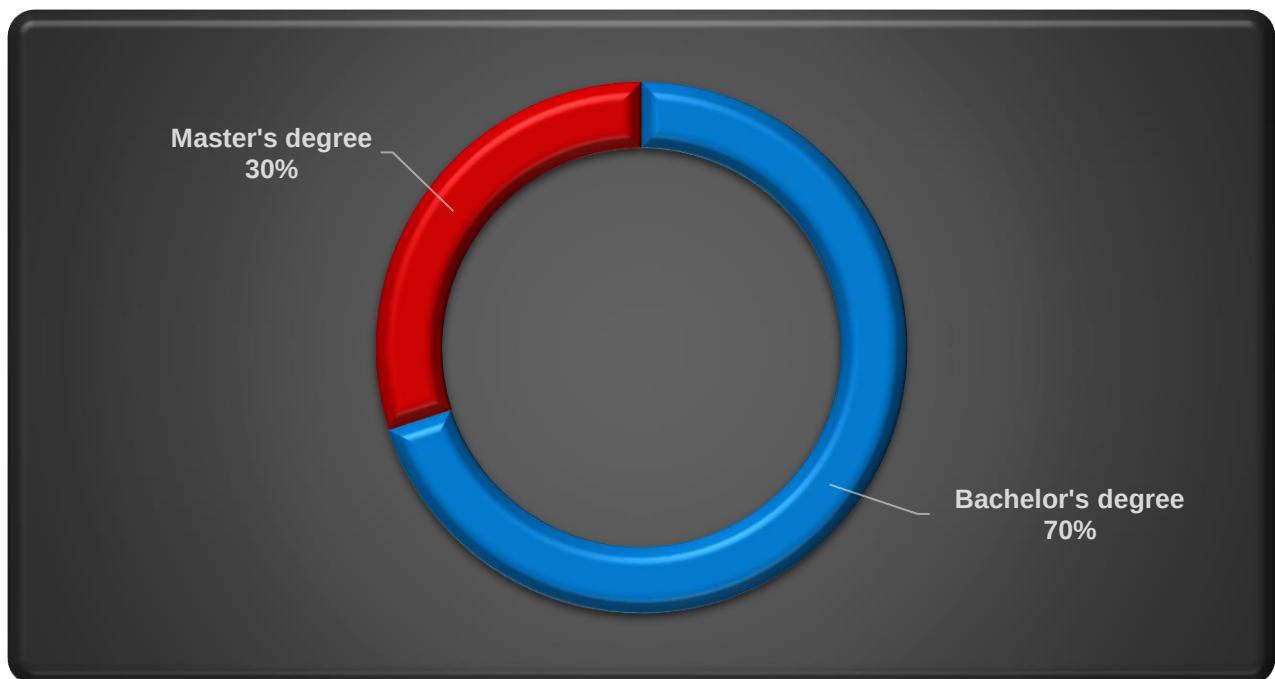


Figure 5.5: Highest level of education of consumptive wildlife tourists

According to Figure 5.5, for 70% of the consumptive wildlife tourists, their highest level of education was a bachelor's degree, followed by 30% with a master's degree. Van Coller (2017:4) has confirmed that on average, most hunters have a degree or diploma. Therefore, it is clear that the average consumptive wildlife tourist is well educated.

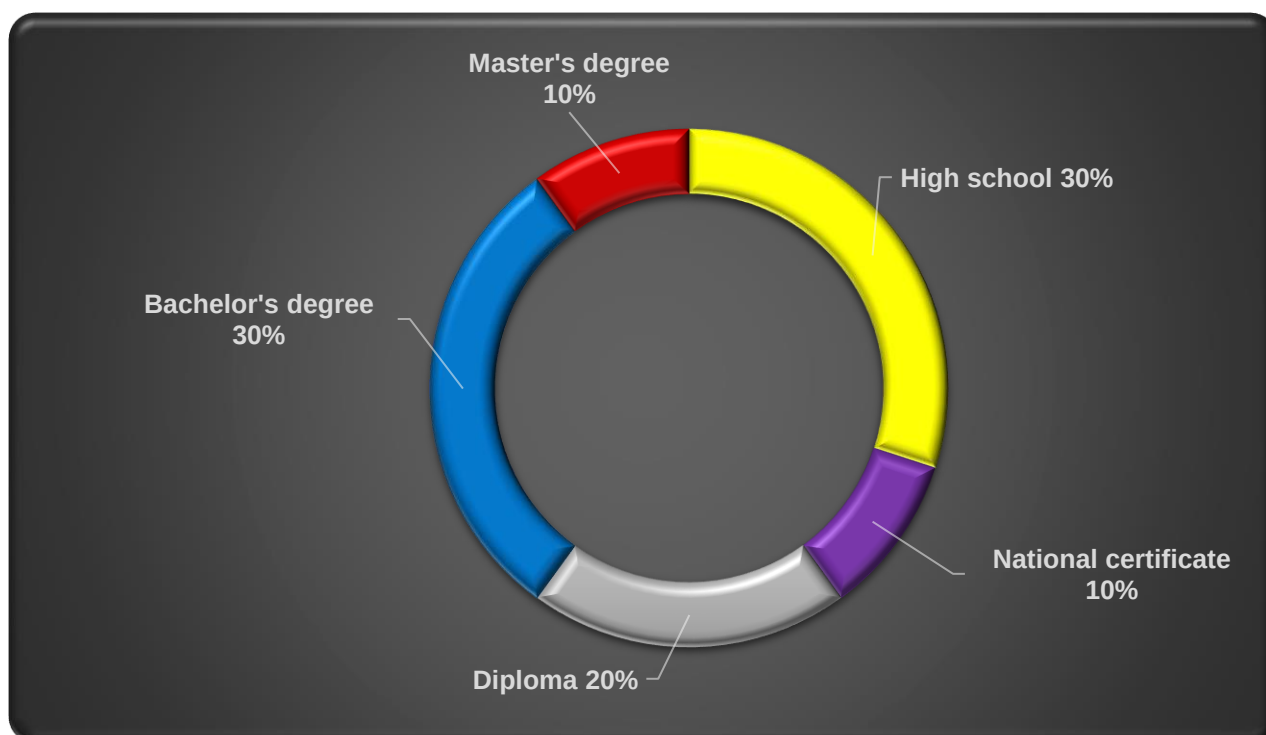


Figure 5.6: Highest level of education of non-consumptive wildlife tourists

As seen in Figure 5.6, 30% of the non-consumptive wildlife tourists indicated that their highest level of education was a bachelor's degree, followed by 10% with a master's degree. A further 20% indicated they held a diploma and 10% a national certificate. Respondents with only a high school education account for 30%. From these results, it is clear that the majority (70%) of the respondents are well educated. This corresponds to studies done by Higham *et al.* (2001) that have found that the majority of non-consumptive wildlife tourists have tertiary qualifications.

5.3.1.5 Occupation

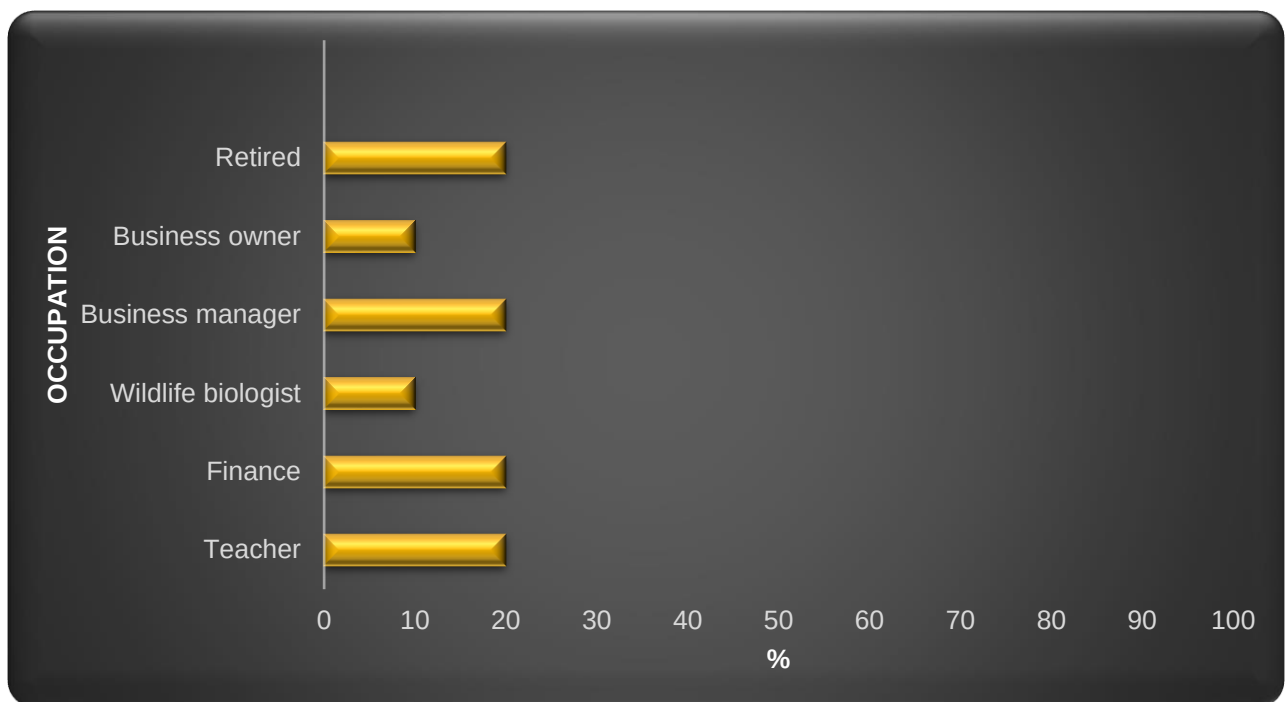


Figure 5.7: Occupation of consumptive wildlife tourists

Figure 5.7 displays the occupation of consumptive wildlife tourists, where the categories of business managers, finance, teachers and retired all obtained 20%. The occupations of wildlife biologist and business owner each received 10%.

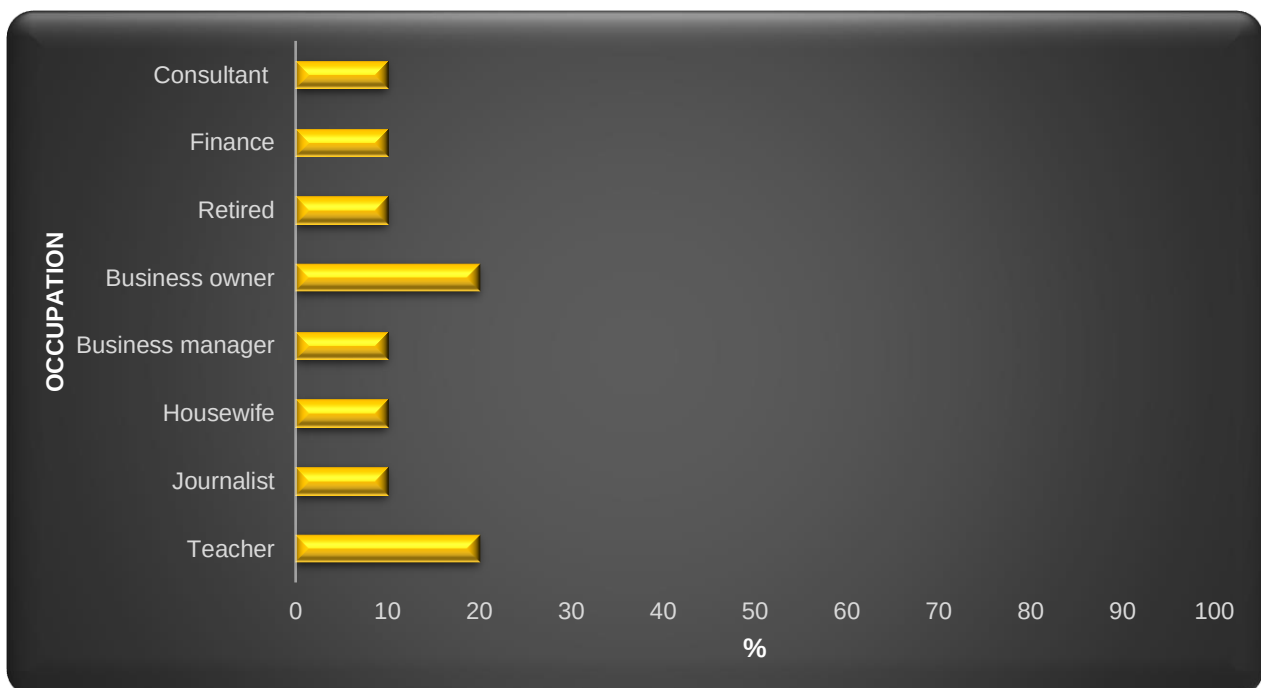


Figure 5.8: Occupation of non-consumptive wildlife tourists

Figure 5.8 shows that the occupations of business owner and teacher each received 20%, while the occupations of consultant, finance, journalist, housewife and retired each obtained 10%.

5.3.2 Travel behaviour

In this part, the travel behaviour of the wildlife tourists (consumptive and non-consumptive) visiting the game reserve is analysed. The following topics are covered:

- Group size, length of stay and times returned
- Spending
- Preferred travel destination
- Motivations for visiting the game reserve
- Environmental impacts with regard to travel behaviour
- Personal behaviour to help minimise negative impacts
- Highlights of visiting the game reserve

5.3.2.1 Group size, length of stay and times returned

- Consumptive wildlife tourists

Table 5.4 indicates that 60% of the consumptive wildlife tourists have returned to the game reserve to hunt, while 40% of the consumptive wildlife tourists indicated that it was their first hunting trip to the game reserve. The return hunters indicated that they had returned 2,5 times in the past three years to hunt, with an average group size consisting of 2,6 people. The average length of stay for the consumptive wildlife tourists at the game reserve is 13,2 nights. Respondents 8 and 10 stayed considerably longer – 21 nights and 31 nights respectively. If the data of these two respondents are excluded, the average length of stay decreases to 11,2 nights. According to research conducted by Van Coller (2017:5,7), the majority of consumptive wildlife tourists travel in groups of two people and spend on average 12 nights or more at the hunting destination. Therefore, this research correlates with previous research conducted.

Table 5.4: Consumptive wildlife tourists: type of hunter, times returned, group size and length of stay

	First-time hunter / return hunter	Number of times returned	Group size	Length of stay
Respondent 1	Return hunter	4	2	7 nights
Respondent 2	First-time hunter	-	2	10 nights
Respondent 3	First-time hunter	-	4	10 nights
Respondent 4	Return hunter	2	2	10 nights
Respondent 5	First-time hunter	-	2	7 nights

	First-time hunter / return hunter	Number of times returned	Group size	Length of stay
Respondent 6	Return hunter	2	4	10 nights
Respondent 7	Return hunter	2	2	17 nights
Respondent 8	Return hunter	3	4	20 nights
Respondent 9	First-time hunter	-	2	10 nights
Respondent 10	Return hunter	2	2	31 nights
	Average: Return hunter: 60% First-time hunter: 40%	Average returned hunts: 2,5 times	Average group size: 2,6 persons	Average nights stayed: 13,2 nights

- Non-consumptive wildlife tourists

According to Table 5.5, 70% of the non-consumptive wildlife tourists are return visitors to the game reserve and 30% are first-time visitors. The return visitors indicated that they had returned 2,6 times in the previous three years to visit the game reserve. The average group size is three persons, and on average, they stay 8,2 nights. This can be attributed to Respondents 6 and 7, who both indicated that they had stayed for 30 nights, which is abnormal compared to the rest and other research conducted by Kruger and Saayman (2014:8) on non-consumptive wildlife tourism. Excluding these two respondents, the average length of stay for the non-consumptive wildlife tourists decreases to 2,75 nights at the game reserve. Research conducted by Silent (2017:117), Kruger and Saayman (2014:8) and Kruger *et al.* (2016:10) has indicated that the average length of stay for non-consumptive tourists is between three and seven days. This confirms that 2,75 nights is a more accurate number compared to 8,2 nights in this regard.

Table 5.5: Non-consumptive wildlife tourists: type of visitor, times returned, group size and length of stay

	First-time visitor / return visitor	Number of times visited	Group size	Length of stay
Respondent 1	Return visitor	7	4	2 nights
Respondent 2	First-time visitor	-	2	2 nights
Respondent 3	Return visitor	3	2	2 nights
Respondent 4	First-time visitor	-	2	2 nights
Respondent 5	Return visitor	2	10	3 nights
Respondent 6	Return visitor	3	1	30 nights
Respondent 7	Return visitor	5	2	30 nights
Respondent 8	Return visitor	2	4	2 nights
Respondent 9	First-time visitor	-	1	5 nights

	First-time visitor / return visitor	Number of times visited	Group size	Length of stay
Respondent 10	Return visitor	4	2	4 nights
	Average: Return visitor: 70% First-time visitor: 30%	Average return visit: 2,6 times	Average group size: 3 persons	Average nights stayed: 8,2 nights

5.3.2.2 Spending

- Spending of consumptive wildlife tourists excluding game hunted

From Table 5.6, it is clear that daily rates (US\$5 154.00 / R82 464.00), transport cost (to Namibia) (US\$4 360.00 / R69 760.00) and other expenses, including shipping cost and trophy-handling fees (US\$3 380.00 / R54 080.00), account for the highest spending categories for general spending; this excludes game hunted. The average spending per consumptive wildlife tourist, excluding game hunted, is US\$13 509.00 or R216 144.00 per visit.

Table 5.6: Spending of consumptive wildlife tourists

Category	Total amount spent (\$)	Average per consumptive wildlife tourist (\$)
Daily rates	51 450	5 154
Beverages	1 280	128
Clothing and footwear	480	48
Travel to Namibia	43 600	4 360
Travel to the hunting lodge	1 600	160
Souvenirs and jewellery	2 380	238
Additional activities	500	50
Other expenses	33 800	3 380
	Total: \$135 090	Average: \$13 509

(Exchange rate used = 1 USD = 16 ZAR)

- Spending of consumptive wildlife tourists on species hunted

The average amount spent on game hunted by consumptive wildlife tourists at the game reserve (Table 5.7) is US\$12 010.00 or R192 160.00. The average spending by consumptive wildlife tourists per hunting trip adds up to US\$25 519.00 or R408 304.00 (US\$12 010.00 + US\$13 509.00). The total spending by the respondents of this study (consumptive wildlife tourists) adds up to US\$255 190 or R4 083 040.00.

The top five game species hunted (Table 5.7) at the game reserve are springbuck, impala, gemsbuck, giraffe and warthog. According to the Humane Society of the United States (2016), four of these species (impala, gemsbuck, springbuck and warthog), fall under the top 20 species of animals imported as trophies into the United States of America.

Table 5.7: Species hunted by consumptive wildlife tourists

Game species	Total animals	Total amount (\$)	Average price per species (\$)	Average per consumptive wildlife tourist (\$)
Impala	7	3 400	486	340
Black-faced impala	1	2 000	2 000	200
Warthog	4	1 850	463	185
Springbuck	15	7 550	503	755
Kudu	3	5 850	1 950	585
Mountain rheebuck	1	950	950	95
Burchell's zebra	3	4 350	1 450	435
Mountain zebra	2	3 500	1 750	350
Hartman's zebra	1	1 500	1 500	150
Gemsbuck	6	5 150	858	515
Lechwe	1	6 000	6 000	600
Nyala	1	4 000	4 000	400
Blue wildebeest	3	3 100	1 033	310
Black wildebeest	2	2 500	1 250	250
Eland	3	5 800	1 933	580
Roan	2	20 000	10 000	2 000
Giraffe	4	9 800	2 450	980
Common duiker	1	400	400	40
Steenbuck	1	400	400	40
Damaraland dik-dik	1	2 000	2 000	200
Klipspringer	1	1 200	1 200	120
Jackal	1	-	-	-
Leopard	3	28 800	9 600	2 880
	Total: 67	Total: \$120 100		Average: \$12 010

(Exchange rate used = 1 USD = 16 ZAR)

- Spending of non-consumptive wildlife tourists

Table 5.8 indicates that transport cost (to Namibia) (US\$718.00 / R11 488.00) and daily rates (US\$648.00 / R10 368.00) constitute the highest spending categories for non-consumptive wildlife tourists at the game reserve. The average spending per non-consumptive wildlife tourist at the game reserve amounts to US\$1 476.00 or R23 616.00 per visit. The total spending of the ten respondents visiting the game reserve (including the two respondents

that stayed for 30 days) is US\$14 762.00 or R236 192.00, which is considerably lower than the consumptive wildlife tourists' spending of US\$255 190 or R4 083 040.00.

Table 5.8: Spending of non-consumptive wildlife tourists

Category	Total amount spent (\$)	Average per non-consumptive wildlife tourist (\$)
Daily rates	6 481	648
Beverages	310	31
Clothing and footwear	11	1
Travel to Namibia	7 180	718
Travel to the hunting lodge	250	25
Souvenirs and jewellery	130	13
Additional activities	400	40
Other expenses	0	0
	Total: \$14 762	Average: \$1 476

(Exchange rate used = 1 USD = 16 ZAR)

The consumptive and non-consumptive group size, length of stay, times returned, and spending can be summarised as follows:

60% of the consumptive wildlife tourists return to the game reserve, with an average group size of 2.6 people. Their average length of stay is 13.2 nights, and their spending accounts for N\$216 144.00 per visit (excluding game hunted), while their spending with game hunted adds up to N\$408304.00 per person per visit.

Regarding the non-consumptive wildlife tourists, 70% of these tourists are return visitors to the game reserve with an average group size of 3 persons. Their average length of stay is 2.75 nights, and their spending accounts for N\$23 616.00 per person per visit.

From the results, it is clear that although the consumptive wildlife tourists to the game reserve, group size smaller is, their overall spending higher is compared to the non-consumptive wildlife tourists, which tends to be larger groups.

5.3.2.3 Preferred travel destinations

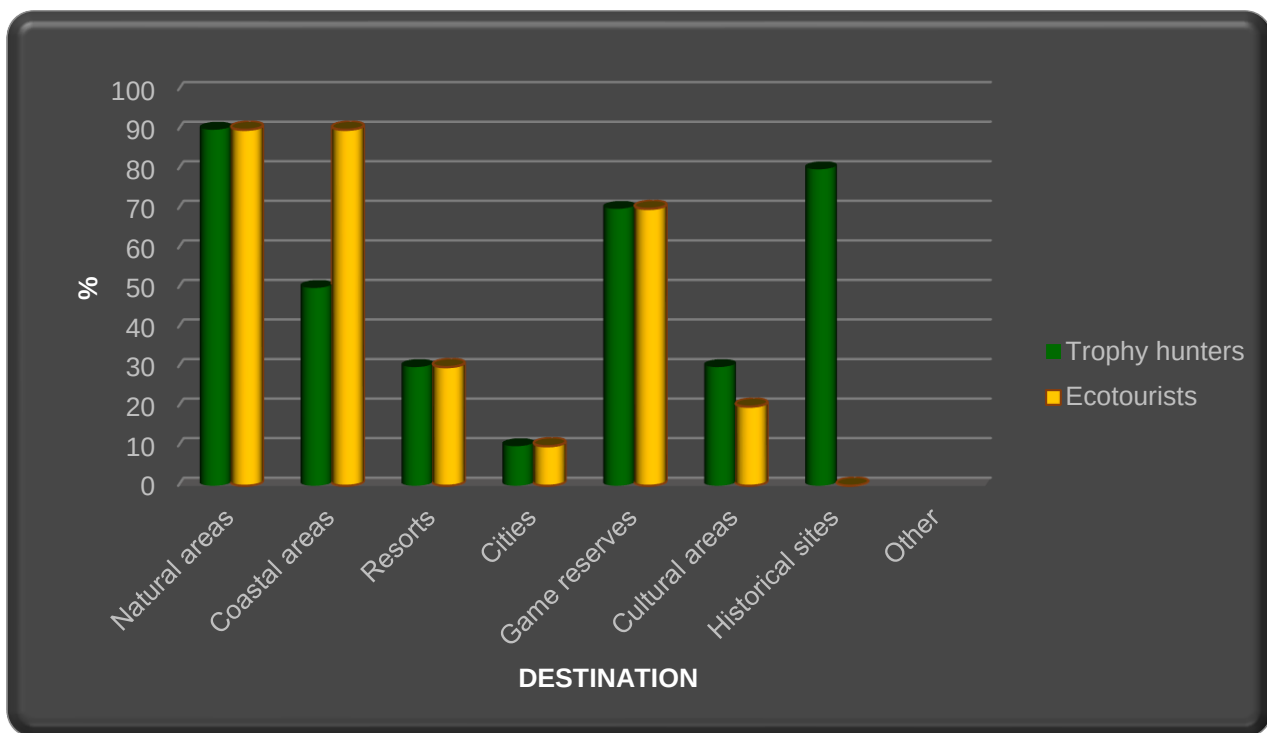


Figure 5.9: Preferred destinations visited by consumptive and non-consumptive wildlife tourists

Figure 5.9 shows the preferred destinations of the respondents as selected from the list of categories set out in the questionnaire. The consumptive wildlife tourists selected natural areas (90%) as the most preferred destination to visit, followed by historical sites (80%) and game reserves (70%). Coastal areas, cultural areas, resorts and cities are the least preferred by consumptive wildlife tourists.

Regarding the non-consumptive wildlife tourists, their top three preferred destinations to visit are natural areas (90%), coastal areas (90%) and game reserves (70%), with resorts, cities and cultural areas as the least preferred by the respondents.

Natural areas (90%) and game reserves (70%) are, thus, equally preferred by the consumptive and non-consumptive wildlife tourists participating in the research.

5.3.2.4 Motives for visiting the game reserve

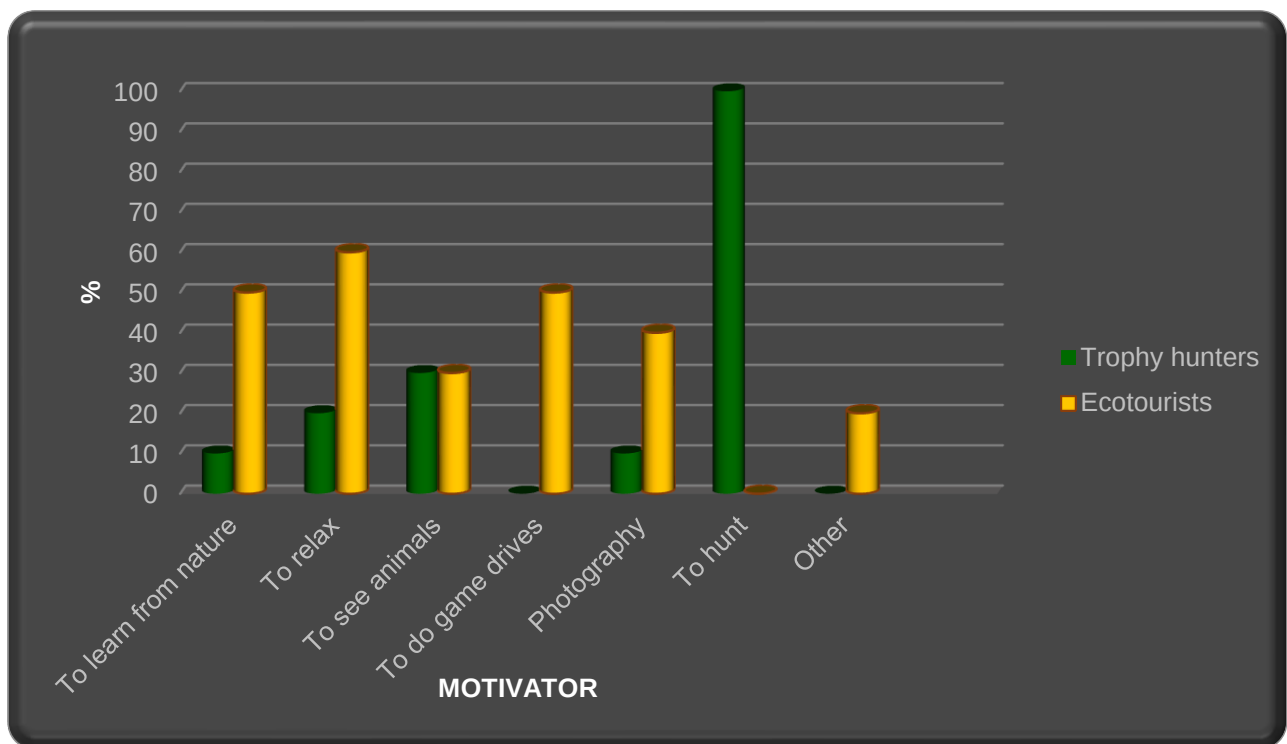


Figure 5.10: Consumptive and non-consumptive wildlife tourists' motives to travel to the game reserve

Regarding motives to visit the game reserve, the consumptive and non-consumptive wildlife tourists were allowed to select more than one category during the interview. The results are provided below.

- Consumptive wildlife tourists

According to Figure 5.10, all of the consumptive wildlife tourists (100%) indicated that hunting was their main motive for visiting the game reserve. Second to this was to see animals (30%), with relaxing (20%), learning from nature (10%) and photography (10%) as lesser important motivators. This compares well with research done by Radder (2005:1143) and Mulder (2011) regarding consumptive wildlife tourists' motives for hunting in South Africa.

- Non-consumptive wildlife tourists

The non-consumptive wildlife tourists' motives for visiting the game reserve are evenly spread out, with relaxing being the highest at 60%, followed by learning from nature (50%) and going on a game drive (50%). Visiting family and friends (other) was the motive of 20% of the non-consumptive wildlife tourists for visiting the game reserve. There is thus a strong correlation between the findings of this research and the findings of research conducted by Slabbert and Du Plessis (2013:654) regarding the travel motives of non-consumptive wildlife

tourists to national parks in South Africa and the activities and adventures in which non-consumptive wildlife tourists typically engage, as set out in Chapter 2.

5.3.2.5 Environmental impacts with regard to travel behaviour

This section will help to determine whether the travel behaviour of the consumptive and non-consumptive wildlife tourists' attributes to any environmental impacts at the game reserve. The travel behaviour is analysed according to various topics.

➤ The use of water and electricity, new consumables in the bathrooms and the cleaning of linen and towels

Questions were posed to the respondents on whether they felt entitled to use water and electricity excessively and expected new consumables in the bathroom on a daily basis and daily cleaning of the linen and towels in the room, since they had paid for their visit at the game reserve. The respondents gave the following feedback.

- Consumptive wildlife tourists

No, because we, as hunters, try to conserve anything we use as best as possible.
(Respondent 10)

We use less electricity at the hunting lodge than when we are at home. (Respondent 1)

We brought our own toiletries with us and took it with us when we left, so we didn't have an environmental impact regarding new consumables in the bathroom.
(Respondent 2)

I don't expect daily cleaning of linen and towels in the room. I am perfectly okay with reusing. (Respondent 2)

- Non-consumptive wildlife tourists

No, because we, as Namibians, know how precious water is in this country.
(Respondent 10)

If the electricity supply were solar, then it can be used more. (Respondent 7)

I either bring my own consumables or believe in using it up before renewing in order to save plastic. (Respondent 8)

Yes, just the towels. Daily linen clearing is not necessary. (Respondent 6)

With regard to the question posed, the majority of the consumptive and non-consumptive wildlife tourists indicated that they did not feel entitled to it.

➤ **Perceptions of consumptive and non-consumptive wildlife tourists regarding their travel behaviour that may have an impact on the environment at the game reserve**

- Consumptive wildlife tourists

Hunters have an overall positive impact on the environment. Hunters are there to harvest a small number of animals compared to the overall population, and animals hunted are typically well managed and have sufficient self-sustaining populations. For animals that may be more rare, hopefully, good management strategies are in place so that the removal of a small number of the species benefits the species overall. Compared to photo tourists, a small number of hunters provide much more revenue that is good for the environment and economy. (Respondent 4)

Very positive. We as hunters believe in game management. (Respondent 6)

Everywhere I have hunted before, I could say that hunters, in general, have a positive impact on the environment in terms of their behaviour; they look after the environment by trying to keep everything as natural as possible. They are also selective on the animals they hunt, which is [sic] usually the old bulls that are past their prime. (Respondent 10)

With regards to the consumptive wildlife tourists travel behaviour, it came forward from the interviewees that they perceive their behaviour as a positive impact on the environment (small groups, more spending, less impact). Research conducted by Novelli, Barnes and Humavindu (2006:75) correlates with the current findings and indicates that the overall behaviour of trophy hunters plays an important role in positive economic growth in local communities and contributes towards positive environmental impacts.

- Non-consumptive wildlife tourists

I think it depends on the background of the tourists and the level of respect tourists have for nature. My best negative example, as seen by myself, is China, where the Chinese people destroy everything – they throw their garbage anywhere they walk, they make their plates full food and only eat just a little bit of their food; the rest of the food is then thrown away into the garbage. (Respondent 1)

It varies depending on where they come from. The local tourists have a positive impact on the environment; for example, they will use the water sparingly, they would not leave lights on for too long, and they would make sure that no trash is lying around and they would also not bring so much trash with them, for example plastic papers and bags, where on the other side, the European tourists have a negative impact on the environment because they are not concerned of [sic] what they do. For example, they will buy everything, everywhere; they always have a lot of plastic bags that they then leave everywhere they go. I have seen this multiple times at other lodges in Namibia as well where we have stayed before. (Respondent 5)

I would say ecotourists sometimes behave very badly, like disturbing nature and animals, leaving a lot of garbage behind where they were in nature, and they are sometimes noisy. (Respondent 6)

Definitely negative – because every human being who does not belong there has a negative impact. Waste, damaging of nature by not understanding, and careless – no knowledge of surroundings and nature. This can only be reduced by travel[ling] eco-friendly but can never be avoided completely. Education is needed a lot more for locals as well as for ecotourists. (Respondent 7)

With regards to the non-consumptive wildlife tourists travel behaviour, it came forward from the interviewees that their behaviour depends on where they originate from. Local tourists (meaning Namibian residents, which makes up such a small percentage of the non-consumptive wildlife tourism market) tend to have a positive impact on the environment, while international tourists (meaning non-residents to Namibia, which makes out the majority of the non-consumptive wildlife tourism market) to have a higher negative impact on the environment. Research conducted by Swarbrooke (1999:52), Moore and Dowling (2002:83), Shaw and Williams (2002:305), George (2007:308) and Geldenhuys and Saayman (2009:35) has found that the behaviour of non-consumptive wildlife tourists has a negative impact on the natural environment while visiting wildlife areas, which correlates with the above responses of the respondents.

5.3.2.6 Personal behaviour to reduce environmental impacts at the game reserve

The following comments were made by the consumptive and non-consumptive wildlife tourists regarding the personal behaviour they displayed at the game reserve in order to help minimise their environmental impacts at the reserve.

- Consumptive wildlife tourists

I did not litter and was never wasteful. I try to utilise the resources to the fullest in terms of efficiency. (Respondent 1)

I try to leave as small a footprint in the environment as possible. (Respondent 4)

We did not litter whatsoever, and we did not disturb the wildlife unnecessarily. We stayed on designated roads, and followed and stick to the rules set out by the hunting lodge manager. (Respondent 8)

We used only what was available for our hunting, with the mindset of leaving no human trace behind. (Respondent 9)

- Non-consumptive wildlife tourists

We, as a norm, back home don't litter and we throw our trash away in the trash bins. That same behaviour we applied at the ecolodge as well. (Respondent 2)

While we visited the game reserve, our behaviour was the same as at home, by switching off the lights in the room. We did not litter, and we used water sparsely [sic]. (Respondent 4)

Take nothing than pictures, leave nothing than footprints – this was my behaviour. (Respondent 6)

I was trying not to use too much water and electricity as well as separating my trash. (Respondent 9)

With regard to the question posed, the majority of the consumptive and non-consumptive wildlife tourists indicated that their personal behaviour helped to reduce environmental impacts at the game reserve. A study conducted by Stern, Dietz, Abel and Guagnano Kalof (1999:85) has shown that if individuals have a strong sense of environmental responsibility, they tend to adopt a pro-environmental behaviour.

5.3.2.7 Highlights in visiting the game reserve

The consumptive and non-consumptive wildlife tourists commented as follows, regarding the highlights of their visit to the game reserve.

- Consumptive wildlife tourists

Being a participant in natural processes and the interaction with animals while hunting was the highlight for me. (Respondent 1)

The whole experience was truly eye-opening. To see how everything on the reserve functions shows that it is not just a tourist destination, and to see how the owner cares and gives back to the community, for example [the] school where the employees' kids go [sic] to school. (Respondent 2)

The amount and diversity of animals found on the game reserve. It was amazing. (Respondent 8)

Taking exceptional trophy animals from that game reserve and seeing a new country. (Respondent 10)

- Non-consumptive wildlife tourists

The wonderful rooms, pretty garden, great dinners and friendly and helpful staff was [sic] a highlight for me. I really felt cosy and was spoiled. (Respondent 6)

The lion feed is something you do not get to see anywhere; therefore, it is very special. Also, the dinosaur footprints – to see where they walked was a great experience and highlight for me. (Respondent 8)

The game drives, lion feeding and to observe the variety of animals at the waterhole. (Respondent 9)

Firstly, to relax, to enjoy nature and the animal sightings as well as seeing the family again. (Respondent 10)

5.3.3 Perceptions regarding the environmental impacts of wildlife tourists (consumptive and non-consumptive) at the game reserve

The perceptions regarding the environmental impacts of wildlife tourists at the game reserve are discussed below in five parts. The first part focuses on the perceived environmental impacts of the wildlife tourists (consumptive and non-consumptive) with regard to soil loss or erosion, water pollution, vegetation loss, disruption of wildlife, water usage, air pollution, energy usage and the depositing of litter at the game reserve. The second part determines the personal behaviour of and contributions the wildlife tourists (consumptive and non-consumptive) have made in order to minimise potential negative impacts on nature at the game reserve. The third part identifies the

contributions made by the wildlife tourists (consumptive and non-consumptive) towards a greener environment and conservation. The fourth part discusses how the hunting lodge and tourist lodge contribute towards conservation and greener practices. The last part quotes comments provided by the wildlife tourists (consumptive and non-consumptive) regarding their views of the recycling, conservation of electricity and water, waste disposal system and habitat degradation and loss of biodiversity due to overutilisation at each lodge.

Part 1: Perceived environmental impacts of the wildlife tourists (consumptive and non-consumptive) on soil loss or erosion, water pollution, vegetation loss, disruption of wildlife, water usage, air pollution, energy usage and the depositing of litter at the game reserve

5.3.3.1 Soil loss or erosion

Regarding soil loss and erosion, the interviewees' comments regarding this issue were as follows:

- Consumptive wildlife tourists

We had no impact while we were there. We kept the vehicles on the roads during the hunting drives. (Respondent 5)

Very slight, only due to some driving in the hunting truck. This would be similar to a sightseeing tour because we stayed on paths and roads and walked when we went out. (Respondent 7)

The professional hunter drove on designated roads that they have [sic] established in the game reserve. (Respondent 10)

- Non-consumptive wildlife tourists

I think that I did not have any impact on the soil. I stayed on the dedicated paths at the tourist lodge when moving around there. (Respondent 1)

Personally, I cannot see a big impact on this. The number of visitors compared to the size of the game reserve allows for using different routes on game drives, which have a minimal impact on the soil loss and erosion. (Respondent 8)

I would say that I had the [sic] minimal effect on soil erosion and soil loss. We were driving only on the prepared roads during game drives and we stayed on the ... and walking trails in and around the ecolodge. (Respondent 10)

From the above responses, it is clear that the majority of the consumptive and non-consumptive wildlife tourists felt that they had a minimal or no impact on soil loss or erosion at the game reserve.

5.3.3.2 Water pollution

The interviewees commented as follows:

- Consumptive wildlife tourists

I don't think we had any impact on water pollution other than normal activities of daily living, such as brushing teeth, showering, etc. I also believe that the lodge has a method or system to clean the greywater generated by the tourists. (Respondent 5)

Very minimal. The only pollution might be from washing and bathroom use. (Respondent 8)

- Non-consumptive wildlife tourists

I think there was minimal water pollution from the soaps that we used for washing our hands. (Respondent 4)

I would say very little. We tried to keep our water usage at a minimum, and the lodge also have [sic] a cleaning system to clean all greywater. (Respondent 7)

Minimal water pollution from the consumables used in the bathrooms. (Respondent 8)

Thus, both the consumptive and non-consumptive wildlife tourists felt that their impact on water pollution at the game reserve was slight to none.

5.3.3.3 Vegetation loss

The consumptive and non-consumptive wildlife tourists commented as follows:

- Consumptive wildlife tourists

We cut branches from some of the native bushes to camouflage our blind when sitting over the leopard bait. (Respondent 7)

The only possible loss was when the animals were recovered by the hunting vehicles. (Respondent 8)

- Non-consumptive wildlife tourists

I personally did not contribute to any vegetation loss at the game reserve. I stayed on the hiking trail that leads to the dinosaur footprints and did not wander off. (Respondent 6)

Minimal. We stayed on the tracks as much as possible and never did off-road driving that could destroy bushes and plants. (Respondent 7)

Minimal, like I said, during game drives, the guide stayed on [the] demarcated trail and did not do off-road driving. (Respondent 10)

From the above responses, it can be deduced that the consumptive wildlife tourists felt that they had added to some vegetation loss at the game reserve, while the non-consumptive wildlife tourists felt that they had added to minimal vegetation loss at the game reserve.

5.3.3.4 Disruption of wildlife

Regarding this issue, the following comments from the interviewees came forward.

- Consumptive wildlife tourists

Normal hunting and walking through the environment make animals skittish. That is really the only impact. (Respondent 3)

The only disruption I would say were [sic] when the shot was fired while we hunted. (Respondent 10)

- Non-consumptive wildlife tourists

You can see that the wildlife gets used to visitors around the ecolodge where they are fed, as well as during game drives. The animals did not run away when we passed them. (Respondent 10)

The guides doing the game drives are very careful not to disturb the animals. They take care to approach the wildlife slowly and quietly, which makes it perfect to watch the animals up close. (Respondent 6)

From the above responses, the data revealed that the actions of the consumptive wildlife tourists disrupted the wildlife at the game reserve, while the non-consumptive wildlife tourists felt that their actions had only a slight effect on the wildlife.

5.3.3.5 Water use

The interviewees commented as follows:

- Consumptive wildlife tourists

Minimal, just done the basic hygiene every day. (Respondent 2)

We tried to conserve water as much as possible. (Respondent 4)

No different than at home, except maybe the physical activity caused me to drink more water than normal. (Respondent 7)

- Non-consumptive wildlife tourists

I took a shower every day and used water for washing my face and brushing my teeth. I think my water use was in the normal range. (Respondent 9)

Minimal, because I turned the taps off while I brushed my teeth. The whole procedure to save water is also my habit at home. (Respondent 10)

Thus, from the above responses, it is clear that both the consumptive and non-consumptive wildlife tourists felt that their water usage at the game reserve was minimal.

5.3.3.6 Air pollution

The interviewees gave the following comments:

- Consumptive wildlife tourists

The only air pollution would be the hunting vehicle we were using to drive to the hunting area because the property is so huge you could not walk. (Respondent 5)

We drove around in a diesel-powered hunting truck in search of animals, which I think causes some air pollution. (Respondent 7)

- Non-consumptive wildlife tourists

The game drive vehicles exhaust fumes. There are always two game drives scheduled for the morning and afternoon that last anything from two hours up to three hours, depending on the sightings. (Respondent 1)

Air pollution would be from the safari vehicles we used for game drives. (Respondent 4)

As evidenced by the above responses, the majority of the consumptive and non-consumptive wildlife tourists indicated that they had contributed indirectly to air pollution through the safari or hunting vehicles used to do either game drives or driving around looking for game to hunt on the game farm.

5.3.3.7 Energy use

The interviewees commented as follows:

- Consumptive wildlife tourists

The only energy use besides the ordinary would be running my laptop and charging my camera batteries. (Respondent 2)

The impact we had on energy use was the electricity needed for the lights in our room and to run the air-conditioning system occasionally. In addition, I suppose the staff had to use electricity to prepare our meals. (Respondent 5)

- Non-consumptive wildlife tourists

I would say that I used the same excessive amount of electricity at the lodge as at home. (Respondent 6)

I used the lights, television and the air-conditioning system in the room, which all use electricity. (Respondent 9)

From the above responses, it is clear that the majority of the consumptive and non-consumptive wildlife tourists indicated that they had made some impact regarding energy use at the game reserve.

5.3.3.8 Depositing of litter

The interviewees gave the following comments regarding this issue:

- Consumptive wildlife tourists

Respondents 1, 2 and 5 of the consumptive wildlife tourists indicated that their depositing of litter was kept to a minimum and added that the efficient staff and manager of the hunting lodge had contributed towards this.

Packaging of foodstuff was properly disposed [of]. (Respondent 1)

Any litter that was lying around were [sic] picked up immediately by the staff. (Respondent 2)

We used the provided recycling bins in our room to dispose of plastics, etc. The hunting lodge provided us with a reusable water bottle that we could refill so that we did not consume [sic] plastic bottles. (Respondent 5)

- Non-consumptive wildlife tourists

The non-consumptive wildlife tourists believed that their behaviour had helped to reduce the depositing of litter at the tourist lodge, as the comments of Respondents 5 and 9 show.

We took most of our litter back home again. (Respondent 5)

I drank several cans of cold drink and used the shower gel and shampoo at the room.

Aside from that, I did not produce a lot of waste during my stay. (Respondent 9)

Both the consumptive and non-consumptive wildlife tourists believed that they had made a minimal impact regarding littering at the game reserve, as the responses have shown.

To summarise, from the above responses, both the consumptive and non-consumptive wildlife tourists perceived that their impact on the environment was minimal with regard to soil loss and erosion, water pollution, vegetation loss, disruption of wildlife, water usage, air pollution, energy usage and the depositing of litter at the game reserve. The studies of George (2007:308), Gossiling *et al.* (2012:7), Islam (2013:120) and Newsome *et al.* (2013) show the opposite, namely that both consumptive and non-consumptive wildlife tourist contribute towards such impacts (soil loss and erosion, water pollution, vegetation loss, disruption of wildlife, water usage, air pollution, energy usage and the depositing of litter) in natural environments.

To add to the above, the perception also exists that consumptive wildlife tourists' actions are typically less environmentally friendly than those of non-consumptive wildlife tourists (Linsey, 2008; Wall, 1994:6). In contrast to the above, Panos's (1995:8) study has shown that non-consumptive wildlife tourist actions are, in fact, more detrimental towards the environment than those of consumptive wildlife tourists.

Part 2: Personal behaviour and contributions of the wildlife tourists (consumptive and non-consumptive) to minimise potential negative impacts on nature at the game reserve

5.3.3.9 Personal behaviour of the wildlife tourists at the game reserve

This part gives an overview of the personal behaviour of the consumptive and non-consumptive wildlife tourists at the game reserve in the form of a five-point Likert scale, as set out in Tables 5.9 and 5.10.

- **Consumptive wildlife tourists**

From the results (Table 5.9) of the questionnaire, the majority of the consumptive wildlife tourists indicated that they agreed or strongly agreed that their behaviour had minimal impact on the natural environment (e.g. no food wasted during meals, unnecessary appliances and lights switched off when not in the room and conserving water). The majority of the consumptive wildlife tourists indicated that they strongly disagreed or disagreed that their behaviour might have a negative effect on the natural environment at the game reserve (e.g. wasting water by running taps when brushing one's teeth or washing one's face and the washing of laundry and cleaning of linen). From these results, it can be assumed that the

personal behaviour of most of the consumptive wildlife tourist (trophy hunters) leans towards minimising their impact on the natural environment at the game reserve.

From the results, it can be seen that the consumptive wildlife tourists indicated that they strongly disagreed or disagreed with the following items:

- I kept the water tap running when I brushed my teeth or washed my face (80%)
- I prefer to bath (80%)
- I showered or took a bath twice a day (60%)
- I prefer a full tub of water when taking a bath (80%)
- I prefer having my towels changed on a daily basis (60%)
- I wanted my laundry to be washed on a daily basis (60%)

Furthermore, they indicated that they agreed or strongly agreed with the following items:

- I ate all the food I served myself during meals (80%)
- I switched off the lights when leaving the room (80%)
- I put my trash in a trash bin (80%)
- I switched off the fan or heater when not in the room (80%)
- I prefer to shower (100%)
- I showered for less than five minutes (70%)
- I consider myself responsible towards the environment when travelling (90%)

Table 5.9: Personal behaviour of the consumptive wildlife tourists at the game reserve

Question	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Average
	1	2	3	4	5	
I ate all the food that I served myself during meals (no food wasted).				10%	90%	4,9
I switched the lights off when leaving the room.				10%	90%	4,9
I kept the water tap running when I brushed my teeth/washed my face.	80%	20%				4,8
I prefer having my towels changed on a daily basis.	60%		30%	10%		4,5
I put my trash in a trash bin.				10%	90%	4,9
I switched off the fan, heater or aircon when not in the room.				10%	90%	4,9
I prefer to shower.					100%	5

Question	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Average
I prefer to bath.	80%	20%				4,8
I showered or took a bath twice a day.	70%	20%	10%			4,6
I showered for less than five minutes.		10%	20%	30%	40%	4,2
I prefer a full tub of water when taking a bath.	50%	30%	10%	10%		4,4
I wanted my laundry to be washed on a daily basis.	30%	30%	30%		10%	4
I consider myself responsible towards the environment when travelling.			10%	10%	80%	4,7

- Non-consumptive wildlife tourists

With regard to the personal behaviour of the non-consumptive wildlife tourists, they indicated through the five-point Likert scale (Table 5.10) that they agreed or strongly agreed regarding behaviour that has minimal impact on the natural environment (e.g. no food wasted during meals, unnecessary appliances and lights switched off when not in the room and conserving water). Furthermore, they indicated that they strongly disagreed or disagreed regarding behaviour that might have a negative effect on the natural environment (e.g. wasting water by running taps when brushing one's teeth or washing one's face and the washing of laundry and cleaning of linen). From these results, it can be assumed that the personal behaviour of most of the non-consumptive wildlife tourists (ecotourists) leans towards minimising their impact on the natural environment at the game reserve.

From the results, it is clear that the non-consumptive wildlife tourists strongly disagreed or disagreed with the following items:

- I kept the water tap running when I brushed my teeth or washed my face (90%)
- I prefer having my towels changed on a daily basis (90%)
- I prefer to bath (80%)
- I showered or took a bath twice a day (80%)
- I prefer a full tub of water when taking a bath (80%)
- I wanted my laundry to be washed on a daily basis (90%)

Furthermore, the non-consumptive wildlife tourists indicated that they agreed or strongly agreed with the following items:

- I ate all the food I served myself during meals (70%)
- I switched off the lights when leaving the room (70%)
- I put my trash in a trash bin (80%)
- I switched off the fan or heater when not in the room (70%)
- I prefer to shower (100%)
- I showered for less than five minutes (60%)
- I consider myself responsible towards the environment when travelling (80%)

Table 5.10: Personal behaviour of the non-consumptive wildlife tourists at the game reserve

Question	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Average
	1	2	3	4	5	
I ate all the food that I served myself during meals (no food wasted).				20%	80%	4,8
I switched the lights off when leaving the room.				20%	80%	4,8
I kept the water tap running when I brushed my teeth or washed my face.	40%	50%	10%			4,4
I prefer having my towels changed on a daily basis.	40%	50%		10%		4,4
I put my trash in a trash bin.				20%	80%	4,8
I switched off the fan, heater or aircon when not in the room.				20%	80%	4,8
I prefer to shower.					100%	5
I prefer to bath.	60%	30%	10%			4,5
I showered or took a bath twice a day.	60%	20%	10%	10%		4,5
I shower for less than five minutes.		10%	30%	30%	30%	4
I prefer a full tub of water when taking a bath.	50%	30%	20%			4,3
I wanted my laundry to be washed on a daily basis.	60%	30%			10%	4,5
I consider myself responsible towards the environment when travelling.				40%	60%	4,6

Part 3: The contributions made by the wildlife tourists (consumptive and non-consumptive) towards a greener environment and conservation

This part focuses on the different contributions the consumptive and non-consumptive wildlife tourists made towards conservation and a greener environment at the game reserve. These contributions are divided into behavioural and financial contributions.

5.3.3.10 Behavioural contributions regarding a greener environment

- Consumptive wildlife tourists

Regarding the contributions made by the consumptive wildlife tourists who visited the game reserve to help with conservation and a greener environment, the following comments were made by Respondents 1, 2, 3 and 6:

I have paid to shoot species that I could not take back to the USA, for instance the black-faced impala, but I know that the money I have paid provides value, so those species are kept on the reserve. (Respondent 1)

I was really aware of water use because I knew they were in a drought. For instance, while I was brushing my teeth, I did not leave the tap on running; I closed it. (Respondent 2)

We used the reusable aluminium water bottles that the hunting lodge provide for our drinking water as an example. (Respondent 3)

No, I did not bring anything regarding left-over food, cooldrinks, water, etc., with me to the hunting lodge. (Respondent 6)

- Non-consumptive wildlife tourists

Regarding the contributions made by the non-consumptive wildlife tourists who visited the game reserve to help with conservation and a greener environment, the following comments were made by Respondents 2, 3, 4 and 6:

We did not litter while we were at the game reserve, and we threw away our trash in trash bins. (Respondent 2)

I think we contribute to conservation ... through the money we spent at the lodge. I believe that money is used to care for the animals and to buy food for them during drought times. (Respondent 3)

My contribution to conservation and a greener environment were [sic] the fact that I did not bring any litter, such as plastics, bottles, paper, etc., with me to the ecolodge. (Respondent 4)

I think I were [sic] cautious by not disturbing anything, from plants to wildlife. (Respondent 6)

5.3.3.11 Financial contributions

The consumptive and non-consumptive wildlife tourists who visited the reserve indicated what they believed their money was used for at the game reserve in the following comments:

- Consumptive wildlife tourists

I think the money spent on the reserve are [sic] used to pay for jobs, feeding programmes and anti-poaching. (Respondent 1)

I think the money used to support the entire community of the property as well as the wildlife on the reserve, like buying feed for the animals. (Respondent 2)

Maintaining the game reserve, improving the property, adding more property for the animals to roam around. (Respondent 3)

For the conservation and preservation of the species found on the reserve. (Respondent 6)

- Non-consumptive wildlife tourists

I think it is used to buy food for the animals, especially in the drought times, for salaries for the staff and the general maintenance of the lodge. (Respondent 2)

It is definitely to better the lodge and the resources available and to upgrade it. (Respondent 3)

To make the lodge and the game reserve a better place for the tourists and for the animals. (Respondent 4)

I think the money we have spent at the game reserve are [sic] mostly used to take care of the animals in the form of food supplement, especially during the dry months. (Respondent 5)

For paying their employees, feeding the animals and keep the lodge up and running. (Respondent 7)

For conservation (e.g. the rhino orphanage), maintenance of the lodge and the game reserve, personnel costs and alfalfa for the animals in times of drought, etc. (Respondent 9)

From the above responses, it is clear that the consumptive and non-consumptive wildlife tourists perceived that their behavioural and financial contributions had a positive effect on the environment

at the game reserve. According to Orams (2002:283), financial contributions by wildlife tourists help to supplementary feed endangered wildlife species, ensuring their survival.

Part 4: The contribution of the hunting lodge and the tourist lodge towards conservation and greener practices

This part focuses on how the hunting and tourist lodge contribute towards conservation and greener practices as perceived by the consumptive and non-consumptive wildlife tourists. The interviewees commented as follows:

- Consumptive wildlife tourists

No hunting was allowed close to and around the feeding pens. (Respondent 3)

The hunting lodge had specific rules and guidelines for us to follow regarding the conservation of resources. (Respondent 5)

There is [sic] guidelines and rules set out at the hunting lodge that help with greener practices. The management of the hunting lodge also sets an example on how to conserve and preserve. (Respondent 6)

Hunters who visit the game reserve that are not responsible will see good practices on the part of the staff and hopefully consider emulating that. (Respondent 7)

- Non-consumptive wildlife tourists

I could not see that they do recycle, but I believe they do. (Respondent 2)

I think they do recycle at the ecolodge, but I did not see any methods on how they recycle. (Respondent 4)

I assume that they have to do it, because no trash was lying around on the premises. (Respondent 8)

As indicated by the above responses, both the consumptive and non-consumptive wildlife tourists perceived that the best practices of both lodges, such as adherence to rules and regulations, effective recycling and the good example set by the staff, all help towards conservation and a greener environment at the game reserve.

Part 5: The wildlife tourists' (consumptive and non-consumptive) views regarding the recycling, conservation of electricity and water, waste disposal system and habitat degradation and loss of biodiversity due to overutilisation at the hunting lodge and the tourist lodge

- Consumptive wildlife tourists' view

- ❖ Recycling

I think it is well managed, because I don't see trash lying around. (Respondent 1)

The lodge provided recycling bins in each of the rooms in the lodge. They also minimise the use of plastic bottles by providing a reusable metal water bottle that we refilled several times per day. (Respondent 5)

The majority of the respondents from the consumptive wildlife tourists perceived that the hunting lodge did have an effective recycling system in place.

- ❖ Conservation of electricity

They asked us to turn lights off, and every time you left the room, they would go and check and made sure that the lights are off. (Respondent 2)

There is so little electricity used. The staff of the hunting lodge make sure that no unnecessary lights were on, and if it was on, it was switched off. (Respondent 3)

The lodge provided guidelines to turn off the lights when we were not in the room and to not run the air-conditioning system when we were not in the room. (Respondent 5)

The consumptive wildlife tourists perceived that the conservation of electricity was a priority at the hunting lodge.

- ❖ Conservation of water

The lodge provides us with guidelines to not waste water needlessly. (Respondent 5)

My assumption is that they conserve water as much as possible like, for example, the water collection barrels that I saw, I believe are for rainwater that they then reused. (Respondent 9)

I did not see that the hunting lodge waste any water. They have a small patch of grass in front of the lodge that they had one sprinkler on and a small pool that does not take a lot of water to fill up. (Respondent 10)

The consumptive wildlife tourists perceived that the hunting lodge did attempt to conserve water as best it could.

❖ Waste disposal system

I think that the staff of the hunting lodge were doing the right thing because I did not see any trash or litter lying around or left outside. I think everything is utilised properly at the hunting lodge. (Respondent 3)

In our room was a receptacle, which was cleaned out every day. (Respondent 4)

The consumptive wildlife tourists perceived that the waste disposal system of the hunting lodge was very effective.

❖ Habitat degradation and loss of biodiversity

I would say that the owners of the reserve maintain or enhance wildlife habitat and biodiversity overall. From what I saw during our travels in Namibia, land that isn't set aside as a park or hunting reserve had lower wildlife populations, likely due to conflicts with other human land uses like agriculture and ranching. (Respondent 4)

I believe that the hunting lodge managers manage the game animals on the property very closely. They are keenly aware of the number of heads of game on the grounds and they manage their populations with a plan. During the time that we were there, the area was in a terrible multi-year drought. It was obvious that the vegetation was in distress, and therefore the hunting lodge managers trucked in supplemental alfalfa and hay to prevent the animals from starving. They also pumped water for them to drink. If they didn't have the capacity to do this, I'm afraid most of the animals would have perished from the drought. (Respondent 5)

The consumptive wildlife tourists perceived that without effective managers at the hunting lodge, habitat degradation and loss of biodiversity would occur on the game reserve.

- Non-consumptive wildlife tourists' view

- ❖ Recycling

I could not see that they do recycle, but I believe they do. (Respondent 2)

I think they do recycle at the ecolodge, but I did not see any methods on how they recycle. (Respondent 4)

I assume that they have to do it, because no trash was lying around on the premises. (Respondent 8)

The non-consumptive wildlife tourists perceived that the tourist lodge did recycle, but they were uncertain how it was done, as the responses above show.

❖ Conservation of electricity

The lights were connected to solar panels, so during the night times, those lights were running from solar energy. (Respondent 2)

I have seen solar panels for the hot water systems of each room as well as for the lights. In this way, the ecolodge try [sic] to conserve electricity. (Respondent 3)

The ecolodge have [sic] solar lights and panels installed that help to generate hot water and electricity. (Respondent 10)

The non-consumptive wildlife tourists perceived that the tourist lodge was trying to conserve electricity in the best possible way.

❖ Conservation of water

The lodge have [sic] a pool and a big lawn that requires a lot of water, so I suppose that's not considered very good. (Respondent 7)

I think the management team of the tourist lodge could put more emphasis on visitors to conserve water more effectively because when I was there, I saw a lot of water being wasted by the tourists. (Respondent 8)

The non-consumptive wildlife tourists perceived that water was not well conserved at the tourist lodge.

❖ Waste disposal system

I only saw the normal trash bin in the room. (Respondent 1)

There were receptacles in the rooms and sufficient dustbins for the tourists to put their waste in, and they also cleaned the dustbins every morning. (Respondent 4)

I did not see any litter and garbage lying around at the lodge; I also did not smell sewerage. (Respondent 6)

The non-consumptive wildlife tourists were not sure how the tourist lodge managed waste but perceived that there should be some kind of system in place.

❖ Habitat degradation and loss of biodiversity

From the lion-feeding point of view, I saw that they put the meat which they give the lions ... on a cement block; so for me this method works well because there is no habitat degradation from the commotion the lions make while feeding. (Respondent 3)

I saw the lodge 25 years ago when I was a little kid, and since then the lodge have [sic] not expanded. Everything in a sense of the environment still looks the same for me since that time. (Respondent 5)

I think habitat degradation at the ecolodge are [sic] minimal. The management team try to keep the environment as natural as possible. (Respondent 10)

The impact of the tourist lodge on the habitat and loss of biodiversity was minimal as perceived by the non-consumptive wildlife tourists.

5.3.4 The wildlife tourists' (consumptive and non-consumptive) environmentally friendly behaviour at home

The next section discusses the consumptive and non-consumptive wildlife tourists' environmentally friendly behaviour at home with regard to personal behaviour, recycling methods, systems, appliances, water-saving measures and the contributions the respondents make at home that can help to minimise environmental impacts on nature.

5.3.4.1 Personal behaviour in order to minimise potential impacts on nature at home

This part discusses the consumptive and non-consumptive wildlife tourists' personal behaviour at home in order to determine whether their behaviour has minimal impacts on nature. The data are provided in Tables 5.11 and 5.12 in the form of a five-point Likert scale.

- Consumptive wildlife tourists

Table 5.11 gives an overview of the consumptive wildlife tourists' personal behaviour at home by means of a five-point Likert scale. From the results, the majority of the consumptive wildlife tourists have indicated that they agreed or strongly agreed regarding behaviour that had minimal impact on the natural environment (e.g. no food wasted during meals, unnecessary

appliances and lights are switched off when leaving the room, disposal of litter and conservation of water). Furthermore, they indicated that they disagreed or strongly disagreed regarding behaviour that might have a negative effect on the natural environment at home (e.g. wasting water by running taps when brushing one's teeth or washing one's face and the washing of laundry and cleaning of linen on a daily basis). From these results, it can be assumed that the personal behaviour of most of the consumptive wildlife tourists (trophy hunters) leans towards minimising their impact on the natural environment at home.

From the results, it can be seen that the consumptive wildlife tourists indicated that they strongly disagreed or disagreed with the following items regarding their behaviour at home:

- I keep the water tap running when I brush my teeth or wash my face (70%)
- I prefer to bath (90%)
- I shower or take a bath twice a day (80%)
- I prefer a full tub of water when taking a bath (80%)
- I prefer having my towels changed on a daily basis (60%)
- I want my laundry to be washed on a daily basis (60%)

Furthermore, they indicated that they agreed or strongly agreed with the following items regarding their behaviour at home:

- I eat all the food I serve myself during meals (80%)
- I switch off the lights when leaving the room (80%)
- I put my trash in a trash bin (100%)
- I switch off the fan or heater when not in the room (80%)
- I prefer to shower (100%)
- I shower for less than five minutes (70%)
- I consider myself responsible towards the environment when travelling (70%)

Table 5.11: Personal behaviour of consumptive wildlife tourists at home

Question	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Average
	1	2	3	4	5	
At home, I eat all the food that I serve myself during meals (no food wasted).				30%	70%	4,7

Question	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Average
At home, I switch the lights off when leaving the room.				20%	80%	4,8
At home, I keep the water tap running when I brush my teeth or wash my face.	70%	30%				4,7
At home, I prefer having my towels changed on a daily basis.	50%	30%			20%	4,3
At home, I put my trash in a trash bin.					100%	5
At home, I switch off the fan, heater or aircon when not in the room.		10%	20%	20%	50%	4,3
At home, I prefer to shower.					100%	5
At home, I prefer to bath.	80%	20%				4,8
At home, I shower or take a bath twice a day.	70%	20%			10%	4,6
At home, I shower for less than five minutes.		10%	20%	20%	50%	4,3
At home, I prefer a full tub of water when taking a bath.	60%	20%	10%		10%	4,3
At home, I want my laundry to be washed on a daily basis.	80%	10%			10%	4,7
At home, I consider myself responsible towards the environment when travelling.		10%		20%	70%	4,6

- Non-consumptive wildlife tourists

The non-consumptive wildlife tourists' personal behaviour, as portrayed through the five-point Likert scale (Table 5.12), show that they agreed or strongly agreed regarding behaviour that had minimal impact on the natural environment (e.g. no food wasted during meals, unnecessary appliances and lights switched off when not in the room and conserving water). Furthermore, they indicated that they strongly disagreed or disagreed regarding behaviour that might have a negative effect on the natural environment at home (e.g. wasting water by running taps when brushing one's teeth or washing one's face and the washing of laundry and cleaning of linen). From these results, it can be assumed that the personal behaviour of most non-consumptive wildlife tourists (ecotourists) leans towards minimising their impact on the natural environment at home.

From the results, it can be seen that the non-consumptive wildlife tourists indicated that they strongly disagreed or disagreed with the following items regarding their behaviour at home:

- I keep the water tap running when I brush my teeth or wash my face (90%)

- I prefer having my towels changed on a daily basis (90%)
- I prefer to bath (80%)
- I shower or take a bath twice a day (80%)
- I prefer a full tub of water when taking a bath (80%)
- I want my laundry to be washed on a daily basis (90%)

Furthermore, they indicated that they agreed or strongly agreed with the following items regarding their behaviour at home:

- I eat all the food I serve myself during meals (70%)
- I switch off the lights when leaving the room (70%)
- I put my trash in a trash bin (80%)
- I switch off the fan, heater or aircon when not in the room (70%)
- I prefer to shower (100%)
- I shower for less than five minutes (60%)
- I consider myself responsible towards the environment when travelling (80%)

Table 5.12: Personal behaviour of non-consumptive wildlife tourists at home

Question	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Average
	1	2	3	4	5	
At home, I eat all the food that I serve myself during meals (no food wasted).			10%	20%	70%	4,6
At home, I switch the lights off when leaving the room.				20%	80%	4,8
At home, I keep the water tap running when I brush my teeth or wash my face.	60%	30%	10%			4,5
At home, I prefer having my towels changed on a daily basis.	40%	50%	10%			4,4
At home, I put my trash in a trash bin.				20%	80%	4,8
At home, I switch off the fan, heater or aircon when not in the room.				40%	60%	4,6
At home, I prefer to shower.				20%	80%	4,8
At home, I prefer to bath.	60%	20%	20%			4,4
At home, I shower or take a bath twice a day.	50%	20%	30%			4,3
At home, I shower for less than five minutes.		20%	30%	30%	20%	4,1
At home, I prefer a full tub of water when taking a bath.	60%	10%	20%		10%	4,5
At home, I want my laundry to be washed on a daily basis.	60%	30%			10%	4,5

Question	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Average
While at home, I consider myself responsible towards the environment when travelling.				40%	60%	4,6

5.3.4.2 Recycling methods to help minimise potential impacts on nature at home

This section indicates whether the consumptive and non-consumptive wildlife tourists recycle at home. The majority of the respondents (consumptive and non-consumptive wildlife tourists) indicated that they indeed recycled at home.

- Consumptive wildlife tourists

Yes, absolutely. All plastic and metal are kept in containers at my house. When the containers are full, there is an area a few miles away where I drop them off where it gets recycled. I also make compost from all the left-over food. (Respondent 3)

- Non-consumptive wildlife tourists

Not really. The only way we recycle is by throwing all waste into one or two trash bags, that get collected once a week by the local municipality. (Respondent 7)

5.3.4.3 Systems, appliances and water-saving measures at home to help minimise potential impacts on nature

This section portrays whether the consumptive and non-consumptive wildlife tourists have systems, appliance and water-saving measures at home to help minimise potential impacts on nature.

- Consumptive wildlife tourists

I have a programable thermostat on the heating and cooling systems as well as an energy-efficient refrigerator and dishwasher. (Respondent 2)

We have low-flow toilets in our house and adaptors that restrict how much water comes out of the showerheads and faucets. (Respondent 5)

I have a smart thermostat on the heating and cooling systems for the house. (Respondent 10)

- Non-consumptive wildlife tourists

No, we don't have any water measures at home to help save water, but we do have LED lights that helps [sic] conserve energy. (Respondent 3)

The only way we conserve energy are [sic] the LED light bulbs that we installed, but regarding water-saving measures, we don't have any because we are staying in a rental house. (Respondent 4)

No, I don't have any system or appliance at home, because I stay in a compartment building. (Respondent 10)

5.3.4.4 Organisations the respondents belong to that help towards nature conservation

This section indicates which organisations the consumptive and non-consumptive wildlife tourists belong to that help with nature conservation.

- Consumptive wildlife tourists

The following organisations were mentioned the most by the consumptive wildlife tourists:

- Safari Club International
- Ducks Unlimited
- Pheasants Unlimited
- Trout Unlimited
- National Wild Turkey Federation
- Rocky Mountain Elk Foundation
- Whitetails Unlimited
- Dallas Safari Club

Safari Club International was the organisation that most of the consumptive wildlife tourists (trophy hunters) belonged to in the United States of America. Some respondents indicated that they belonged to more than one organisation.

- Non-consumptive wildlife tourists

A large majority (90%) of the non-consumptive wildlife tourists indicated that they did not belong to any organisation. Only 10% of the respondents indicated that they belonged to The Rhino and Cheetah Conservation Trust.

With regard to the responses from the consumptive and non-consumptive wildlife tourists in Sections 5.3.4.2; 5.3.4.3 and 5.3.4.4, it came to the fore that the consumptive wildlife tourists were more motivated towards the conservation and the protection of the natural environment, as can be seen

in the effective methods, systems, appliances, and so forth, these tourists have in place or organisations they belong to, as opposed to the non-consumptive wildlife tourists. Accordingly, it can be deduced that the consumptive wildlife tourists made a more positive contribution towards the natural environment than the non-consumptive wildlife tourists.

5.3.4.5 The respondents' views on how they see themselves as conservationists

This section gives an indication of how the consumptive and non-consumptive wildlife tourists see themselves as conservationists, and the reasons why.

- Consumptive wildlife tourists

I see myself and other hunters as conservationists, because we as hunters contribute to the protection and management of wildlife populations around the world. We contribute money through the purchasing of hunting and fishing licenses that provide the majority of funding for local wildlife management and protection. We as hunters also believe that animals (terrestrial and aquatic) are renewable resources that should be managed accordingly and provide sporting opportunities. (Respondent 5)

I definitely see myself as a conservationist because of the fact that I was raised as a responsible hunter. I spent a lot of time in the outdoors with my father and I learnt of the beauty that exists in nature and it made me passionate about preserving that. So, hunters and fishermans [sic], I would say, provide the majority of funding for conservation. (Respondent 9)

- Non-consumptive wildlife tourists

I would say "yes" and the reason is I am respectful towards the environment and the resources that I use, like water, electricity, etc. (Respondent 1)

Yes, I definitely see myself as a conservationist because I never litter, and if I see litter lying around, I will pick it up because I know it does not belong there and I will throw it away in a rubbish bin. (Respondent 3)

Yes, I see myself as one because my normal behaviour is not to harm or damage nature in any way possible. (Respondent 4)

5.4 CONCLUSION

The focus of this chapter was to analyse the results obtained from the qualitative interviews surveys conducted. First, in terms of the qualitative data collection, face-to-face interviews were conducted with the management of the game reserve. After that, electronic interviews were conducted with the

consumptive and non-consumptive wildlife tourists who had visited the game reserve during the past three years. These interviews were conducted via Skype or WhatsApp Video calling due to the COVID-19 pandemic, according to the respondents' preference.

The questionnaire for the management of the game reserve (supply side) was divided into three sections. Section 1 covered the demographic profile of the reserve management; Section 2 focused on the background of the game reserve; and Section 3 gave feedback on the management's views regarding the environmental impacts caused by consumptive and non-consumptive wildlife tourists visiting the game reserve. From these results, it is clear that management felt that the non-consumptive wildlife tourists visiting the game reserve had more environmental impacts than the consumptive wildlife tourists due to some of the following reasons, to name but a few: more game drive vehicles at the tourist lodge than the hunting lodge; contributing to more air pollution (CO₂ emissions released into the atmosphere); soil compaction and vegetation damage; wasting large volumes of water, food and electricity as a result of the non-consumptive tourists making use of leisurely commodities such as jacuzzies during dry months of the year; overfilling plates with food during meals and not finishing it; leaving lights and air-conditioning systems on when not in the room; and displaying some selfish behaviour (making noise during game drives that chases animals away).

For the consumptive and non-consumptive wildlife tourists visiting the game reserve (demand side), a variety of topics was addressed in order to determine the environmental impacts of each group. These topics include the demographic profile of the wildlife tourists, their travel behaviour and motives, the perceptions regarding each group's own environmental impacts at the game reserve and each group's personal environmentally friendly behaviour at home. From these results, it can be concluded that the consumptive wildlife tourists a more positive impact on the environment has that benefits conservation, compared to the impacts of non-consumptive wildlife tourists, which have more negative impacts on the environment.

In the next chapter, the conclusions, recommendations and the limitations of the research and recommendations for future research are presented.

CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS

“What we do comes out of who we believe we are.”

~ Rob Bell ~

=====

6.1 INTRODUCTION

The main goal of the study was to compare the perceived environmental impacts caused by consumptive and non-consumptive wildlife tourism at a game reserve. This chapter aims to provide the conclusions and recommendations from the results of this study according to objective four as set out in Chapter 1.

- The first objective was to do a literature overview of the background of natural area tourism. This was achieved in Chapter 2 of the study.
- The second objective, that was achieved in Chapter 3 of the study, was to analyse the existing literature pertaining to the impacts natural area tourism has on the environment, with a specific focus on consumptive and non-consumptive wildlife tourism.
- The third objective was to discuss the empirical results, as obtained from the data collected from the two populations that participated in the research to determine the perceived environmental impacts caused by consumptive and non-consumptive wildlife tourism at the game reserve. This was achieved in Chapter 4 of this study.
- The final objective of the study is met in this chapter. It aims to draw up conclusions regarding the findings of the study and to make recommendations pertaining to the study. Furthermore, recommendations for future studies will be discussed, as well as the limitations of the study.

6.2 CONCLUSIONS REGARDING THE STUDY

In this section, the conclusions drawn from the literature review in Chapters 2 and 3 and the empirical results discussed in Chapter 5 are presented. Conclusions are drawn on natural area tourism, the impacts of natural area tourism (with a specific focus on environmental impacts) and the empirical results, respectively.

6.2.1 Conclusions with regard to the literature analysis on natural area tourism

6.2.1.1 Natural area tourism

This section highlights the most important conclusions drawn from the literature analysis on natural area tourism, as discussed in Chapter 2.

- “Natural area tourism” is a broad term that includes a wide range of tourism activities and experiences that all happen in the outdoors (cf. 2.2.1).
- Tourists visiting such areas are often passionate about the conservation of natural areas and the people and wildlife who inhabit these regions (cf. 2.2.1).
- Natural area tourism can be defined as nature-based tourism (cf. 2.2.1).
- The four subsectors of natural area tourism are geotourism, adventure tourism, ecotourism and wildlife tourism (cf. 2.2.2).

6.2.1.2 Geotourism

- Geotourism focuses on geology and landscapes (cf. 2.3.1).
- Geotourism tends to sustain, or even enhance, the geographical character of a place, such as the culture, environment, heritage and well-being of its residents (cf. 2.3.1).
- Geotourism has the same objectives as ecotourism but specifically seeks to explain the beauty and origins of the earth’s landscapes, landforms, plants and animals (cf. 2.3.1).

6.2.1.3 Adventure tourism

- Adventure tourism focuses on active and physical involvement of people in outdoor activities, where the experience is associated with strong emotions, fear and excitement (cf. 2.4.1).
- Adventure tourism is available at iconic tourism sites throughout Southern Africa (cf. 2.4.2).
- Adventure tourism activities are categorised as hard, soft and nature-based activities according to the degree of physical activity, risk and skills required (cf. 2.4.3)
 - Hard adventure activities: These activities involve strenuous physical exertion and high risk and are more challenging and extreme than soft adventure activities.
 - Soft adventure activities: These activities attract non-adrenaline junkies and families. They are less risky and much safer and require less physical activity than hard adventure activities.
 - Nature-based adventure activities: These activities involve physical interaction with animals. It is regarded as risky because any interaction with animals has the potential to become dangerous within seconds.
- The adventure tourism energy footprint, carbon footprint, water footprint and waste footprint all have a negative impact on the environment because many of these activities are found in remote or fragile environments (cf. 2.4.5).

6.2.1.4 Ecotourism

- Ecotourism entails environmentally responsible travel and visits to relatively undisturbed natural areas in order to enjoy and appreciate nature (and accompanying cultural features – both past and present) through activities that promote conservation, have low negative visitor

impact and provide beneficially active socio-economic involvement of local populations (cf. 2.5.1).

- Ecotourism is a responsible, non-consumptive form of nature-based tourism, which also forms part of the larger sustainable tourism paradigm (cf. 2.5.2).
- Ecotourism is based on four main pillars, namely the promotion and enhancement of the natural and cultural environment, the provision of environmental education opportunities, ensuring sustainable planning and management and facilitating tourist satisfaction (cf. 2.5.3).
- The success of ecotourism is dependent on natural and cultural attractions and therefore, is crucial for the enhancement and sustainment of the natural and cultural environments (cf. 2.5.3).
- Environmental education and interpretation are essential components of ecotourism, as they serve two main purposes, namely enhancing the experience for tourists and influencing tourist and community behaviour (cf. 2.5.3).
- Environmental education can be used as a tool to minimise negative environmental impacts (cf. 2.5.3).
- Ecotourism must comply with the principles of sustainable tourism, which implies balancing economic, social and environmental objectives (cf. 2.5.3).
- It is important to create experiences that will satisfy the needs and wants of ecotourists in order to ensure the viability of ecotourism. It is, therefore, vital to understand ecotourists' perceptions and motivations (cf. 2.5.3).
- The principles of ecotourism include the following (cf. 2.5.4):
 - Ecotourism must occur in a natural setting.
 - Ecotourism is a non-consumptive form of tourism.
 - Tourists and local communities should be made aware of environmental impacts through education and interpretation.
 - Ecotourism must provide the tourist with an enlightening (enriching/educational /informative) experience of nature and the local culture.
 - The local community should be involved in the planning and management of ecotourism at a destination.
 - Long-term economic benefits must accrue to the local community; in other words, a balance must be kept between economic advancement and the ecology.
 - Negative environmental, social and economic impacts must be minimised, and positive impacts must be maximised.

6.2.1.5 Wildlife tourism

- Wildlife tourism can be defined as an area of overlay between nature-based tourism, ecotourism, consumptive and non-consumptive use of wildlife, rural tourism and human

relationships with wildlife. Wildlife tourism is based on encounters with non-domestic animals (cf. 2.6.1).

- Wildlife tourism can be categorised as consumptive versus non-consumptive, captive versus free-ranging and wildlife-dependent versus wildlife-independent (cf. 2.6.2):
 - Consumptive versus non-consumptive: Consumptive activities involve the capture or killing of target animals (hunting and fishing). In non-consumptive activities, such as wildlife photography, animals are neither killed nor captured.
 - Captive versus free-ranging: Captive settings are where animals are observed in aviaries, zoos, oceanariums and aquariums. Free-range settings resemble national parks, game reserves, wildlife sanctuaries, migratory routes and feeding and drinking sites.
 - Wildlife-dependent versus wildlife-independent: Wildlife-dependent activities have the deliberate intention and expectation of seeing or interacting with wildlife in the destination area, while wildlife-independent activities involve tourists who travel without the specific intention of experiencing, viewing or interacting with wildlife.
- The wildlife tourism product comprises several components to enhance the tourist experience, namely the attractions, the facilities, the accessibility, the image and the price of the product (cf. 2.6.3).
- The wildlife tourist experience is influenced by either the richness or intensity of an encounter or the control of an encounter (cf. 2.6.4).
- Wildlife tourists (consumptive and non-consumptive) have different motives or reasons for travelling. These reasons are not driven by a single motive but a multidimensional set of interrelated, interdependent and overlapping motives (cf. 2.7).

6.2.2 Conclusions with regard to the literature analysis of the impacts of natural area tourism

The following conclusions are drawn from Chapter 3 regarding the impacts natural area tourism has. Strategies were also identified to reduce or prevent the negative impacts natural area tourism may have on the natural environment. The general conclusion with regard to the impacts of natural area tourism is as follows:

- Natural area tourism has impacts in the economic, socio-cultural and environmental sectors of an area (cf. 3.2).

6.2.2.1 Economic impacts

- The economic impacts of natural area tourism can be grouped into three categories, namely direct, indirect and induced impacts (cf. 3.2.1).

- Positive economic impacts of natural area tourism are export, small, medium and micro-enterprise opportunities, employment opportunities, economic development, the redistribution of wealth and the earning of government revenue. Inflation, leakages, the over-dependency of an economy and unemployment are negative economic impacts of natural area tourism (cf. 3.2.1).

6.2.2.2 Socio-cultural impacts

- Social and cultural impacts occur when people from different cultures encounter one another (cf. 3.2.2).
- Factors such as beliefs, values and behaviours influence the interactions among different parties (cf. 3.2.2).
- Positive socio-cultural impacts that natural area tourism accounts for are the development of cultural awareness, the preservation of history and local heritage, the promotion of international peace, the enhancement of cultural traditions and the improvement of infrastructure and public services for the local community. Negative outcomes of natural area tourism account for the importing of foreign workers, antagonism, the westernisation and modification of the local culture, staged authenticity and health issues (cf. 3.2.2).

6.2.2.3 Environmental impacts

- The environment consists of the natural environment, the farmed environment, the built environment, natural resources and wildlife (cf. 3.2.3).
- The impacts of tourism on the environment can positive or negative (cf. 3.2.3).

Negative environmental impacts

- Negative impacts occur when tourists' (consumptive and non-consumptive) level of use is greater than the environment's ability to cope with the use within acceptable limits of change, thereby gradually destroying the resources on which wildlife tourism depends (cf. 3.2.3.1).
- Natural area (wildlife) tourism causes impacts to an area with regard to natural resources, pollution and physical impacts as a result of uncontrolled activities and the rapid growth of the industry (cf. 3.2.3.1).
- Natural resources include water resources, local resources and land and can be negatively affected by tourism in the following ways (cf. 3.2.3.1):
 - Water resources: When the natural area tourism industry overuses water either at accommodation facilities, such as lodges, or by the tourists who visit these places through personal hygiene, this results in water shortages or a degradation of the freshwater supplies.

- Local resources: A negative impact is exerted on local resources when a resource, such as the energy supply, is being put under pressure through, for example, food preparation, the facilities itself or the seasonal character of the industry.
- Land: When land, usually in natural areas, is cleared of vegetation for the construction of tourist facilities, such accommodation, paths and roads, it can disturb the natural wildlife and also cause land degradation in terms of degradation of the minerals found in the soil, the loss of fertile soils and the depletion of the underground water supply.
- Pollution can occur in the form of water pollution, air pollution, noise pollution, solid waste and littering, sewage and aesthetic pollution (cf. 3.2.3.1).
 - Water pollution happens when wastewater from accommodation facilities, kitchens and other installations is discharged into the groundwater system of an area.
 - Air pollution is related to automobiles, in the form of carbon monoxide released by these vehicles, which, in turn, causes acid rain, global warming and photochemical pollution.
 - Noise pollution, occurring as a result of aeroplanes, cars, buses, recreational vehicles and activities such as hunting, causes stress to wildlife in protected or sensitive areas, such as national parks and game reserves.
 - Pollution in the form of littering and solid waste produced by high concentrations of wildlife tourists in a specific area, such as a lodge can have a negative impact on the surrounding environment.
 - The releasing of sewage, as a result of the construction of lodges, recreational areas or campsites, causes wastewater to pollute the underground water bodies and surrounding tourist attractions, thereby damaging the natural fauna and flora.
 - Aesthetic pollution (also architectural or visual pollution) occurs as a lack of land use planning, when tourism facilities and infrastructures, such as roads, parking areas, service areas and waste-disposal facilities, are designed and built in a form that clashes with the surrounding environment.
- Physical impacts are the result of the development and activities of natural area tourism (cf. 3.2.3.1).
 - The development of accommodation, restaurants and recreation facilities causes soil erosion, land degradation, loss of wildlife habitats and deterioration of the scenery.
 - Vegetation trampling and wildlife disturbance are the result of natural area tourism activities.
- Negative environmental impacts are grouped as either direct or indirect impacts and further classified as random or predictable, local or widespread, temporary or permanent and short-term or long-term impacts, according to their nature (cf. 3.2.3.1).

Positive environmental impacts

- Many positive environmental impacts also occur as a result of natural area tourism.

- Nature conservation, the improvement of degraded and disturbed areas, the improvement and protection of biodiversity, the establishment or expansion of national parks or game reserves and the creation of wildlife reserves are all examples of positive environmental impacts of natural area tourism (cf. 3.2.3.2).

6.2.2.4 Management of the negative impacts of wildlife tourism (consumptive and non-consumptive)

- The following models have been developed to minimise the negative impacts of tourism in natural areas (cf. 3.3.1):
 - The Recreation Opportunity Spectrum (ROS) model presents various categories of land use management, from primitive to urban. It also identifies site characteristics that influence opportunities for recreation.
 - The Limits of Acceptable Change (LAC) model is used to determine the acceptable conditions of an area by incorporating social, economic and environmental dimensions.
 - The Tourism Opportunity Spectrum (TOS) model is a modification of the ROS and takes a variety of tourism opportunities into account.
 - The Ecotourism Opportunity Spectrum (ECOS) model is based on the existing models of the ROS and the TOS and concentrates specifically on opportunities for ecotourism and wildlife tourism at destinations.
- Landscaping and the designing of facilities should be completed in an environmentally sensitive manner in order to maintain the ambience of the environment and to ensure an authentic experience for the visitor (cf. 3.3.2).
- Low-impact construction not only plays a role in reducing the negative environmental impacts but also reduces operational costs in the long term (cf. 3.3.2).
- Site and visitor management strategies should be used to minimise negative impacts, such as vegetation trampling, trail erosion and visitor crowding, in specific areas. Site management includes strategies such as the control of visitor movement, infrastructure design and zoning to control the way in which an area will be used by visitors. Visitor management strategies, on the other hand, include managing the number of visitors, placing limitations on usage and promoting education and interpretation to influence the behaviour of visitors (cf. 3.3.3).
- It is important for establishments of wildlife tourism to implement eco-efficient practices in order to contribute to the long-term well-being of the environment. The key areas of eco-efficiency are energy management, water management and waste management (cf. 3.3.4).
- Energy management includes insulating roofs and heating pipes and making use of energy-saving equipment, natural ventilation and renewable energy sources, such as solar and wind energy (cf. 3.3.5).

- Waste management is based on the three Rs – reduce, reuse and recycle. These principles, together with choosing biodegradable products, contribute to the maintenance of a litter-free environment and help avoid environmentally hazardous substances (cf. 3.3.6).
- Water management practices include the installation of rainwater tanks, repairing leaks, the use of greywater for irrigation and landscaping, the installation of low- or dual-flush toilets, making use of water-efficient washing and dishwashing machines and the placing of water-saving information cards in rooms, such as “please close the tap when brushing teeth/washing face” (cf. 3.3.7).

6.2.3 Conclusions with regard to the empirical results of the research

The following conclusions have been drawn from Chapter 5 regarding the empirical results of the research. The conclusions are divided into two sections. The first provides conclusions drawn from the perspective of the reserve management (supply side) and the second the conclusions drawn from the wildlife tourists’ perspective (demand side).

6.2.3.1 Management (supply side)

The conclusions based on the findings of the reserve management (Table 6.1) regarding the environmental impacts of the lodges hosting the consumptive and non-consumptive wildlife tourists are categorised according to specific aspects of environmental impact. These categories are lodge profile, employment, food prepared on a daily basis, water usage, electricity usage, waste generated, air pollution, soil compaction and vegetation damage, disturbance of wildlife, recycling, education and funding for conservation and improvement of the natural environment.

Table 6.1: Environmental impacts of both lodges (consumptive and non-consumptive) as perceived by the game reserve management

Aspects measured	Consumptive wildlife tourists	Non-consumptive wildlife tourists	Impact differences
Lodge profile	An estimate of 50 visitors per year to the lodge, with a return rate of 40-50% of these visitors. Six rooms that can accommodate 12 people at a time, with an average stay of 7 to 14 days.	An estimate of 14 600 visitors to the lodge per year, with a return rate of 4-7% of these visitors. There are 23 rooms that can accommodate 50 people at a time with an average stay of one day.	The difference lies in the fact that the consumptive tourist lodge has fewer visitors per year, with a high return rate. Furthermore, the lodge has only a few rooms that can accommodate a small number of people. Therefore, the potential of the lodge to make an environmental impact is less. The non-consumptive tourist lodge has more

Aspects measured	Consumptive wildlife tourists	Non-consumptive wildlife tourists	Impact differences
			visitors per year, with a low return rate. Furthermore, the lodge has more rooms and can accommodate a large number of people. Therefore, the potential of the lodge to make a bigger environmental impact than the hunting lodge is much higher.
Employment	Eight people are employed on a permanent basis.	Thirty people are employed on a permanent basis.	The difference lies in the fact that the non-consumptive tourist lodge has, on average, four times more employees than the consumptive tourist lodge. Therefore, the non-consumptive tourist lodges contribute more to the socio-economic impact on the area.
Daily food preparation	Two meals prepared daily.	Three meals prepared daily.	The difference lies in the fact that an extra meal per day is prepared at the non-consumptive tourist lodge. Therefore, there is an increased usage of resources, such as water and electricity, at this lodge, which in turn contributes to more environmental impacts.
Water usage	A small volume of water usage as a result of daily chores such as food preparation and general cleaning.	A large volume of water usage as a result of daily cleaning of bedding, linen and towels.	Both lodges contribute to water usage. But the consumptive wildlife tourist lodge accommodates fewer people per day and per year. Therefore, overall, it uses less water.
Electricity usage	The tourists have little to no negative impact as perceived from management.	Air-conditioning units and lights that are not switched off when the tourists leave their room.	The difference lies in the fact that the non-consumptive tourist lodge contributes towards high electricity usage as a result of appliances that are not switched off when the tourists are not in the room. The non-consumptive tourist lodge accommodates more people per day and per

Aspects measured	Consumptive wildlife tourists	Non-consumptive wildlife tourists	Impact differences
			year, which also results in higher electricity usage than the consumptive tourist lodge.
Waste generated	The tourists mostly contribute towards waste that consists of tin and the accumulation of greywater.	The tourists mostly contribute towards waste that consists of tin, plastic, paper and personal waste, as well as the accumulation of greywater.	The difference lies in the fact that the consumptive tourist lodge to a lesser extent contributes to waste because of fewer people per day and per year. Therefore, less waste is generated.
Air pollution	The tourists' indirect contribution as a result of possible CO2 emissions released through the use of one hunting vehicle.	The tourists' indirect contribution as a result of possible CO2 emissions released through the use of six game drive vehicles.	The difference lies in the fact that the non-consumptive tourist lodge the potential have to contribute to five times more air pollution than the consumptive tourist's lodge.
Soil compaction and vegetation damage	The tourists' direct contribution as a result of driving in the veld with the hunting vehicle in search of game to hunt.	The tourists' direct contribution as a result of six vehicles used for going on game drives twice a day.	Both lodges contribute to soil compaction and vegetation damage. The consumptive tourist lodge has a smaller impact due to fewer vehicles that are used for activities.
Disturbance of wildlife	The tourists disturb wildlife as a result of hunting.	The tourists disturb wildlife as a result of the noise made while going on game drives.	Both lodges contribute to wildlife disturbance. The consumptive wildlife tourists' disturbance is more specific and on a shorter time scale due to animals being hunted, whereas non-consumptive wildlife tourist's disturbance longer last due to the number of game drives being done on a daily basis, the duration of each game drive, and the unnecessary noise made by the non-consumptive wildlife tourists during a game drive as a result of the selfish behaviour these tourists displays
Recycling	All left-over food is recycled. All greywater is recycled by means	All left-over food is recycled. All greywater is recycled by means of a	Recycling and waste management do take place at both lodges.

Aspects measured	Consumptive wildlife tourists	Non-consumptive wildlife tourists	Impact differences
	of a French drain system and then reused in the lodge garden. All plastics (e.g., water bottles) have been replaced with aluminium ones. The tourists' non-recyclable products are taken to a dumpsite once a week.	French drain system and then reused in the lodge garden. The tourist lodge is in the process of minimising all plastic products. The tourists' non-recyclable products are taken to a dumpsite every day.	
Education	Takes place through the professional hunters and hunting guides.	Takes place through the museum, which is under construction, and signage, pamphlets and safari guides.	Difference lies in the fact that the consumptive wildlife tourist's education more intense is because of a smaller group and the fact that the hunting guide and professional hunter constantly in contact is with the consumptive wildlife tourist throughout the entire day, whereby the non-consumptive wildlife tourists only educated is for the duration of the game drive which last approximately three hours.
Funding for conservation and improvement of the natural environment	Through the accommodation and species hunted.	Mostly through accommodation.	No difference. Both lodges generate funding for the management and running of the lodges, which helps conservation and the improvement of the natural environment at the game reserve. The consumptive wildlife tourists spend on average US\$25 519 per hunter per visit, while the non-consumptive wild tourists spend on average US\$ 1 476 per tourist per visit.

6.2.3.2 Wildlife tourists (demand side)

Conclusions are drawn regarding the wildlife tourists' (demand side – consumptive and non-consumptive) perceptions based on the demographic profile of the wildlife tourists, the environmental impacts of the wildlife tourists at the game reserve and the wildlife tourists' personal environmentally friendly behaviour at home.

6.2.3.2.1 Demographic profile of the wildlife tourists (consumptive and non-consumptive)

In Table 6.2, conclusions with regard to the demographic detail of the wildlife tourists at the game reserve in terms of gender, average age, country of residence, language spoken, marital status, level of education, occupation, group size, length of stay, return visits, motivations for visiting the game reserve, average spending, preferred travel destination and highlights of visiting the game reserve are presented.

Table 6.2: Demographic profile of the wildlife tourists (consumptive and non-consumptive)

Aspects measured	Consumptive wildlife tourists	Non-consumptive wildlife tourists	Differences	Similarities
Gender	Male (90%)	Female (80%)	Most of the consumptive wildlife tourists (hunters) are men, while the non-consumptive wildlife tourists (ecotourists) are more equally divided between male and female.	
Average age	55 years	52 years		The average age is similar.
Country of residence	USA (80%); Canada (20%)	Namibia (40%); Germany (60%)	The consumptive wildlife tourists are all international tourists, while the majority of the non-consumptive wildlife tourists also out of international tourists consist.	
Language spoken	All English	German (80%) English (20%)	The majority of the non-consumptive wildlife tourists speak German.	
Marital status	80% of the respondents are married	80% of the respondents are married		The majority of wildlife tourists are married.

Aspects measured	Consumptive wildlife tourists	Non-consumptive wildlife tourists	Differences	Similarities
Level of education	Tertiary qualification	Higher education qualification	It seems that consumptive wildlife tourists have, on average, better qualifications than the non-consumptive wildlife tourists.	
Occupation	Professional occupation	Professional occupation		Both wildlife tourist groups are in professional occupations.
Group size	2,6 people	3 people	The size of the consumptive wildlife tourist group is smaller.	
Length of stay	13,2 nights	8,2 nights	Consumptive wildlife tourists stay longer.	
Return visits for the past three years	2,5 times	2,6 times		The return rate for both wildlife tourist groups is almost identical. This is different from what the management said (supply side).
Motivations for visiting the game reserve	To hunt, to see animals and to relax	To relax and go on game drives		Both groups of wildlife tourists have multiple motivations for visiting the reserve.
Average spending	US\$ 25 519 per hunter per visit, of which US\$13 509 is spent on accommodation and US\$12 010 on species hunted	US\$ 1 476 per tourist per visit; this amount includes accommodation and additional activities such as game drives	The consumptive wildlife tourists spent on average 17 times more per visit to the game reserve than the non-consumptive wildlife tourists.	
Preferred travel destinations	Natural areas	Natural areas		Both groups of wildlife tourists prefer natural areas as holiday destinations.

Aspects measured	Consumptive wildlife tourists	Non-consumptive wildlife tourists	Differences	Similarities
Highlights of visiting the game reserve	The diversity of animals, seeing a new country and helping the local community through the revenue hunting generates	The abundance of wildlife and the variety of activities on offer at the tourist lodge		Both groups of wildlife tourists have multiple highlights in their visit to the reserve.

6.2.3.2.2 Perceptions of wildlife tourists (consumptive and non-consumptive) regarding their environmental impacts at the game reserve

- a) Conclusions regarding perceptions of the use of water and electricity, new consumables in the bathrooms and the cleaning of linen and towels as paying guests at the game reserve

These conclusions are presented in table form below.

Table 6.3: Perceptions of wildlife tourists (consumptive and non-consumptive) regarding the use of water and electricity, new consumables in the bathrooms and the cleaning of linen and towels as paying guests at the game reserve

Aspects measured	Consumptive wildlife tourists	Non-consumptive wildlife tourists	Impact differences
Water and electricity usage	They indicated that they conserved the use of water and electricity while at the lodge.	They indicated that they conserved the use of water and electricity while at the lodge.	Both wildlife tourist groups were of the opinion that they conserved water and electricity use while at the game reserve. With regards to non-consumptive wildlife tourism, management perceived that the non-consumptive wildlife tourists have a higher water and electricity use at the game reserve than the consumptive wildlife tourists.
Consumables in the bathroom	They indicated that they mostly used their own consumables while staying at the lodge.	The majority indicated that they used their own consumables while staying at the lodge.	No difference. Both wildlife tourist groups were of the opinion that they used their own consumables while at the game reserve.
Daily cleaning of linen and towels	They indicated that it was not necessary to clean these items on a daily basis while	They indicated that the daily cleaning of towels was necessary, but not the cleaning of linen	The difference lies in the fact that the non-consumptive wildlife tourists wanted their towels to be cleaned daily, which leads to an increase in

Aspects measured	Consumptive wildlife tourists	Non-consumptive wildlife tourists	Impact differences
	staying at the lodge.	while staying at the lodge.	water consumption at the non-consumptive tourist lodge.

b) Conclusions regarding perceptions on soil loss or erosion, water pollution, vegetation loss, the disruption of wildlife, water usage, air pollution, energy usage and the depositing of litter while at the game reserve

These conclusions are presented in table form below.

Table 6.4: Perceptions of wildlife tourists (consumptive and non-consumptive) regarding their impact on soil loss or erosion, water pollution, vegetation loss, disruption of wildlife, water usage, air pollution, energy usage and the depositing of litter while at the game reserve

Aspects measured	Consumptive wildlife tourists	Non-consumptive wildlife tourists	Impact differences
Soil loss or erosion	Minimal impact – stayed on established roads while driving in the reserve.	Minimal impact – stayed on established roads and paths in the reserve.	Both wildlife tourist groups are of the opinion that they have minimal impact on soil loss or erosion. Management perceives the non-consumptive wildlife tourist impact on soil loss and erosion as more, due to more people visiting the game reserve per day, as well as, more daily activities such as game drives etc.
Water pollution	Minimal impact – greywater from normal washing and bathroom use is treated and cleaned via a French drain system.	Minimal impact – greywater from the use of consumables (soap, shampoo, etc.) in the bathrooms is treated and cleaned via a French drain system.	Both wildlife tourist lodges have French drain systems that clean all greywater to prevent possible water pollution. Management perceives the non-consumptive wildlife tourist impact on water pollution as higher due to more accommodation units at the lodge and it receives more people on a daily basis which means more daily chores like washing, cleaning and cooking for the guests.

Aspects measured	Consumptive wildlife tourists	Non-consumptive wildlife tourists	Impact differences
Vegetation loss	Some impact – the cutting of branches for camouflaging the hunting blinds and when animals need to be recovered in the veld after a hunt.	Minimal impact – stayed on demarcated tracts and trails during game drives and hiking trails.	Both wildlife tourist groups are of the opinion they have minimal impact on the vegetation.
Disruption of wildlife	Some impact – walking through the veld and firing at game make animals skittish.	Minimal impact – game drive guides approach animals slowly and cautiously.	The difference lies in the fact that the consumptive wildlife tourists have a bigger impact on wildlife disturbance because of their hunting activities. This is different from management (supply side), as management perceives the non-consumptive wildlife tourists to have a bigger impact on wildlife disturbance due to more game drives per day and the tourist's selfish behaviour by making unnecessary noise while on the game drives.
Water usage	Minimal impact – normal consumption of water and use for basic hygiene.	Minimal impact – close taps when brushing teeth.	Both wildlife tourist groups are of the opinion they have conserved water at the game reserve through their behaviour. This is different from management (supply side), as management perceives the non-consumptive wildlife tourist's water use as high, due to a selfish behaviour, such as insisting the use of the jacuzzi, which uses a lot of water during drought periods.
Air pollution	Some impact – driving around in the hunting vehicle because the hunting area is big.	Some impact – driving around in the safari vehicle on game drives.	Both wildlife tourist groups acknowledge they have had a possible air pollution impact as a result of the CO ² emissions released by vehicles used. The difference lies in the fact that the non-consumptive wildlife tourists' impact higher is due to more vehicles operating per day.
Energy usage	Some impact – the running of lights, charging of camera batteries and occasional use of	Some impact – the use of appliances such as the air-conditioning system, television and lights in the room.	Both wildlife tourist groups have contributed to electricity use. Management perceives that the non-consumptive wildlife tourist's energy use higher is, due to more

Aspects measured	Consumptive wildlife tourists	Non-consumptive wildlife tourists	Impact differences
	the air-conditioning system in the room.		accommodation units (more appliances) and more people.
Depositing of litter	Minimal impact – the daily use of the aluminium water bottle provided by the lodge.	Minimal impact – took most of their litter with them back home.	Both wildlife tourist groups are of the opinion that they have reduced the amount of litter as a result of personal behaviour and actions. The difference lies in the fact that the accumulation of litter on a daily is more at the tourist's lodge, as a result of larger groups as in the case at the hunting lodge.

c) Conclusions regarding personal behaviour at the lodge to help minimise potential impacts on nature

The majority of the consumptive and non-consumptive wildlife tourists have indicated that they:

- agree to strongly agree regarding behaviour that has minimal impact on the natural environment at the game reserve (lodge), such as no food being wasted during meals, switching off unnecessary appliances and lights when not in the room and conserving water; and
- strongly disagree to disagree regarding behaviour that might have a negative effect on the natural environment at the game reserve (lodge), such as not wasting water by running taps when brushing one's teeth or washing one's face and the washing of laundry and cleaning of linen on a daily basis.

The personal behaviour of most of the consumptive and non-consumptive wildlife tourist leans towards minimising their impact on the natural environment at the game reserve (lodge).

d) Conclusions regarding perceptions of personal contributions towards a greener environment and conservation at the game reserve

Table 6.5: Perceptions of wildlife tourists (consumptive and non-consumptive) regarding personal contributions towards a greener environment and conservation at the game reserve

Aspects measured	Consumptive wildlife tourists	Non-consumptive wildlife tourists	Impact differences
Behavioural contributions	They close the taps while brushing their teeth and washing their face. They use the aluminium water bottle provided by the lodge. They did not bring any litter to the game reserve.	They did not litter. They did not disturb wildlife unnecessarily. They tried to conserve water as much as possible. They did not bring any litter to the game reserve.	Both wildlife tourist groups believe they contribute to the conservation of the environment as a result of good behaviour. Management perceptions differ from that of non-consumptive wildlife tourists, as these tourists display selfish behaviour, regardless of the impact they might have on the environment.
Financial contributions	Money generated through hunting is used to pay salaries, to do general maintenance at the lodge, to support the local community, to buy additional feed for wildlife and for anti-poaching operations.	Money generated through the tourists is used to buy additional feed for wildlife, to pay salaries of employees, for general maintenance at the lodge and for conservation.	Both wildlife tourist groups are of the opinion they have financially contributed to the game reserve. The consumptive wildlife tourists, although smaller in group size, contribute more per person than the non-consumptive wildlife tourist.

e) Conclusions on the perceptions of consumptive and non-consumptive wildlife tourists regarding the contributions of their lodge towards conservation and greener practices at the game reserve

These conclusions are presented in table form below.

Table 6.6: Perceptions of wildlife tourists (consumptive and non-consumptive) regarding how their lodge contributes towards conservation and greener practices at the game reserve

Aspects measured	Consumptive wildlife tourists	Non-consumptive wildlife tourists	Impact differences
Recycling	The staff helps to recycle. Tourists are provided with aluminium water bottles to prevent the use of plastic water bottles. Receptacles in the rooms.	The tourists are not sure of recycling and how it is done at the lodge.	The difference lies in the fact that the non-consumptive wildlife tourists are unaware of how recycling takes place at the non-consumptive tourist lodge. Therefore, more attention should be paid to recycling at the non-consumptive tourist lodge.
Conserving electricity	There is an active approach to conserve energy at the lodge	There is an active approach to conserve energy, for example the installation of solar	Both lodges have strategies to conserve electricity at the game reserve.

Aspects measured	Consumptive wildlife tourists	Non-consumptive wildlife tourists	Impact differences
	due to management actions.	lights and warm-water systems at each room.	
Conserving water	There is an active approach to conserve water at the lodge due to management actions, such as reminding the tourists to help save water through the placing of water-saving guidelines in the rooms. The small pool and small lawn of the lodge also assist with conserving water.	Management should put more emphasis on conserving water at the lodge. The big pool and lawn of the lodge use a lot of water.	The difference lies in the fact that although both lodges have a swimming pool and lawn that use water, the lawn at the non-consumptive tourist lodge is much bigger than the one at the consumptive tourist lodge. The consumptive tourist lodge has guidelines to help save water. The non-consumptive lodge has no guidelines for tourists to help save water. Thus, more emphasis should be placed on water-saving strategies by management.
Waste disposal system	There is an active approach from management regarding the disposal of waste, such as the provision of receptacles in each room.	There is an active approach from management regarding the disposal of waste, such as the provision of receptacles in each room.	No difference. Both lodges help to reduce waste through a sufficient number of receptacles at each lodge.
Habitat degradation and loss of biodiversity due to overutilisation of natural resources	The active approach of management in using sustainable hunting practices and the rehabilitation of the roads (packing stones) in areas where soil erosion occurs prevents habitat degradation and the loss of biodiversity.	The active approach of management of doing proper planning regarding the natural area around the lodge prevents habitat degradation and the loss of biodiversity.	No difference. Both lodges help to minimise habitat degradation and the loss of biodiversity through action plans and good management.

6.2.3.2.3 Perceptions of wildlife tourists (consumptive and non-consumptive) regarding personal environmentally friendly behaviour at home

a) Conclusions regarding personal behaviour at home to help minimise potential impacts on nature

The majority of the consumptive and non-consumptive wildlife tourists have indicated that they:

- agree to strongly agree regarding behaviour that has minimal impact on the natural environment at home, such as no food being wasted during meals, switching off unnecessary appliances and lights when leaving the room, disposing litter and conserving water; and
- disagree to strongly disagree regarding behaviour that might have a negative effect on the natural environment at home, such as not wasting water by running taps when brushing one's teeth or washing one's face and the washing of laundry and cleaning of linen on a daily basis.

The personal behaviour of most of the consumptive and non-consumptive wildlife tourists leans towards minimising their impact on the natural environment at home.

b) Conclusions regarding recycling, systems, appliances and water-saving measures at home to help minimise potential impacts on the environment (Table 6.7)

These conclusions are presented in table form below.

Table 6.7: Wildlife tourists' (consumptive and non-consumptive) recycling, systems, appliances and water-saving measures at home to help minimise potential impacts on the environment

Aspects measured	Consumptive wildlife tourists	Non-consumptive wildlife tourists	Impact differences
Recycling methods	Variety of recycling methods.	Basic recycle methods.	Both tourist groups recycle at home.
Systems and appliances installed at home to help conserve energy	Advanced systems and appliances to help conserve energy and reduce energy use.	Basic systems and appliances to help conserve energy and reduce energy use.	The consumptive wildlife tourists have more energy-efficient appliances, programable thermostats to regulate the heating and cooling system of the house and energy-saving lights. The non-consumptive wildlife tourists only have energy-saving lights.
Water-saving measures at home	Low-flow showerheads and low-flow toilets to help conserve water and reduce water use.	No water-saving measures.	The difference lies in the fact that the consumptive wildlife tourists have a variety of water-saving measures installed at home to help conserve water and reduce water use. The non-consumptive wildlife tourists have little to no water-saving measures installed at home to help conserve

Aspects measured	Consumptive wildlife tourists	Non-consumptive wildlife tourists	Impact differences
			water and reduce water use.

c) Conclusions regarding organisations the wildlife tourists belong to at home that help towards nature conservation

As indicated in Chapter 5, all of the consumptive wildlife tourists belong to one or more conservation organisations, while 90% of the non-consumptive wildlife tourists indicated that they did not belong to any conservation organisation. This indicates that the consumptive wildlife tourist more orientated is towards the conservation of nature and wildlife, than the non-consumptive wildlife tourist.

d) Conclusions regarding the perceptions of the wildlife tourists on how they see themselves as a conservationist

The consumptive wildlife tourists indicated that they contributed towards conservation by means of the money they spent on hunting and fishing licences, while the non-consumptive wildlife tourists indicated that their positive behaviour helped to contribute towards conservation at home.

Regarding the above information, the following conclusion can be made: the impact of the consumptive wildlife tourists on the environment at the game reserve leans towards minimal impact (small lodge, fewer people, longer stay and higher spending), while the non-consumptive wildlife tourists, on the other hand, have a more severe impact on the environment (bigger lodge, more people, shorter stay and less spending). Thus, the consumptive wildlife tourist is therefore a better market with regards to wildlife-based tourism as these tourist impacts on the natural environment minimal is.

The following section focuses on the recommendations made from the research.

6.3 RECOMMENDATIONS FROM THE RESEARCH

The recommendations are divided into three sections. The first focuses on the recommendations to help minimise potential environmental impacts as a result of consumptive wildlife tourism at the game reserve. The second section focuses on recommendations with regard to non-consumptive wildlife tourism at the game reserve, and the last section focuses on recommendations for future studies.

6.3.1 Recommendations with regard to consumptive wildlife tourism at the game reserve

The following recommendations are for the management of the game reserve, which could be implemented to minimise potential negative environmental impacts as a result of consumptive wildlife

tourism at the game reserve. These recommendations are with regard to water use, electricity use, waste generated and recycling, air pollution, soil compaction and vegetation damage and the disturbance of wildlife.

Water use

- Consider the installation of low-flow showerheads, dual-flush toilets and waterless urinals in each accommodation unit.
- Install water-flow restrictors in the shower, bath and taps of each accommodation unit.
- Consider replacing big bathtubs with smaller ones.
- Place information cards in each room asking guests to use water sparingly and to reuse towels if possible.
- Consider the instalment of roof-fed rainwater tanks to collect stormwater for use in cleaning or landscaping.
- Redirect the used discharged water from washing machines to flush toilets.
- Create staff awareness about water efficiency.
- Install a water meter in the kitchen to monitor use.

Electricity use

- Replace all electrical lights with energy-efficient bulbs, which will result in a 50% saving in energy and costs.
- Consider installing solar water heaters for each accommodation unit, which can save 15 to 30% of the electricity costs.
- If feasible, consider the use of solar-powered energy for the entire lodge.
- Adjust the hot water thermostat on the geysers to below 50 °C rather than the normal +60 °C.
- Train staff to switch off lights and the air-conditioning system in rooms that are unoccupied.

Waste generated and recycling

- Buy biodegradable products, such as bin liners and bags.
- Use biodegradable soaps and detergents for general cleaning and the washing of bedding, linen, towels, and so forth.
- Introduce different separation bins for wet waste, plastics, glass, tin and paper, as well as specialised bins for printer and copier toners and batteries.
- Regularly maintain, clean and replace kitchen grease traps.
- Recycle all cooking oils if possible.
- Initiate a recycling programme, such as the set-up of an earthworm farm, where all organic materials from the kitchen, such as peels, are broken down by the earthworms into compost,

which can be used in the garden for landscaping. The juice or “earthworm tea” generated by earthworms can also be used as organic fertiliser in the herb and vegetable garden of the lodge.

- See to it that there are sufficient animal-proof receptacles placed on the premises of the lodge to reduce littering. Line these bins with biodegradable bin liners.
- Avoid procuring plastic-based products that contribute to high levels of pollution; rather use paper bags that are made from recycled products.

Air pollution

- Consider replacing current hunting vehicles with more modern vehicles which limit their CO₂ emissions, or if feasible, introduce electric-powered (hybrid) hunting vehicles.

Soil compaction and vegetation damage

- Consider using artificial pop-up blinds for hunting that can be taken down after the hunt, which will result in less vegetation damage.
- Educate the hunting guides about their do's and don'ts from where they are allowed to drive and where not. They should avoid driving in areas where protected or threatened plant species grow, as well as in sensitive areas, such as wetlands and dry riverbeds.

Disturbance of wildlife

- Ensure that consumptive wildlife tourists use rifles that are equipped with compressors (silencers) for hunting. The hunters can make use of one of the professional hunters' rifles or, if hunters prefer to hunt with their own rifle, this matter should be brought to their attention before they arrive at the reserve.

6.3.2 Recommendations with regard to non-consumptive wildlife tourism at the game reserve

The following recommendations are for the reserve management, which could be implemented to minimise potential negative environmental impacts as a result of non-consumptive wildlife tourism at the game reserve. These recommendations are with regard to water use, electricity use, waste generated and recycling, air pollution, soil compaction and vegetation damage and the disturbance of wildlife.

Water use

- Consider the installation of low-flow shower-heads, dual-flush toilets and waterless urinals in each accommodation unit.

- Install water-flow restrictors in the shower and taps of each accommodation unit.
- Place information cards in each room asking guests to use water sparingly and to reuse towels if possible.
- Consider the instalment of roof-fed rainwater tanks to collect stormwater for use in cleaning or landscaping.
- Acquire water-efficient washing machines and dishwashers.
- Redirect the used discharged water from washing machines to flush toilets.
- Put timers on sprinklers that water the lawn and garden to ensure water-usage control.
- Water the garden at cooler times of the day when there is less evaporation.
- Create staff awareness about water efficiency.
- Install a water meter in the kitchen to monitor use.

Electricity use

- Replace all electrical lights with energy-efficient bulbs, which will result in a 50% saving in energy and costs.
- Consider installing motion-censored lights in each room that switch off automatically if no one is in the room.
- If feasible, install wireless key card readers in each room to turn off unnecessary lighting in the room.
- Adjust the hot water thermostat on the geysers to below 50° C rather than the normal + 60° C.
- Use energy-efficient dishwashers and washing machines.
- Train staff to switch off lights and the air-conditioning system in rooms that are unoccupied.

Waste generated and recycling

- Buy biodegradable products, such as bin liners and bags.
- Use biodegradable soaps and detergents for general cleaning and for the washing of bedding, linen, towels, and so forth.
- Reduce waste by buying bulk.
- Introduce different separation bins for wet waste, plastics, glass, tin and paper, as well as specialised bins for printer and copier toners and batteries.
- Regularly maintain, clean and replace kitchen grease traps.
- Recycle all cooking oils if possible.
- Initiate a recycling programme, such as the set-up of an earthworm farm, where all organic materials from the kitchen, such as peels, are broken down by the earthworms into compost, which can be used in the garden for landscaping. The juice or “earthworm tea” generated by

earthworms can also be used as organic fertiliser in the herb and vegetable garden of the lodge.

- See to it that there are sufficient animal-proof receptacles placed on the premises of the lodge to reduce littering. Line these bins with biodegradable bin liners.
- On arrival, provide tourists with aluminium water bottles that they can reuse for drinking.
- Ensure safe waste disposal by properly fencing off dumpsites.
- Allow the local community to collect all glass bottles, tin cans, plastic and paper products, which they can sell to recycling companies or use to make crafts out of and sell to the wildlife tourists (consumptive and non-consumptive) visiting the reserve.
- Avoid procuring plastic-based products that contribute to high levels of pollution; rather use paper bags that are made from recycled products.
- Consider the introduction of reed-bed wastewater purification systems, which not only provide a habitat for wildlife, such as birds, amphibians and invertebrates, but also purify the wastewater and washing water before it is returned to the environment.

Air pollution

- Consider replacing the current game-viewing vehicles with modern vehicles that limit their CO₂ emissions or, if feasible, introduce electric-powered (hybrid) game-viewing vehicles.

Soil compaction and vegetation damage

- Regulate or restrict tourism activities in sensitive areas where vegetation with low resistance or resilience is to be found through the use of zoning.
- Educate visitors to stay on clearly marked trails and paths, and not to wander off unnecessarily, which can cause the development of informal trails, the deepening of trails, soil compaction and eventually, erosion.
- Make tourists aware of the potential negative impacts they may have on the environment regarding soil compaction and vegetation damage if they not adhere to the rules and regulations.

Disturbance of wildlife

- The guides should educate (inform) the tourists to limit unnecessary movement on the game drive vehicle and to reduce the noise level to the absolute minimum, so that animals could be approached closely, resulting in good photographing opportunities, game viewing and a unique experience.

6.3.3 Recommendations for future research

The following recommendations can be made about future research:

- Future research is recommended to determine the different carbon footprint impacts wildlife tourists (consumptive and non-consumptive) make on the natural environment.
- The opportunity also exists to do a comparative analysis study regarding the environmental impacts to which wildlife tourism contributes in other natural area destinations found in South Africa, Botswana and Zimbabwe.

6.4 LIMITATIONS OF THE STUDY

The following limitations were experienced in the study:

- The first limitation experienced was due to the COVID-19 pandemic. This pandemic caused world-wide lockdowns, which had a significant impact on the researcher's original method of research. The researcher had to adapt to the circumstances; consequently, online interviews were selected as the research method to conduct with the wildlife tourists (consumptive and non-consumptive). With online interviews, the researcher was limited to telephonic interviews (Skype and WhatsApp video calling), which restricted the number of respondents and the feedback from the respondents, whereas with face-to-face interviews, which should have been done at the game reserve as planned, more respondents could have been interviewed and better feedback could have been produced. The help of the game reserve management was needed in this regard to source potential consumptive and non-consumptive wildlife tourists. In the end, management provided the researcher with a list containing the names and contact details of potential respondents who had visited the reserve the previous three years. The researcher then contacted each person on the list via email and scheduled a time and date for the interview to be conducted. The interviews were conducted telephonically (through either Skype or WhatsApp video calling), depending on the respondent's preference. In the end, ten consumptive and ten non-consumptive wildlife tourists were interviewed.
- The second limitation concerns the language barrier that existed between the researcher and the non-consumptive wildlife tourists, as the majority of these tourists were from either Namibia or Germany and spoke German, while the researcher did not understand German. This factor had an impact on the interviews, as these were held in English. This could have been prevented if not for COVID-19, as the researcher would have been able to conduct on-site interviews with the help of a translator with a wider variety of non-consumptive wildlife tourists from around the world who were staying at the game reserve at that time.

6.5 CONCLUSION

This chapter concluded the study by providing the findings and drawing conclusions on the basis of the results. The study has achieved its overall aim by comparing the perceived environmental impacts of consumptive and non-consumptive wildlife tourism.

The results and findings should be considered within the limitations and scope of the study. The objectives of the study have been successfully achieved and the research problems have been successfully addressed. The study makes a contribution towards wildlife tourism literature and adds guidelines and recommendations to key players in this industry in order to help minimise the negative impacts on the environment and maximise the positive impacts, which will ensure a sustainable, high-quality, nature-based, value-for-money tourism experience.

REFERENCE LIST

- Adams, J., Khan, H.I.A., Raeside, R. & White, D. 2014. *Research methods for graduate business and social science students*. Los Angeles, CA: Sage.
- Adler, P.A. & Adler, P. 2011. *The tender cut: inside the hidden world of self-injury*. New York, NY: University Press.
- Ahmed, F., Moodley, V. & Sookrajh, R. 2008. The environmental impacts of beach sport tourism events: a case study of the Mr Price Pro Surfing Event, Durban, South Africa. *Africa Insight*, 38(3):73-85.
- Allan, M. 2014. Geotourism: the potential of geotourism development in the United Arab Emirates. *Anatolia*, 27(3):1-20.
- Allendorf, F.W. & Hard, J.J. 2009. Human-induced evolution caused by unnatural selection through harvest of wild animals. *Proceedings of the National Academy of Sciences of the United States of America*, 106(1):9987-9994.
- Andereck, K.L. 1993. The impacts of tourism on natural resources. *Parks and Recreation*, 28(6):26-32.
- Arabatsiz, G. & Grigoroudis, E. 2010. Visitors satisfaction, perceptions and gap analysis: the case of the Dadia-Lefkimi-Soufliou National Park. *Forest Policy and Economics*, 12(3):163-172.
- Baker, J.E. 1997. Trophy hunting as a sustainable use of wildlife resources in Southern and Eastern Africa. *Journal of Sustainable Tourism*, 5(4):306-321.
- Barnett, R. & Patterson, C. 2005. *Sport hunting in the Southern African Development Community (SADC) Region: an overview*. Johannesburg: TRAFFIC East/Southern Africa.
- Becken, S. & Hay, J.E. 2007. *Tourism and climate change: risks and opportunities*. Clevedon: Channel View.
- Beedie, P. 2013. Leaping into urban adventure: Orlando Bungee, Soweto, South Africa. *African Journal for Physical, Health Education, Recreation and Dance*, 18(3):55-71.
- Beeton, S. 1998. *Ecotourism: a practical guide for rural communities*. Collingwood: Landlink Press.
- Behrens, A. 2018. *Positive and negative impact of adventure tourism – pros and cons*. <https://positivenegativeimpact.com/adventure-tourism>. Date of access: 15 Feb. 2021.
- Bell, R. 2007. Rob Bell quotes. <http://www.goodreads.com/author/quotes/5344>. Date of access: 14 Oct. 2020.
- Belsoy, J., Korir, J. & Yego, J. 2012. Environmental impacts of tourism in protected areas. *Journal of Environment and Earth Science*, 2(10):64-72.

- Bennett, J.A. 2000. *Managing tourism services. Southern Africa perspective*. Pretoria: Van Schaik.
- Berndt, A. & Petzer, D. 2011. *Marketing research*. Cape Town: Pearson Education South Africa.
- Bjork, P. 2007. Definition paradoxes: from concept to definition. In: Higham, J., ed. *Critical issues in ecotourism: understanding a complex tourism phenomenon*. Oxford: Butterworth-Heinemann. pp. 24-45.
- Blamey, R.K. 2001. Principles of ecotourism. In: Weaver, D., ed. *The encyclopaedia of ecotourism*. New York, NY: Cabi. pp. 5-21.
- Blumberg, B., Cooper, D.R. & Schindler, P.S. 2008. *Business research methods*. 2nd ed. London: McGraw-Hill Higher Education.
- Bond, I., Child, B., De la Harpe, D., Jones, B., Barnes, J. & Anderson, H. 2004. Private land contribution to conservation in South Africa. In: Child, B., ed. *Parks in transition*. London: Earthscan. pp. 29-61.
- Boyd, S.W. & Butler, R.W. 1996. Managing ecotourism: an opportunity spectrum approach. *Tourism Management*, 17(8):557-566.
- Bryman, A. & Bell, E. 2007. *Business research methods*. Oxford: Oxford University.
- Buckley, R. 2006. *Adventure tourism*. Wallingford: CABI.
- Buckley, R. 2007. Adventure tourism products: price, duration, size, skill, remoteness. *Tourism Management*, 28(6):1428-1433
- Buckley, R. 2010. *Adventure tourism management*. Oxford: Elsevier.
- Buckley, R. 2012. Rush as a key motivation in skilled adventure tourism: resolving the risk recreation paradox. *Tourism Management*, 33(4):961-970.
- Burns, A.C., Bush, R.F. & Sinha, N. 2014. *Marketing research*. 7th ed. London: Pearson.
- Burns, N. & Grove, S.K. 2003. *The practise of nursing research: conduct, critique and utilisation*. Toronto: WB.
- Butler, R.W. & Waldbrook, L.A. 2003. A new planning tool: the tourism opportunity spectrum. *Journal of Tourism Studies*, 14(1):21-32.
- Butler, R.W. 1980. The concept of a tourist area cycle of evolution. *Canadian Geographer*, 24(1):5-12.
- Caro, T., Pelkey, N., Borner, M., Severre, E., Campbell, K., Huish, S., Woodworth, B. 1998. The impact of tourist hunting on large mammals in Tanzania: an initial assessment. *African Journal of Ecology*, 36(4):321-346.
- Carter, E. 1999. *Sustainable tourism in the third world: problems and prospects*. Discussion Paper No. 3. London: University of Reading.

- Ceballos-Lascurain, H. 1996. *Tourism, ecotourism and protected areas*. Gland: IUCN.
- Chan, J.K.L. & Baum, T. 2007. Ecotourists perception of ecotourism in lower Kinabatangan, Sabah, Malaysia. *Journal of Sustainable Tourism*, 15(5):574-590.
- Chen, M. 2015. *The environmental attitudes, travel motivations and experience evaluations of tourist in China*. Pennsylvania State University. (Thesis – MA).
- Choi, Y., Song, K., Kim, M. & Lee, J. 2017. Transformation planning for resilient wildlife habitats in ecotourism systems. *Sustainability*, 9(4):1-28.
- Cloke, P. & Perkins, H.C. 1998. Cracking the canyon with the awesome foursome: representations of adventure tourism in New Zealand. *Environment and Planning D: Society and Space*, 16(2):185-218.
- Clow, K.E. & James, K.E. 2014. *Essentials of marketing research: putting research into practice*. London: Sage.
- Cochrane, J. 1995. Sustainable tourism: theoretician's paradise and pragmatist's quagmire. (Unpublished paper).
- Coenraads, R. & Koivula, J. 2007. *Geologica*. Elanora Heights, Australia: Millennium House.
- Coetzee, W. & Saayman, M. 2009. Sustainability and ecotourism. In: Saayman, M., ed. *Ecotourism: getting back to basics*. Potchefstroom: Leisure. pp. 131-146.
- Cohen, D. & Crabtree, B. 2006. *Qualitative research guidelines project*. <http://www.qualres.org/HomeSemi-3629.html> Date of access: 11 Feb. 2021.
- Cohen, I., Manion, I. & Morrison, K. 2007. *Research methods in education*. 6th ed. Oxon: Routledge.
- Cole, S. 2006. Information and empowerment: the keys to achieving sustainable tourism. *Journal of Sustainable Tourism*, 14(6):629-644.
- Coles, T., Dinan, C. & Warren, N. 2016. Energy practices among small-and medium-sized tourism enterprises: a case of misdirected effort? *Journal of Cleaner Production*, 111(2):399-408.
- Collis, J. & Hussey, R. 2015. *Business research methods: a practical guide for undergraduate students*. 5th ed. London: Palgrave Macmillan.
- Commoner, B. 2020. <https://greetilegems.wordpress.com/2015/09/28/the-proper-use-of-science-is-not-to-conquer-nature-but-to-live-in-it-barry-commoner/> Date of access: 9 Nov. 2020.
- Commonwealth Australia. 1998. *Commercial utilisation of Australia native wildlife: report of the Rural and Regional Affairs and Transport References Committee*. Canberra: Parliament House.
- Cook, R.A., Yale, L.J. & Marqua, J.J. 2010. *Tourism: the business of travel*. 4th ed. New Jersey, NJ: Pearson Education.

- Corbetta, P. 2003. *Social research theory: methods and techniques*. Thousand Oaks, CA: Sage.
- Creswell, J.W. 2008. *Research design qualitative, quantitative approaches*. Thousand Oaks, CA: Sage.
- Creswell, J.W. 2009. *Research design: qualitative, quantitative and mixed methods approach*. Thousand Oaks, CA: Sage.
- Creswell, J.W. 2013. Steps in conducting a scholarly mixed methods study. *Discipline-Based Education Research Speaker Series*, 48.
<https://digitalcommons.unl.edu/cgi/viewcontent.cgi?referer=https://www.researchgate.net/&httpsredir=1&article=1047&context=dberspeakers> Date of access: 7 Jun. 2020.
- Creswell, J.W. 2014. *Research design: qualitative, quantitative and mixed methods approach*. 4th ed. Thousand Oaks, CA: Sage.
- Crompton, J. 1979. Motivations for pleasure travel. *Annals of Tourism Research*, 6(1):408-424.
- Crotty, M. 1998. *The foundations of social research: meaning and perspective in the research process*. London: Sage.
- Curtin, S. 2005. Nature, wild animals and tourism: an experiential view. *Journal of Ecotourism*, 4(1):1-15.
- Damm, G.R. 2008. Recreational trophy hunting: what do we know and what should we do? In: Baldus, R.D., Damm, G.R. & Wollscheid, K., eds. *Best practices in sustainable hunting – a guide to best practices from around the world*. Budakeszi: International Council for Game and Wildlife Conservation. pp. 5-11.
- Davidson, Z., Valeix, M., Loveridge, A.J., Madzikanda, H. & Macdonald, D.W. 2011. Socio-spatial behaviour of an African lion population following perturbation by sport hunting. *Biological Conservation*, 144(1):114-121.
- Dawson, C. 2009. *Introduction to research methods: a practical guide for anyone undertaking a research project*. London: Hachette.
- De Leeuw, E.D., Hox, J.J. & Dillman, D.A. 2008. *International handbook of survey methodology*. London: Routledge.
- Decker, D.J. & Connelly, N.A. 1989. Motivations for deer hunting: implications for antlerless deer harvest as a management tool. *Wildlife Society Bulletin*, 17(4):455-463.
- Deng, J. & Li, J. 2015. Self-identification of ecotourists. *Journal of Sustainable Tourism*, 23(2):255-79.
- Denzin, N.K. & Lincoln, Y.S. 2013. Paradigms and perspectives in contention. In: Denzin, N.K. & Lincoln, Y.S., eds. *The landscape of qualitative research*. 4th ed. Los Angeles, CA: Sage. pp. 189-199.
- Department of Environmental Affairs and Tourism (DEAT). South Africa. 2003. *Responsible tourism handbook: a guide for tourism operators*. Pretoria.

- Diamantis, D. & Westlake, J. 2001. Ecolabelling in the context of sustainable tourism and ecotourism. In: Font, X. & Buckley, R.C., eds. *Tourism ecolabelling: certification and promotion of sustainable management*. New York, NY: Cabi. pp. 27-40.
- Diamantis, D. 2004. Ecotourism management: an overview. In: Diamantis, D., ed. *Ecotourism*. London: Thompson. pp. 1-26.
- Dobson, J., Jones, E. & Botterill, D. 2005. Exploitation or conservation: can wildlife tourism help conserve vulnerable and endangered species? *Interdisciplinary Environmental Review*, 7(2):1-12.
- Dowling, R.K. & Newsome, D. 2010. The future of geotourism: where to from here? In: Newsome D, Dowling, R.K., eds. *Geotourism: the tourism of geology and landscapes*. Goodfellow: Oxford. pp. 231-244.
- Dowling, R.K. & Newsome, D. 2017. Geotourism destinations-visitor impacts and site management considerations. *Czech Journal of Tourism*, 6(2):111-129.
- Dowling, R.K. 2011. Geotourism's global growth. *Geoheritage*, 3(1):1-13.
- Drumm, A., Singer, A. & Moore, A. 2001. *Ecotourism development: a manual for conservation planners and managers*. Arlington, VA: The Nature Conservancy,
- Duffus, D. & Dearden, P. 1990. Non-consumptive wildlife-oriented recreation: a conceptual framework. *Biological Conservation*, 53(3):213-231.
- Duffy, R. 2014. Interactive elephants: nature, tourism and neoliberalism. *Annals of Tourism Research*, 44(1):88-101.
- Eagles, P.F.J. 1992. The travel motivations of Canadian ecotourists. *Journal of Travel Research*, 31(1):3-7.
- Eagles, P.F.J., Bowman, M.E. & Chang-Hung, T. 2005. *Guidelines for tourism in parks and protected areas of East Asia*. Cambridge: IUCN.
- Eagles, P.F.J., McCool, S.F. & Haynes, C.D. 2002. *Sustainable tourism in protected areas: guidelines for planning and management*. Cambridge: IUCN.
- Emerton, L. 2001. The nature of benefits and the benefits of nature: why wildlife conservation has not economically benefited communities in Africa. In: Hulme, D. & Murphee, M., eds. *African wildlife and livelihood: the promise and performance of community conservation*. Oxford: James Currey. pp. 243-247.
- Encarta. 2008. *Environmental impact*.
<http://encarta.msn.com/encnetlfeatures/dictionarv/DictionarvResults.aspx?lextype&search.pdf> Date of access: 29 Nov. 2018.
- Epler Wood, M. 2002. *Ecotourism*. Paris: UNEP Division of Technology, Industry and Economics.

- Fakaye, P.C. & Crompton, J.L. 1991. Image differences between prospective, first-time, and repeat visitors to the Lower Rio Grande Valley. *Journal of Travel Research*, 30(2):10-16.
- Farsani, N.T., Coelho, C., Costa, C., & Neto de Carvalho, C.N. 2012. *Geoparks and geotourism: new approaches to sustainability for the 21st century*. Boca Raton, FL: Brown Walker Press.
- Fennell, D.A. 2008. *Ecotourism*. 3rd ed. New York, NY: Routledge.
- Geldenhuys, S. & Saayman, M. 2009. Ecotourism venues. In: Saayman, M., ed. *Ecotourism: getting back to basics*. Potchefstroom: Leisure. pp. 25-42.
- Geldenhuys, S. 2004. Ecotourism assessment: an overview. In: Diamantis, D., ed. *Ecotourism*. London: Thompson. pp. 27-47.
- Geldenhuys, S. 2009. Ecotourism criteria and context. In: Saayman, M., ed. *Ecotourism: getting back to basics*. Potchefstroom: Leisure. pp. 2-24.
- George, R. 2007. *Managing tourism in South Africa*. Cape Town: Oxford University Press.
- Giddy, K.K. & Webb, N.L. 2016. The influence of the environment on motivations to participate in adventure tourism: the case of the Tsitsikamma. *South African Geographical Journal*, 98(2):351-366.
- Goodwin, H. 1996. In pursuit of ecotourism. *Biodiversity and Conservation*, 5(3):277-291.
- Goodwin, H. 2003. Local community involvement in tourism around national parks: opportunities and constraints. In: Lück, M. & Kirtges, T., eds. *Global ecotourism policies and case studies: perspectives and constraints*. Clevedon: Channel View. pp. 166-188.
- Gorard, S. 2003. *Qualitative methods in social science research*. New York, NY: A&C Black.
- Gossling, S. 2000. Tourism-sustainable development option? *Environmental Conservation*, 27(3):223-224.
- Gössling, S., Peeters, P., Hall, C.M., Dubois, G., Ceron, J.P., Lehmann, L. & Scott, D. 2012, Tourism and water use: supply, demand, and security: an international review. *Tourism Management*, 33(1):1-15.
- Gravetter, F.J. & Forzano, L.A.B. 2011. *Research methods for the behavioural sciences*. Belmont, CA: Wadsworth Cengage Learning.
- Green, R. & Higginbottom, K. 2001. *The negative effects of wildlife tourism on wildlife*. Gold Coast: CRC for Sustainable Tourism.
- Gressier, C. 2014. An Elephant in the Room: Okavango Safari Hunting as Ecotourism? *Journal of Anthropology*, 79(2):193-214.
- Grix, J. 2004. *The foundations of research*. London: Palgrave Macmillan.

- Hair, J.F., Bush, R.P. & Ortinau, D.J. 2000. *Marketing research: a practical approach for the new millennium*. New York, NY: McGraw-Hill.
- Hazbun, W. 2013. Tourism in the Muslim world. *Journal of Tourism History*, 5(3):356-358.
- Hearne, R.R. & Salinas, Z.M. 2002. The use of choice experiments in the analysis of tourist preferences for ecotourism development in Costa Rica. *Journal of Environmental Management*, 65(2):153-163.
- Henriques, M.H., Dos Reis, R.P., Brilha, J. & Mota, T. 2011. Geoconservation as an emerging geoscience. *Geoheritage*, 3(1):117-128.
- Herron, J. & Freese, C. 1999. Wild species as commodities: managing markets and ecosystems for sustainability. *The Journal of Wildlife Management*, 63(3):1052.
- Higginbottom, K. 2004. Managing impacts of wildlife tourism on wildlife. In: Higginbottom, K., ed. *Wildlife tourism: impacts, management and planning*. Altona: Common Ground. p. 227.
- Higginbottom, K. 2004. *Wildlife tourism: impacts, management and planning*. Melbourne: Common Ground.
- Higham, J. 2007. Ecotourism: competing and conflicting schools of thought. In: Higham, J., ed. *Critical issues in ecotourism: understanding a complex tourism phenomenon*. Oxford: Butterworth-Heinemann. pp. 2-19.
- Higham, J., Thompson-Carr, A. & Gale, S. 2001. *Ecotourism in New Zealand*. Dunedin: Dept. of Tourism, University of Otago.
- Holden, A. & Sparrowhawk, J. 2002. Understandings the motivations of ecotourists: the case of trekkers in Annapurna, Nepal. *The International Journal of Tourism Research*, 4(1):435-446.
- Holden, A. 2008. *Environment and tourism*. 2nd ed. New York, NY: Routledge.
- Holloway, I. & Wheeler, S. 2002. *Qualitative research in nursing*. Oxford: Blackwell.
- Honey, M. 2008. *Ecotourism and sustainable development: who owns paradise?* 2nd ed. Washington, DC: Island Press.
- Hudman, L.E. & Jackson, R.H. 2003. *Geography of travel and tourism*. 4th ed. New York, NY: Thomson.
- Hudson, S. 2003. *Sport and adventure tourism*. New York, NY: Haworth Hospitality Press.
- Humane Society International (HSI). 2020. *Trophy hunting by the numbers: the United States' role in global trophy hunting*. http://www.hsi.org/wp-content/uploads/assets/pdfs/report_trophy_hunting_by_the.pdf Date of access: 29 Jul. 2020.
- Hunter, C. & Green, H. 1995. *Tourism and the environment: a sustainable relationship?* Routledge: London.
- Hurtado, H., Dowling, R.K. & Sanders, D. 2014. An exploratory study to develop a geotourism typology model. *International Journal of Tourism Research*, 16:608-613.

Ikiara, M. & Okech, C. 2002. *Impact of tourism on environment in Kenya: status and policy*. KIPPRA Discussion Paper No. DP/19/2002, Nairobi.

International Ecotourism Society. 2015. *What is ecotourism?* <https://ecotourism.org/what-is-ecotourism.htm>
Date of access: 11 Feb. 2021.

International Hotel School. 2014. *Hospitality, a world of opportunities*.
<http://hotelschool.co.za/2013/03/hospitality-a-world-of-opportunities-for-south-african-graduates.com> Date of access: 10 Jan. 2019.

Islam, F. 2013. Environmental effects of tourism. *American Journal of Environment, Energy and Power Research*, 7(1):117-130.

IUCN (International Union for Conservation of Nature). 1994. *Guidelines for protected area management categories*. Gland.

IUCN. 2006. *Red list of threatened species*. <http://www.iucnredlist.org.com> Date of access: 13 Feb. 2019.

IUCN. 2012. *Guiding principles on trophy hunting as a tool for creating conservation incentives*. Ver. 1.0. Gland.

Ivanovic, M., Khunou, P.S., Reynish, N., Pawson, R. & Tseane, L. 2009. *Fresh perspectives: tourism development 1*. Cape Town: Pearson.

Jackson, J.J. 1996. An international perspective on trophy hunting. In: Leader-Williams, N., Kayera, J.A. & Overton, G.L., eds. *Tourist hunting in Tanzania: World Conservation Union (IUCN)*. Gland. pp. 7-11.

Jennings, G. 2010. Action research and tourism studies. In: Hilman, W. & Radel, K., eds. *Qualitative methods in tourism research: theory and practice*. Bristol: Channel View, pp. 218-270.

Johnson, I. & Christensen, I. 2014. *Educational research: quantitative and qualitative and mixed methods*. 5th ed. London: Sage.

Kandari, O.P. & Chandra, A. 2004. *Tourism biodiversity and sustainable development*. Vol. 6. New Delhi: Isha Books.

Kelly, J., Haider, W., Williams, P.W. & Englund, K. 2007. Stated preferences of tourists for eco-efficient destination planning options. *Tourism Management*, 28(2):377-390.

Kent, R. 2007. *Marketing research: approaches, methods and applications in Europe*. London: Thomson.

Kerstetter, D.L., Hou, J.S. & Lin, H. 2004. Profiling Taiwanese ecotourists using a behavioural approach. *Tourism Management*, 25(1):491-498.

Keyton, J. 2011. *Communication research, asking questions, finding answers*. 3rd ed. New York, NY: McGraw Hill.

- Kim, S.S., Crompton, J.L. & Botha, C. 2000. Responding to competition: a strategy for Sun/Lost City, South Africa. *Tourism Management*, 21(1):33-41.
- Konu, H. & Kajala, L. 2012. *Segmenting protected area visitors based on their motivations*. Natural Heritage Services, Metsähallitus.
- Kothari, C.R. 2004. *Research methodology: methods & techniques*. New Delhi: New Age International.
- Kruger, M. & Saayman, M. 2010. Travel motivations of tourists to Kruger and Tsitsikamma national parks: a comparative study. *South African Journal of Wildlife Research*, 40(1):93-102.
- Kruger, M. & Saayman, M. 2014. The determinants of visitor length of stay at the Kruger National Park. *Koedoe*, 56(2):1-11.
- Kruger, M., Viljoen, A. & Saayman, M. 2016. Who visits the Kruger National Park, and why? Identifying target markets. *Journal of Travel & Tourism Marketing*, 34(3):312-340.
- Kuenzi, C. & McNeely, J. 2008. *Nature-based tourism*. 2nd ed. Dordrecht: Springer.
- Kwan, P., Eagles, P.F.J. & Gebhardt, A. 2008. Ecolodge patrons' characteristics and motivations: a study of Belize. *Journal of Ecotourism*, 16(6):698-718.
- Lapeyre, R. 2011. The tourism global commodity chain in Namibia: industry concentration and its impacts on transformation. *Tourism Review International*, 15(1):63-75.
- Leader-Williams, N., Baldus, R.D. & Smith, R.J. 2009. Influence of corruption on the conduct of recreational hunting. In: Dickson, B., Hutton, J. & Adams, W.M., eds. *Recreational hunting, conservation and rural livelihoods: science and practice*. Oxford: Wiley-Blackwell, pp. 296-316.
- Leedy, P. & Ormrod, J. 2001. *Practical research: planning and design*. 7th ed. Thousand Oaks, CA: Prentice Hall.
- Li, W., Zhang, Q., Liu, C. & Xue, O. 2006. Tourism's impacts on natural resources: a positive case from China. *Environmental Management*, 38(4):572-579.
- Lindberg, K. 2001. Economic impacts. In: Weaver, D., ed. *The encyclopaedia of ecotourism*. New York, NY: Cabi. pp. 363-378.
- Lindsey, P., Roulet, P. & Romañach, S. 2007. Economic and conservation significance of the trophy hunting industry in sub-Saharan Africa. *Biological Conservation*, 134(4):455-469.
- Lindsey, P.A. 2008. Trophy hunting in sub-Saharan Africa: economic scale and conservation significance. In: Baldus, R.D., ed. *Best practices in sustainable hunting: a guide to best practices from around the world*. Budapest: International Council for Game and Wildlife Conservation. pp. 41-47.

- Lindsey, P.A., Du Toit, J.T. & Mills, M.G.L. 2005. Attitudes of ranchers towards African wild dogs *Lycaon pictus*: conservation implications on private land. *Biological Conservation*, 125(1):113-121.
- Lindsey, P.A., Frank, L.G., Alexander, R., Mathieson, A. & Romanach, S.S. 2006. Potential of trophy hunting to create incentives for wildlife conservation in Africa where alternative wildlife-based land uses may not be viable. *Animal Conservation*, 9(3):283-291.
- Littlefair, C.J. 2004. Reducing impacts through interpretation, Lamington National Park. In: Buckley, R., ed. *Environmental impacts of ecotourism*. Wallingford: Cabi. pp. 297-307.
- Lovelock, B. 2006. Visitors' perspectives on naturalness and the consequences for ecological integrity in peripheral natural areas of New Zealand. In: Muller, D.K. & Jansson, B., eds. *Tourism in peripheries: perspectives from the North and South*. Wallingford: Cabi. pp. 124-140.
- Luck, M. 2003. Large-scale ecotourism: a contradiction in itself? In: Lück, M. & Kirstges, T., eds. *Global ecotourism policies and case studies: perspectives and constraints*. Clevedon: Channel View. pp. 189-198.
- Luo, Y. & Deng, J. 2008. The new environmental paradigm and nature-based tourism motivation. *Journal of Travel Research*, 46(4):392-402.
- MacCannell, D. 1976. *The tourist: a new theory of the leisure class*. New York, NY: Schocken Books.
- Mack, L. 2010. The philosophical underpinnings of educational research. *Polyglossia*, 19(1):1-11.
- Mahdzar, M. & Gani, A. 2018. Market segmentation of Kuala Selangor's non-consumptive tourists. *International Journal of Academic Research in Business and Social Science*, 8(16):144-152.
- Malhotra, N.K. 2010. *Marketing research: an applied orientation*. 6th ed. Upper Saddle River, NJ: Pearson Education.
- Manomaivibool, P. 2015. Wasteful tourism in developing economy? A present situation and sustainable scenarios. *Resources, Conservation and Recycling*, 10(3):69-76.
- Maree, K. & Pietersen, J. 2007. Surveys and the use of questionnaires. In: Maree, K., ed. *First steps in research*. Pretoria: Van Schaik. pp. 155-170.
- Maree, K. & Pietersen, J. 2016. Statistical analysis I: descriptive statistics. In: Maree, K., ed. *First steps in research*. Pretoria: Van Schaik. pp. 204-217.
- Maree, K. 2007. *First steps in research*. Pretoria: Van Schaik.
- Marion, J.L. & Reid, S.E. 2007. Minimising visitor impacts to protected areas: the efficacy of low impact education programmes. *Journal of Sustainable Tourism*, 15(1):5-27.
- Marker, L.L., Mills, M.G.L. & Macdonald, D.W. 2003. Factors influencing perceptions of conflict and tolerance toward Cheetahs on Namibian Farmlands. *Conservation Biology*, 17(5):1290-1298.

- Mathieson, A. & Wall, G. 1982. *Tourism: economic, physical and social impacts*. New York, NY: Longman House.
- Matthews, J. 2009. *An investigation into the uptake and benefit of virtual learning network opportunities in the Small Business Tourism Sector*. Waterford: Waterford Institute of Technology. (Dissertation – MA).
- Mayaka, T.B., Hendriks, T., Wesseler, J. & Prins, H.T. 2004. Improving the benefits of wildlife harvesting in Northern Cameroon: a co-management perspective. *Ecological Economics*, 54(1):67-80.
- Mbaiwa, J. 2003. The Socio-Economic and Environmental Impacts of Tourism Development on the Okavango Delta, North-Western Botswana. *Journal of Arid Environments*, 54(1):447–467.
- McDaniel, C. & Gates, R. 2001. *Marketing research essentials*. Cincinnati, OH: South-Western College.
- McDaniel, C.D. & Gates, R.H. 2010. *Marketing research*. 8th ed. Hoboken, NJ: Wiley.
- McKay, T. 2014. White water adventure tourism on the Ash River, South Africa. *African Journal of Physical Health Education, Recreation and Dance*, 20(1):52-75.
- McKercher B. 2002. Towards a classification of cultural tourists. *International Journal of Tourism Research*, 4(1):29-38.
- Mertler, C.A. & Charles, C.M. 2011. *Introduction to education research*. Boston, MA: Pearson.
- Middleton, V.T.C. & Hawkins, R. 1998. *Sustainable tourism: a marketing perspective*. Oxford: Butterworth-Heinemann.
- Milner, J.M., Nilsen, E.B. & Andreassen, H.P. 2007. Demographic side effects of selective hunting in ungulates and carnivores. *Conservation Biology*, 21(1):36-47.
- Moore, S. & Polley, A. 2007. Defining indicators and standards for tourism impacts in protected areas: Cape Range National Park, Australia. *Environmental Management*, 39(3):291-300.
- More, T.A. 1984. Hunting: a theoretical explanation with management implications. *Wildlife Society Bulletin*, 12(4):338-344.
- Muijis, D. 2011. *Doing quantitative research*. New Delhi: Sage.
- Mulder, A.C. 2011. *Motivations of international trophy hunters choose to hunt in South Africa*. Port Elizabeth: Nelson Mandela Metropolitan University. (Dissertation – MA).
- Nath, B. 1999. *Environmental management in practice: compartments, stressors and sectors*. London: Routledge.
- Neelankavil, J.P. 2007. *International business research*. London: Routledge.
- Nelson, V. 2013. *An introduction to the geography of tourism*. Lanham, MD: Rowman & Littlefield.

- Neth, B. 2008. *Ecotourism as a tool for sustainable rural community development and natural resources management in the Tonle Sap Biosphere Reserve*. Kassel: Kassel University Press.
- Newsome, D. & Dowling, R.K. 2010. *Geotourism: the tourism of geology and landscape*. Oxford: Goodfellow.
- Newsome, D., Dowling, R.K. & Moore, S. 2005. *Wildlife tourism*. Clevedon: Channel View.
- Newsome, D., Moore, S.A. & Dowling, R.K. 2002. *Natural area tourism: ecology, impacts and management*. Clevedon: Channel View.
- Newsome, D., Moore, S.A. & Dowling, R.K. 2013. *Natural area tourism. Ecology, impacts and management*. 2nd end. Bristol: Channel View.
- Nieuwenhuis, J. 2016. Analysing qualitative data. In: Maree, K. ed. *First steps in research 2*. Pretoria: Van Schaik. pp. 103-131.
- Novelli, M., Barnes, J. & Humavindu, M. 2006. The other side of the ecotourism coin: consumptive tourism in Southern Africa. *Journal of Ecotourism*, 5(1-2):62-79.
- O'Connor, K.M. 2009. *The ecological footprint of international tourists in New Zealand*. Palmerston: Massey University. (Thesis – MA).
- Onwuegbuzie, A.J. & Leech, N.L. 2005. On becoming a pragmatic researcher: the importance of combining qualitative and quantitative research methodologies. *International Journal of Social Research Methodology*, 8(5):375-387.
- Orams, M.B. 1996. A conceptual model of tourist-wildlife interaction: The case for education as a management strategy. *Australian Geographer*, 27(2):39-51.
- Orams, M.B. 2001. Types of ecotourism. In: Weaver, D., ed. *The encyclopaedia of ecotourism*. New York, NY: Cabi. pp. 23-36.
- Orams, M.B. 2002. Feeding wildlife as a tourism attraction: a review of issues and impacts. *Tourism Management*, 23(3):281-293.
- Oxton, P. 2020. <https://www.goodreads.com/quotes/8732716-no-matter-how-few-possession-you-own-or-how-little> Date of access: 9 Nov. 2020.
- Page, S.J. & Connell, J. 2009. *Tourism: a modern synthesis*. 3rd ed. Belmont, TN: Cengage Learning.
- Page, S.J. & Dowling, R.K. 2002. *Ecotourism*. Harlow: Prentice Hall.
- Panos, B. 1995. *Ecotourism*. Panos Media Briefing No. 4. London: Panos Institute.
- Park, D.B. & Yoon, Y.S. 2009. Segmentation by motivation in rural tourism: a Korean case study. *Tourism Management*, 30(1):99-108.

- Patterson, I. & Pan, R. 2002. The motivations of baby boomers to participate in adventure tourism and the implications for adventure tour providers. *Annals of Leisure Research*, 10(1):26-53.
- Patton, M.Q. 2002. *Qualitative research methods and evaluation*. 3rd ed. Thousand Oaks, CA: Sage.
- Pennington-Gray, L.A. & Kerstetter, D.L. 2002. Testing a constraints model within the context of nature-based tourism. *Journal of Travel Research*, 40(4):416-423.
- Pforr, C. 2001. Concepts of sustainable development, sustainable tourism, and ecotourism: definitions, principles, and linkages. *Scandinavian Journal of Hospitality and Tourism*, 1(1):68-71.
- Polit, D. & Hungler, B. 2004. *Nursing research: principles and methods*. Philadelphia, PA: Lippin Court.
- Pomfret, G. & Bramwell, B. 2014. *The characteristics and motivational decisions of outdoor adventure tourists: a review and analysis*. <http://shura.shu.ac.uk/9779/> Date of access: 28 Jul. 2020
- Poon, A. 1993. *Tourism, technology and competitive strategies*. London: CABI.
- Poonyth, D., Barnes, J., Suich, H. & Monamati, M. 2002. Satellite and resource accounting as tools for tourism planning in Southern Africa. *Development Southern Africa*, 19(1):1-21.
- Powell, R.B. & Ham, S.H. 2008. Can ecotourism interpretation really lead to proconservation knowledge, attitudes and behaviour? Evidence from the Galapagos islands. *Journal of Sustainable Tourism*, 16(4):467-489.
- Prosser, R. 1994. Societal change and the growth in alternative tourism. In: Cater, E. & Lowman, G., eds. *Ecotourism: a sustainable option*. New York, NY: John Wiley.
- Queiros, D. 2003. The supply of tourism: resources. In: Lubbe, B.A., ed. *Tourism management in Southern Africa*. Cape Town: Pearson. pp. 71-99.
- Radder, L. 2005. Motives of international trophy hunters. *Annals of Tourism Research*, 32(4):1141-1144.
- Rasinger, S.M. 2013. *Quantitative research in linguistics*. 2nd ed. London: Bloomsbury.
- Reynolds, P. & Braithwaite, D. 2001. Towards a conceptual framework for wildlife tourism. *Tourism Management*, 22(1):31-42.
- Richards, G. 1999. Vacations and the quality of life. *Journal of Business Research*, 44(3):189-198.
- Ricthie, B.J.R. & Crouch, G.I. 2003. *The competitive destination: a sustainable tourism perspective*. Wallingford: CABI.
- Ritchie, B.J.R. & Lewis. 2003. *Qualitative research guide for social science students and researchers*. London: Sage.

- Robson, C. 1993. *Real world research: a resource for social scientists and practitioner researchers*. Cambridge: Blakewell.
- Robson, C. 2002. *Real world research*. London: Wiley.
- Rodger, K., Moore, S.A. & Newsome, D. 2007. Wildlife tours in Australia: characteristics, the place of science and sustainable futures. *Journal of Sustainable Tourism*, 15(2):160-179.
- Roe, D., Leader-Williams, N. & Dalal-Clayton, B. 1997. *Take only photographs, leave only footprints: the environmental impacts of wildlife tourism*. London: International Institute for Environment and Development.
- Rogerson, C.M. 2007. The challenges of developing adventure tourism in South Africa. *Africa Insight*, 37(2):228-244.
- Ross, T. 2012. *A survival guide for health research*. London: McGraw-Hill.
- Saayman, M. & Saayman, A. 2009. Why travel motivation and socio-demographics matter in managing a national park. *Koedoe*, 51(1):1-9.
- Saayman, M. 2000. *En route with tourism*. Potchefstroom: Leisure.
- Saayman, M. 2009. *Ecotourism: getting back to basics*. Potchefstroom: Leisure.
- Saayman, M. 2013. *En route with tourism: an introductory text*. 4th ed. Claremont: Juta.
- Saayman, M., Slabbert, E. & Van der Merwe, P. 2009. Travel motivation: a tale of two marine destinations in South Africa. *South African Journal for Research in Sport, Physical Education and Recreation*, 31(1):81-94.
- Saleh, F. & Karwacki, J. 1996. Revisiting the ecotourist: the case of Grasslands National Park. *Journal of Sustainable Tourism*, 4(2):61-80.
- Sarmiento, J. & Rink B. 2016. Africa. In: Jafari, J. & Xiao, H., eds. *Encyclopaedia of tourism*. Springer: Cham.
- Saunders, M., Lewis, P. & Thornhill, A. 2008. *Research methods for business students*. 4th ed. Harlow: Prentice Hall.
- Saunders, M., Lewis, P. & Thornhill, A. 2012. *Research methods for business students*. 6th ed. New York, NY: Pearson.
- Schneider, P.P. & Vogt, C.A. 2012. Applying the 3M Model of personality and motivation to adventure travellers. *Journal of Travel Research*, 51(6):704-716.
- Scholtz, M., Kruger, M. & Saayman, M. 2013. Understanding the reasons why tourists visit the Kruger National Park during a recession. *Acta Commercii*, 13(1):1-9.
- Sekaran, U. 2008. *Research methods for business: a skill building approach*. 4th ed. New Delhi: John Wiley.

- Shackley, M. 2006. Wildlife tourism: impacts, management, and planning. *Annals of Tourism Research*, 33(3):868-869.
- Shaw, G.B. 2020. https://www.brainyquote.com/quotes/george_bernard_shaw_386923 Date of access: 9 Nov. 2020.
- Shaw, G. & Williams, A.M. 2002. *Critical issues in tourism: a geographical perspective*. 2nd ed. Oxford: Blackwell.
- Silent, N.D. 2017. *Profiling ecotourists within the Capricorn district municipality*. University of Venda. (Dissertation – MA).
- Simmons, D.G. & Becken, S. 2004. Impacts of travel to ecotourism destinations. In: Buckley, R., ed. *Environmental impacts of ecotourism*. Oxfordshire: Cabi. pp. 15-23.
- Singleton, R.A. & Straits. B.C. 2010. *Approaches to social research*. Oxford: Oxford University Press.
- Sinha, C.C. 2001. Wildlife tourism: A geographical perspective. Paper presented at the Geography Curriculum Inservice Conference, University of Western Sydney. *Tourism Geography: Issues, Challenges and the Changing Nature of Contemporary Tourism*.
<http://www.hsc.csu.edu.au/geography/activity/local/tourism/LWILDLIF.pdf> Date of access: 15 Jan. 2019.
- Slabbert, E. & Du Plessis, E. 2013. Do socio-demographic factors influence the travel behaviour of visitors to nature-based tourism products in South Africa? *African Journal for Physical, Health Education, Recreation and Dance*, 19(3):639-660.
- Solberg, A.M. 2017. *Tourists perceptions of their environmental impacts in Tanzania*. Kent State University. (Thesis – MA).
- South Africa. 2003. *National environment management: Protected Areas Act 57 of 2003*. Pretoria: Government Printer.
- South African Government. 2003. *Department launches community-based natural resource management guidelines*. <http://www.info.gov.za/speeches/2003/03091513461001.htm> Date of access: 23 Aug. 2019.
- Sparks, D. 2005. Tourism in the new South Africa: social responsibility and the tourist experience. *African Studies Review*, 48(2):147-148.
- Spenceley, A. 2005. Nature-based tourism and environmental sustainability in South Africa. *Journal of Sustainable Tourism*, 13(2):136-170.
- Stanley, G.H., McCool, S.F. & Stokes, G.L. 1984. *Limits of acceptable change: a new framework for managing the Bob Marshall wilderness complex*. <http://www.fs.fed.us/r8/boone/documents/lac/marshallpdf> Date of access: 22 Aug. 2020.

- Stern, P.C., Dietz, T., Abel, T.A.G. & Guagnano Kalof, L. 1999. A value-belief-norm theory of support for social movements. *The case of environmentalism*, 6(2):81-97.
- Stokes, A., Cook, S. & Drew, D. 2003. *Geotourism*. Washington, DC: Travel Industry Association of America.
- Sucheran, R. 2013. *Environmental management in the hotel and lodge sector in KwaZulu-Natal, South Africa*. University of KwaZulu-Natal. (Thesis – PhD).
- Sung, H.H. 2004. Classification of adventure travellers: behaviour, decision making and target markets. *Journal of Travel Research*, 42(4):343-356.
- Sunlu, U. 2003. Environmental impacts of tourism. In: Camarda, D. & Grassini, L., eds. *Local resources and global trades. Environments and agriculture in the Mediterranean region*. Bari: Centre International de Hautes Etudes Agronomiques Méditerranéennes. pp. 263-270.
- Swarbrooke, J. 1999. *Sustainable tourism management*. New York, NY: CABI.
- Swarbrooke, J., Beard, C., Leckie, S. & Pomfret, G. 2003. *Adventure tourism: the new frontier*. London: Butterworth-Heinemann.
- Tao, C.H., Eagles, P.F.J. & Smith, S.L.J. 2004. Profiling Taiwanese ecotourists using a self-definition approach. *Journal of Sustainable Tourism*, 12(1):149-168.
- Tapper, R. 2006. *Wildlife watching and tourism: A study on the benefits and risks of a fast-growing tourism activity and its impacts on species*. Bonn: UNEP/CMS Secretariat.
- Thatcher, R. 2010. Validity and reliability of quantitative electroencephalography (QEEG). *Journal of Neurotherapy*, 14(2):122-152.
- Theunissen, E. 2017. *Tracking white hunters' relationship with nature in Eastern and Southern Africa since colonial times*. Pretoria: University of Pretoria. (Dissertation – MA).
- Tourism Western Australia. 2006. *Ecotourism vs. nature-based tourism*.
http://www.tourism.wa.gov.au/Publications_Library/Growing_your_business/ecotourism_vs_nature-based_tourism_v3.pdf Date of access: 10 Feb. 2020.
- Trauer, B. 2004. Conceptualizing special interest tourism-frameworks for analysis. *Tourism Management*, 27(2):1-18.
- Tremblay, P. 2001. Wildlife tourism consumption: consumptive or non-consumptive? *International Journal of Tourism Research*, 3(1):81-86.
- Turton, S.M. 2005. Managing environmental impacts of recreation and tourism in rainforests of the Wet Tropics of Queensland World Heritage Area. *Geographical Research*, 43(2):140-151.
- United Nations World Tourism Organisation. 2014. *AM Reports, Volume Nine – Global Report on Adventure Tourism*. Madrid.

- Uysal, M. & Jurowski, C. 1994. Testing the push and pull factors. *Annals of Tourism Research*, 21(1):844-846.
- Valentine, P. 1992. Nature-based tourism. In: Weiler, B. & Hall, C.M., eds. *Special interest tourism*. London: Belhaven Press. pp. 105-127.
- Van Coller, D. 2017. *A marketing and spending analyses of trophy hunters 2016/2017*.
<http://www.wrsa.co.za/wp-content/uploads/2017/11/PHASA---ECONOMIC-CONTRIBUTION-OF-TROPHY-HUNTING.pdf> Date of access: 7 Jul. 2020.
- Van der Merwe, P. & Saayman, M. 2003. Determining the economic value of game farm tourism. *Koedoe*, 46(2):103-112.
- Van der Merwe, P. & Saayman, M. 2013. Who are the South African hunters and why do they hunt? *Journal of Hospitality and Management Tourism*, 4(1):9-18.
- Van der Merwe, P. 2004. *Game farms as sustainable ecotourism attractions*. Potchefstroom: North-West University. (Thesis – PhD).
- Van der Merwe, P. 2009. Adventure tourism. In: Saayman, M., ed. *Ecotourism: getting back to basics*. Potchefstroom: Platinum Press. pp. 219-250.
- Van der Merwe, P. 2014. Introduction to game farm tourism. In: Van der Merwe, P. & Du Plessis, L. *Game farm and hunting tourism*. Stellenbosch: SUN Media. pp. 15-23.
- Van der Merwe, P., Saayman, M., Warren, R. & Krugell, W. 2010. Socio-demographic profile and travel behaviour of biltong hunters in South Africa. *Acta Academica*, 42(3):61-85.
- Van Maanen, J. 1983. *Qualitative methodology*. London: Sage.
- Varley, P. 2006. Confecting adventure and playing with meaning: the adventure commodification continuum. *Journal of Sport and Tourism*, 11(2):173-194.
- Visser, G. & Hoogendoorn, G. 2012. Current paths in South African tourism research. *Tourism Review International*, 15(1-2):5-20.
- Waite, M. & Hawker, S. 2009. *Oxford paperback and thesaurus*. Oxford: Oxford University Press.
- Wall, G. 1994. Ecotourism: old wine in new bottles? *Trends*, 31(2):4-9.
- Wearing, S. & Neil, J. 1999. *Ecotourism: impacts, potentials and possibilities*. Oxford: Butterworth-Heinemann.
- Wearing, S. & Neil, J. 2009. *Ecotourism: impacts, potentials and possibilities*. 2nd ed. Oxford: Elsevier.
- Weaver, D. 2005. Comprehensive and minimalist dimensions of ecotourism. *Annals of Tourism Research*, 32(2):439-455.

- Weaver, D.B. & Lawton, L.J. 2002. Overnight ecotourist market segmentation in the Gold Coast hinterland of Australia. *Journal of Travel Research*, 40(3):270-280.
- Weaver, D.B. & Lawton, L.J. 2007. Twenty years on: the state of contemporary ecotourism research. *Tourism Management*, 28(5):1168-1179.
- Weaver, D.B. 2001. *Ecotourism*. Brisbane: Wiley.
- Webb, D. 2003. Investigating the structure of visitor experiences in the Little Sandy Desert, Western Australia. *Journal of Ecotourism*, 1(2):149-161.
- Weber, K. 2001. Outdoor adventure tourism: a review of research approaches. *Annals of Tourism Research*, 28(2):360-377.
- Western, D. 1993. Defining ecotourism. In: Lindberg, K. & Hawkins, D.E., eds. *Ecotourism: a guide for planners and managers*. The ecotourism society. North Bennington, VT: Sage. pp. 7-11.
- Wight, P.A. 1997. Ecotourism accommodation spectrum: does supply match the demand? *Tourism Management*, 18(4):209-220.
- Wilkie, D.S. & Carpenter, J.F. 1999. The potential role of safari hunting as a source of revenue for protected areas in the Congo Basin. *Oryx*, 33(4):339-345.
- Williams, C. 2007. Research methods. *Journal of Business and Economic Research*, 5(3):65-73.
- Williams, P. & Soutar, G.N. 2005. Close to the "edge": critical issues of adventure tourism operators. *Asia Pacific Journal of Tourism Research*, 10(3):247-261.
- Wood, D. & Glasson, J. 2005. Giving the environment a voice. The transformational potential of valuing tourism in sensitive natural environments: the case of the Ningaloo Coastal Region, Western Australia. *Planning Practice & Research*, 20(4):391-407.
- Yin, R.K. 2011. *Qualitative research from start to finish*. New York, NY: The Guilford Press.
- Zografos, C. & Allcroft, D. 2007. The environmental values of potential ecotourists: a segmentation study. *Journal of Sustainable Tourism*, 15(1):44-66.

Appendix A: Interview instrument for the reserve management

INTERVIEWS TO MANAGEMENT

SECTION A: SOCIO-DEMOGRAPHIC OF THE BUSINESS/GAME RESERVE (Questions directed to owner and general manager)

General information:

1. For how many years have your family owned the game reserve?
2. Give a short description of the history of the farm/game reserve.
3. What was the original practice on the land before the reserve was established?
4. What is the size of the game reserve?
- 5.1 Name the current main land use forms on the reserve?
- 5.2 To what extent has the integration of a variety of land use forms contributed to the success of the reserve?
6. What is the total number of employees at the game reserve?
7. Name the animal species currently present on the reserve.
8. What would you regard as the success factors of this business?
9. What are your future plans for the game reserve when taking into account the different land use forms?

Additional questions:

10. What, do you think, influenced the growth in the ecotourism market?
11. Do you think the combination of ecotourism and hunting on one reserve has any advantages?
12. What happens to the excess meat after a hunter has hunted?
13. Do you think there is a market for game meat worldwide?
14. If you have to compare the income generated and the operational costs between the consumptive and non-consumptive tourists who visit the game reserve, which one of the two markets benefits the game reserve the most?
15. How do you manage the game numbers at the game reserve, other than by hunting?
16. What are your biggest concerns regarding the hunting market?
17. How will it affect you, as product owner, if something like this would happen in the future?
18. Do you think the fact that the game reserve is a family-orientated business has an influence on the success of the business?
19. Where do the employees stay?
20. Do you make use of any solar energy on the game reserve?
21. Do you think the behaviour of the ecotourists visiting the game reserve is environmentally friendly?

22. Do you think the behaviour of the hunters visiting the game reserve is environmentally friendly?
23. If you have to compare consumptive (hunter) and non-consumptive (eco-) tourists, which one of the two would you say has a less negative impact on the environment?

SECTION B: NON-CONSUMPTIVE WILDLIFE TOURISM
(Questions directed to owner, general manager and non-consumptive wildlife tourism manager)

General information:

1. How many rooms are on offer to ecotourists?
2. What is the average price per room?
3. During which time of the year is the tourist lodge the busiest?
4. What is the total number of ecotourists that can be accommodated at the lodge?
5. What is the occupancy rate at the lodge?
6. How many employees work directly in the non-consumptive wildlife tourism component?
7. What is the average income of the non-consumptive side (per year/month)?
8. Name the activities that are offered to the non-consumptive tourists.
9. How many vehicles operate under the non-consumptive wildlife tourism component?
10. What are the biggest challenges in terms of the non-consumptive tourists and the non-consumptive tourism market?

Tourists' profile:

1. How many ecotourists visit the game reserve per year?
2. What is the average group size?
3. What is the average number of nights the ecotourists stays?
4. Where does the main ecotourism market originate from?
5. What type of marketing are you doing for the non-consumptive tourists?

Additional questions:

6. Are most of the staff working at the tourist lodge permanently employed?
7. How do the bookings for the tourist lodge work?

Perceptions of environmental impact:

1. What volume of food is bought and processed for tourists?
2. On average, how many litres of water are used at the tourist lodge?
3. What is the estimated amount of waste generated by the lodge?
4. What are the main components of the waste generated?

5. Do you do any recycling at the lodge? If yes, how is it done?
6. Does the waste generated at the lodge stay on the reserve? If yes, how is it treated?
7. Is greywater treated at the lodge? If yes, how is it done?
8. How regularly is the laundry done at the lodge?
9. What is the source of the water that is used at the lodge (e.g. river, borehole)?
10. From your point of view, what is the biggest environmental impact of the lodge?
11. From your point of view, what are the positive contributions of the lodge to conservation and the environment?
12. What environmentally friendly practices are conducted at the lodge?

Additional questions:

13. What do you think makes the tourist lodge at the game reserve unique compared to other lodges and makes tourists want to come back?
14. What other activities, besides those available, are the tourists asking for when they stay at the lodge?

SECTION C: CONSUMPTIVE WILDLIFE TOURISM
(Questions directed to owner, general manager and consumptive wildlife tourism manager)

General information:

1. How many rooms are on offer to the hunters?
2. What is the average price per room?
3. During which time of the year is the hunting lodge the busiest?
4. What is the total number of hunters that can be accommodated?
5. How many employees work directly in the consumptive wildlife tourism component?
6. What is the average income from the consumptive side?
7. Name the activities that are offered to the consumptive tourists?
8. How many vehicles operate under the consumptive wildlife tourism component?
9. What are the biggest challenges in terms of the consumptive tourists and the consumptive tourism market?

Tourists profile:

1. How many hunters visit the game reserve per year?
2. What is the average group size?
3. What is the average number of nights the hunter stays?
4. Where does the main hunting market originate from?
5. What type of marketing are you doing for the consumptive tourists?

Environmental impact perceptions:

1. What volume of food is bought and processed for the hunters?
2. What are the main components of the waste generated (e.g. plastic, paper, food waste, tin)?
3. Do you do any recycling at the lodge? If yes, how is it done?
4. Does the waste generated by the hunting lodge stay on the reserve? If yes, how is it treated?
5. Is greywater treated at the hunting lodge? If yes, how is it done?
6. How regularly is the laundry done at the hunting lodge?
7. What is the source of the water that is used at the hunting lodge (e.g. river, borehole)?
8. From your point of view, what is the biggest environmental impact of the hunting lodge?
9. Do you think hunting (killing wildlife) has a negative impact on the wildlife? If yes, what kind of impact?
10. From your point of view, what are the positive contributions of the hunters and the hunting lodge to conservation and the environment?
11. What environmentally friendly practices are conducted at the hunting lodge?

Additional questions:

12. How many animals, on average, does a hunter shoot?
13. What are the preferred species of animals the hunters shoot?
14. What is the percentage of hunters returning to the game reserve to hunt?
15. Do you think that the hunters' behaviour is environmentally friendly?
16. Are there any new trends in the hunting market these days?
17. Do you also get female hunters who come to stay and hunt?

Appendix B: Interview instrument for consumptive and non-consumptive wildlife tourists

CONSUMPTIVE TOURIST QUESTIONNAIRE

SECTION A: DEMOGRAPHIC DETAIL

1. Gender? _____
2. In which year were you born? _____
3. What is your home language? _____
4. What is your marital status? _____
5. What is your country of residence? _____
6. What is your highest level of education? _____
7. What is your occupation? _____

SECTION B: TRAVEL BEHAVIOUR

- 1a. Please indicate whether you are a first-time hunter or a return hunter.

- 1b. If a RETURN HUNTER, how many times have you hunted on the game reserve in the past three years?

2. Including yourself, how many people are travelling in your group?

3. How many nights did you stay at the game reserve?

4. Estimate how much you have spent on the following during your visit to the game reserve (indicated in US dollar).

Daily rate	\$
Beverages	\$
Clothes and footwear	\$
Travel to Namibia	\$
Travel to the hunting lodge	\$
Souvenirs and jewellery	\$
Additional activities	\$
Other expenses not	\$

listed above
Specify:

5. What are the typical destinations you prefer to visit?

Natural areas
Coastal areas
Resorts
Cities
Game reserves
Cultural areas
Historical sites
Other (specify)

1
2
3
4
5
6
7
8

6. What would you say were your biggest motivators for visiting this game reserve?

To learn from nature
To relax
To see animals
To go on game drives
To hunt
Other (specify)

1
2
3
4
5
6

7. Do you think the fact that you have paid for your visit to the game reserve entitles you to the following:

Use water excessively. Please elaborate.

Use electricity excessively. Please elaborate.

Have new consumables in the bathroom on a daily basis. Please elaborate.

Daily cleaning of linen and towels in the room. Please elaborate.

8. While visiting the game reserve, would you say that the majority of the hunters have a positive or a negative impact on the environment? Please elaborate on this.

9. While visiting the game reserve, what behaviour did you employ to lessen your impact on the environment? Please explain.

10. What was the highlight of your trip to the game reserve?

11. Please indicate species hunted and cost thereof during your stay.
(indicated in US dollar)

SECTION C: PERCEPTIONS REGARDING ENVIRONMENTAL IMPACTS AT THE GAME RESERVE

1. Regarding your visit to the game reserve, what do you think are your impacts on the following:

Soil loss / erosion. Please elaborate on this.

Water pollution. Please elaborate on this.

Vegetation loss. Please elaborate on this.

Disruption of wildlife. Please elaborate on this.

Water use. Please elaborate on this.

Air pollution. Please elaborate on this.

Energy use. Please elaborate on this.

Depositing of litter. Please elaborate on this.

2. To what extent do you agree or disagree (using a tick) with the following statements of your visit at the game reserve:

	5. Strongly agree				
	4. Agree				
	3. Neutral				
	2. Disagree				
	1. Strongly disagree				
I ate all the food that I served myself during meals (no food waste)	1	2	3	4	5
I switched the lights off when leaving the room	1	2	3	4	5
I kept the water tap running when I brushed my teeth or washed my face	1	2	3	4	5
I prefer having my towels changed on a daily basis	1	2	3	4	5
I put my trash in the trash bin	1	2	3	4	5
I switched off the fan, heater or aircon when not in the room	1	2	3	4	5
I prefer to shower	1	2	3	4	5
I prefer to bath	1	2	3	4	5
I showered or took a bath twice a day	1	2	3	4	5
I showered for less than five minutes	1	2	3	4	5
I prefer a full tub of water when taking a bath	1	2	3	4	5
I wanted my laundry to be washed on a daily basis	1	2	3	4	5
I consider myself responsible towards the environment when travelling	1	2	3	4	5

3. It is important to look after the environment especially from a hunter's perspective. With this in mind, please answer the following questions:

- 3.1 While visiting the game reserve, what contribution did you make towards a greener environment and conservation? Please explain.
-
-
-

3.2 What do you think is the money you spent at the game reserve used for?

3.4 What do you think are the water resources of the hunting lodge at the game reserve?

- a) Borehole
- b) River
- c) State supply

3.5 How do you think the hunting lodge contributes to conservation and greener practices?
Please explain.

3.6 On arrival at the game reserve, did you bring along any of the following: empty plastic bottles, empty glass bottles, left-over food stuff, etc.?
If yes, what did you do with it?

4. What is your perception regarding the following aspects at the hunting lodge:

4.1 Recycling. Please elaborate.

4.2 Conservation of electricity. Please elaborate.

4.3 Conservation of water. Please elaborate.

4.4 Waste disposal system for litter, solid waste, hazardous waste, etc. Please elaborate.

4.5 Habitat degradation and loss of biodiversity due to overutilisation of natural resources.
Please elaborate.

SECTION D: PERSONAL ENVIRONMENTALLY FRIENDLY BEHAVIOUR AT HOME

1. To what extent do you agree or disagree (using a tick) regarding your environmental impact behaviour at home:

	5. Strongly agree				
	4. Agree				
	3. Neutral				
	2. Disagree				
	1. Strongly disagree				
At home, I eat all the food that I serve myself during meals (no food waste)	1	2	3	4	5
At home, I switch the lights off when leaving the room	1	2	3	4	5
At home, I keep the water tap running when I brush my teeth or wash my face	1	2	3	4	5
At home, I prefer clean towels on a daily basis	1	2	3	4	5
At home, I put my trash in the trash bin	1	2	3	4	5
At home, I switch off the fan, heater or aircon when not in the room	1	2	3	4	5
At home, I prefer to shower	1	2	3	4	5
At home, I prefer to bath	1	2	3	4	5
At home, I shower or take a bath twice a day	1	2	3	4	5
At home, I shower for less than five minutes	1	2	3	4	5
At home, I prefer a full tub of water when taking a bath	1	2	3	4	5
At home, I want my laundry to be washed on a daily basis	1	2	3	4	5
At home, I consider myself responsible towards the environment	1	2	3	4	5

2. What is your personal behaviour at home regarding the following aspects:

2.1 Do you recycle at home? If yes, what do you do?

2.2 Do you have appliances and systems in place to conserve energy at home? If yes, what type?

2.3 Do you have water-saving measures to help save water at home?

3. Do you see yourself as a conservationist? If yes, why?

4. Do you belong to any conservation group/organisation?

If yes, please name the organisation.

5. Do you make any other type of contribution to conservation organisations?

If yes, please elaborate.

6. Do you take part in any voluntary work in conservation areas?

If yes, please elaborate.

Do you have any comments or suggestions regarding this research?

NON-CONSUMPTIVE TOURIST QUESTIONNAIRE

SECTION A: DEMOGRAPHIC DETAIL

1. Gender? _____
2. In which year were you born? _____
3. What is your home language? _____
4. What is your marital status? _____
5. What is your country of residence? _____
6. What is your highest level of education? _____
7. What is your occupation? _____

SECTION B: TRAVEL BEHAVIOUR

1a. Please indicate whether you are a first-time visitor or return visitor.

1b. If a RETURN VISITOR, how many times have you visited the game reserve in the past three years?

2. Including yourself, how many people are travelling in your group?

3. How many nights did you stay at the game reserve?

4. Estimate how much you have spent on the following during your visit to the game reserve (indicated in US dollar).

Daily rate	\$
Beverages	\$
Clothes and footwear	\$
Travel to Namibia	\$
Travel to the ecolodge	\$
Souvenirs and jewellery	\$
Additional activities	\$
Other expenses not listed above	\$
Specify:	

5. What are the typical destinations you prefer to visit?

Natural areas
Coastal areas
Resorts
Cities
Game reserves
Cultural areas
Historical sites
Other (specify)

1
2
3
4
5
6
7
8

6. What would you say were your biggest motivators for visiting this game reserve?

To learn from nature
To relax
To see animals
To go on game drives
Photography
Other (specify)

1
2
3
4
5
6

7. Do you think the fact that you have paid for your visit to the game reserve entitles you to the following:

Use water excessively. Please elaborate.

Use electricity excessively. Please elaborate.

Have new consumables in the bathroom on a daily basis. Please elaborate.

Daily cleaning of linen and towels in the room. Please elaborate.

8. While visiting the game reserve, would you say that the majority of the tourists have a positive or negative impact on the environment?

Please elaborate on this.

9. While visiting the game reserve, what was your behaviour to lessen your impact on the environment?

Please explain.

10. What was the highlight of your trip to the game reserve?

SECTION C: PERCEPTIONS REGARDING ENVIRONMENTAL IMPACTS AT THE GAME RESERVE

1. Regarding your visit to the game reserve, what do you think are your impacts on the following:

Soil loss / erosion. Please elaborate on this.

Water pollution. Please elaborate on this.

Vegetation loss. Please elaborate on this.

Disruption of wildlife. Please elaborate on this.

Water use. Please elaborate on this.

Air pollution. Please elaborate on this.

Energy use. Please elaborate on this.

Depositing of litter. Please elaborate on this.

2. To what extent do you agree or disagree (using a tick) with the following statements with regard to your visit at the game reserve:

	5. Strongly agree				
	4. Agree				
	3. Neutral				
	2. Disagree				
	1. Strongly disagree				
I ate all the food that I served myself during meals (no food waste)	1	2	3	4	5
I switched the lights off when leaving the room	1	2	3	4	5
I kept the water tap running when I brushed my teeth or washed my face	1	2	3	4	5
I prefer having my towels changed on a daily basis	1	2	3	4	5
I put my trash in the trash bin	1	2	3	4	5
I switched off the fan, heater or aircon when not in the room	1	2	3	4	5
I prefer to shower	1	2	3	4	5
I prefer to bath	1	2	3	4	5
I shower or take a bath twice a day	1	2	3	4	5
I shower for less than five minutes	1	2	3	4	5
I prefer a full tub of water when taking a bath	1	2	3	4	5
I wanted my laundry to be washed on a daily basis	1	2	3	4	5
I consider myself responsible towards the environment when travelling	1	2	3	4	5

3. It is important to look after the environment, especially from a tourist's perspective. With this in mind, please answer the following questions below:

3.1 While visiting the game reserve, what contribution did you make towards a greener environment and conservation? Please explain.

3.2 What do you think is the money you spent at the game reserve used for?

3.3 What do you think is the water resource for the ecolodge at the game reserve?

a) Borehole

- b) River
- c) State supply

3.4 How do you think the ecolodge contributes to conservation and greener practices?
Please explain.

3.5 On arrival at the game reserve, did you bring along any of the following: empty plastic bottles, empty glass bottles, left-over food stuff, etc.
If yes, what did you do with it?

4. What is your perception regarding the following aspects at the ecolodge:

4.1 Recycling. Please elaborate.

4.2 Conservation of electricity. Please elaborate.

4.3 Conservation of water. Please elaborate.

4.4 Waste disposal system for litter, solid waste, hazardous waste, etc. Please elaborate.

4.5 Habitat degradation and loss of biodiversity due to overutilisation of natural resources.
Please elaborate.

SECTION D: PERSONAL ENVIRONMENTALLY FRIENDLY BEHAVIOUR AT HOME

1. To what extent do you agree or disagree (using a tick) regarding your environmental impact behaviour at home:

	5. Strongly agree				
	4. Agree				
	3. Neutral				
	2. Disagree				

1. Strongly disagree					
At home, I eat all the food that I serve myself during meals (no food waste)	1	2	3	4	5
At home, I switch the lights off when leaving the room	1	2	3	4	5
At home, I keep the water tap running when I brush my teeth or wash my face	1	2	3	4	5
At home, I prefer clean towels on a daily basis	1	2	3	4	5
At home, I put my trash in the trash bin	1	2	3	4	5
At home, I switch off the fan, heater or aircon when not in the room	1	2	3	4	5
At home, I prefer to shower	1	2	3	4	5
At home, I prefer to bath	1	2	3	4	5
At home, I shower or take a bath twice a day	1	2	3	4	5
At home, I shower for less than five minutes	1	2	3	4	5
At home, I prefer a full tub of water when taking a bath	1	2	3	4	5
At home, I want my laundry to be washed on a daily basis	1	2	3	4	5
At home, I consider myself responsible towards the environment	1	2	3	4	5

2. What is your personal behaviour at home regarding the following aspects:

2.1 Do you recycle at home? If yes, what do you do?

2.2 Do you have appliances and systems in place to conserve energy at home? If yes, what type?

2.3 Do you have water-saving measures to help save water at home?

3. Do you see yourself as a conservationist? If yes, why?

4. Do you belong to any conservation group/organisation?
If yes, please name the organisation.

5. Do you make any other type of contribution to conservation organisations?
If yes, please explain.

6. Do you take part in any voluntary work in conservation areas?
If yes, please explain.

Do you have any comments or suggestions regarding this research?

Appendix C: Letter of consent



LETTER OF CONSENT

22 June 2020

Dear Respondent,

I, Mr M.H. Koch, am a student at the Tourism Research in Economic Environs and Society (TREES), the tourism research entity at the North-West University. I am currently conducting research and would like you to take part in it.

The current research title is *A comparison of the perceived environmental impacts of consumptive and non-consumptive wildlife tourism*. The primary goal of this research is to compare the perceived environmental impacts of consumptive and non-consumptive wildlife tourism at the game reserve. To compare non-consumptive with consumptive wildlife tourism, the author will also ask financial income from the two forms of wildlife tourism, and respondents do not have to disclose this information.

Please note the following:

- Your participation in this research is completely voluntarily and confidential, and you will receive no form of compensation.
- Your information will remain anonymous – no personal information that can link the data to you will be asked.
- If you feel, at any time, that you want to halt participation in this study, please feel free to do so.
- This interview should take approximately 15 to 20 minutes to complete.
- With your consent, the interview will be recorded.

By continuing with this interview, you agree to the terms and conditions of this research. For any further information, feel free to contact the principal researcher, Mr M Koch, at machielskoch@gmail.com, or the study leader, Prof Peet van der Merwe at peet.vandermerwe@nwu.ac.za.

Yours sincerely

Mr M Koch

Master's student at the NWU

Appendix D: Ethics approval letter



Private Bag X6001, Potchefstroom
South Africa 2520

Tel: 018 299-1111/2222
Web: <http://www.nwu.ac.za>

Economic and Management Sciences Research
Ethics Committee (EMS-REC)
Tel: 018 299-1427
Email: Bennie.Linde@nwu.ac.za

19 September 2019

Prof P van der Merwe
Per e-mail
Dear Prof van der Merwe

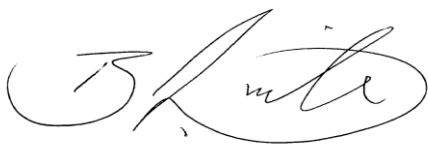
EMS-REC FEEDBACK: 30082019
M Koch (12519103)(NWU-01319-19-A4)
MA in Tourism Management – Prof Peet van der Merwe

Your ethics application on, *A comparison of the perceived environmental impacts of consumptive and non-consumptive wildlife tourism: The case of Mount Etjo Game Reserve*, that served on the EMS-REC meeting of 30 August 2019 (Round-robin), refers.

Outcome:

Approved as a no-risk study. A number **NWU-01319-19-A4** is given for three years of ethics clearance.

Kind regards,

A handwritten signature in black ink, appearing to read 'B. Linde'.

Prof Bennie Linde
Chairperson: Economic and Management Sciences Research Ethics Committee (EMS-REC)
Potchefstroom Campus

Appendix E: Theme regarding the background of the game reserve

Theme	Categories
History, size and demographics of the game reserve	- Brief history - Size - Main land use forms - Integration of hunting and tourism - Game species - Employment - Future plans

Appendix F: Themes regarding non-consumptive wildlife tourism at the game reserve

Themes	Categories
The characteristics of the tourist lodge	- Outlay - Income generated - Busiest time of the year - Marketing strategy - Return visits
The background of the non-consumptive wildlife tourists	- Origin of non-consumptive wildlife tourists - Group size - Duration of stay
Challenges	- Volume of food - Water use - Waste generated - Recycling - Employees
Perceived environmental impacts	- Positive contributions the tourist lodge makes towards the environment - Negative contributions the tourist lodge makes towards the environment - Behaviour of non-consumptive tourists - Overall impact

Appendix G: Themes regarding consumptive wildlife tourism at the game reserve

Themes	Categories
The characteristics of the hunting lodge	- Layout - Income generated - Busiest time of the year - Marketing strategy - Return visits
The background of the consumptive wildlife tourists	- Origin of hunters - Group size - Duration of stay - Number of animals hunted - Preferred species to hunt
Challenges	- Volume of food - Water use - Waste generated - Recycling - Trends in the market - Animal rights organisations
Perceived environmental impacts	- Positive contributions the hunting lodge makes towards the environment - Negative contributions the hunting lodge makes towards the environment - Behaviour of consumptive wildlife tourists - Overall impact