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**Responsible nature-based tourism:
Rotorua Canopy Tours in the Dansey Road Scenic
Reserve in New Zealand; a critical review**

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ABSTRACT

The overall objective is to examine whether the Rotorua Canopy Tours (RCTs) in the Dansey Road Scenic Reserve (DRSR) follows the rules of sustainability. Tourism is primarily based on the natural environment because it plays a vital role for attracting tourists to various destinations. Consequently, massive tourist demand creates a huge stress on the natural environment. This has resulted in creating different concepts from time to time such as sustainable tourism, responsible tourism, ecotourism and ethical tourism in order to salvage the environment from tourism's often predatory practices. New Zealand is popular as a clean and green country which has led to dramatic tourist flows to its unspoiled natural environments. This enormous demand emphasises the necessity for responsible nature-based tourism. My research seeks to discover whether any efforts are being made to render attractions more environmentally friendly. Such actions should ensure that commodification of the environment does not jeopardize its long-term sustainability.

This research uses a case study, RCTs, as an activity in the nature-based tourism sector to determine whether it offers a sustainable form of tourism. The research site in the DRSR was selected because it is known as the only native forest zipline canopy tour in New Zealand and brands itself as nature-friendly. This research focuses on how its owners conduct their activities and how they direct tourists to behave responsibly when on tour, in order to determine whether they fulfil the requirements of responsible nature-based tourism. The study scrutinizes how they discourse about the activities they have set up and their environmental consequences. It also examines how the conservation programme run by the Department of Conservation that they collaborate with addresses responsible tourism.

A qualitative research methodology was used for this research because my interest was in obtaining social perspectives and attitudes of the people involved in the commodification of nature. I was particularly interested about how they conceive responsible nature tourism and how they believe it can be implemented. Such issues are difficult to understand when using statistical or other quantitative methods and analysis. Critical discourse analysis was applied for data analysis. Both pros and cons have been identified in the various perceptions of key stakeholders on implementing sustainability principles to nature-based tourism. Even though the operators are making efforts to conserve the native birds, they need to have support of other stakeholders to make it effective and productive.

DEDICATION

*This thesis is dedicated to you my love – **Uvindu!***

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ACRONYMS

CBD	Central Business District
CDA	Critical Discourse Analysis
DoC	Department of Conservation
DRSR	Dansey Road Scenic Reserve
LINZ	Land Information New Zealand
MDGs	Millennium Development Goals
MPI	Ministry for Primary Industries
NZ	New Zealand
PATA	Pacific Asia Travel Association
RCTs	Rotorua Canopy Tours
RMA	Resource Management Act
SDG	Sustainable Development Goals
TIA	Tourism Industry Aotearoa
TNZ	Tourism New Zealand
TOST	Tourism Studies
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNEP	United Nations Environment Program
UNWTO	United Nations World Tourism Organization
WTO	World Tourism Organization

CHAPTER 1

Introduction

මේතසේ බොහෝ - පැණි දොඩම් තිබේ
පැහැලා ඉදිලා බීමට නැමිලා - බරවෙලා අතු
නංගියි මටයි - ගෙඩි දෙකක් ඇති
චැඬිය කඩන නරක ළමයි - හෙම නොවේ අපි

*This tree is full of sweet juicy oranges
Now they are ready to enjoy, branches can't bear any more
only two are enough, for me and my sister
Because we are not naughty kids who pick more than they can eat*

- Sri Lankan children's poem

1.1 Introduction

This poem first taught me about responsible use of resources and to respect future users. Today, many discourses are diffused against the excessive consumption of natural resources and environmental degradation. Thus, many people believe the concept of sustainability is the only solution for real time global issues. In fact this concept is being applied to the economy, agriculture for example, as well as in the tourism industry. Significantly, the United Nations (UN) have designated this year as 'International Year for Sustainable Tourism for Development' (UNWTO 2017). It aims to achieve the seventeen Sustainable Development Goals (SDGs) by 2030 committing to reduce global CO₂, raise funds to protect heritage wildlife, ecosystems and natural resources. It again endorsed the belief that: 'Tourism is the Passport to Development' by means of economic growth, poverty reduction, providing jobs and supporting human well-being (Kadt 1979).

Despite positive discourses in tourism, some argue that 'Tourism is destroyed by tourism' (Holloway 2012). This idea is certainly true when considering the negative environmental and social impacts of tourism (Mowforth and Munt 2016). If tourism pollutes the natural environment and changes the local culture then how one can expect tourism to continue? Consequently, tourism needs to practice sustainability to ensure it provides the expected benefits. However, tourism is an ever changing set of activities which is important to study because new products are constantly put on the market. Nobody knows what detrimental impacts can occur because profit is the high priority (Lovelock and Lovelock 2013). One of the new products in search of profits is the topic of this thesis.

Social Science researchers' responsibility is to find out how genuine these products are. How far do they follow guidelines of sustainable tourism? In what way does such commodification of nature affect the local community and natural environment? What are the advantages and disadvantages for the economy, society and especially the environment? How does it ensure the long term sustainability of tourism activities? Are tourists satisfied with these products? Finally, what are the possible solutions to ensure the sustainability of nature-based adventure tourism in New Zealand?

1.2 Tourism in New Zealand

Concurrently, tourism plays a remarkable role in the New Zealand context considering the upsurge in the number of tourists' arrivals. Last year was a milestone for New Zealand tourism as its export earnings exceeded those of the dairy sector for the first time with a \$12.9 billion contribution (Cook 2016). Now tourism has become the country's largest foreign exchange earning sector with more than 3.4 million international tourist arrivals (TNZ 2017a). The Visitor survey 2015 demonstrated that the natural environment was the key reason for tourists to choose New Zealand (TNZ 2015). Nature is a sensitive factor for New Zealand tourism as the country has a small population (around 4 million), and there is only one big city to entertain tourists with different artificial urban experiences. Additionally, heritage attractions are also limited except for Māori cultural sites because of its young history. Therefore, one can argue that the lure of New Zealand tourism is primarily its natural environment.

For several decades Tourism New Zealand (TNZ) constantly promoted that one concept to influence the world tourism market. 'Scenic wonderland', 'nuclear free', 'clean and green', and '100% pure' are the slogans New Zealand used (Bell 2008). This has built an image of a New Zealand which has a clean and pristine environment. This impression is the result of a long term branding process. As the international visitor experience survey (TNZ 2015) reveals, 99% of tourists are still satisfied with the New Zealand environment. Further, "72% of tourists say that New Zealand's environmental management is among the best or ahead of most countries. Spectacular landscapes are the most stimulating factor for visiting New Zealand or for recommending by word of mouth" (TNZ 2015). Tourists might comment

favourably when they do not really understand the ground level scenario because they come for entertainment not to research.

Relative to the nature-based tourism sector in New Zealand, there is another twin segment which is adventure tourism. TNZ confirms that “1 in 2 international holiday tourist (gender or age are not identified as a barrier) did some sort of adventure activity during their stay in New Zealand” (2013) which enables one to identify adventure as a main stream activity in New Zealand tourism. The natural environment has strengthened this adventure sector by displaying beautiful landscapes, water sources and beaches. 30% of the land area are governed by the Department of Conservation (DoC) including 13 national parks and more than 10,000 protected areas in New Zealand (Molloy 2017). The government also supports tourism development by providing these lands to private tour operators with legal agreements. But what these operators do when commodifying the natural environment needs to be researched.

1.3 Canopy tourism

Canopy tourism is a comparatively new activity which can be placed between nature-based and adventure tourism. Other types of tourism also occur in forests like safari, hiking and bird watching but the difference is that canopy tourism happens above the forest. Thus, this tourism activity has a passive contact (observe only) with the forest so it is labelled nature friendly. First, it is believed that it has less effect than the other activities done on the ground e.g. hunting, camping, off road driving or trekking, which sometimes may also expose vulnerable tourists to dangerous animals. When the number of trekking lines is high, it again may affect wildlife by crossing their paths and limiting their behaviours. Tourists also get more opportunities for littering and vandalism. Therefore, many scholars see the positive side of canopy tourism done above the forest (Lowman, Burgess and Burgess 2006; Ramlan, Aziz, Yahya, Kadir and Yacob 2012; Seibel 2010).

Second, the economic impact that canopy tourism can generate is high and long term when compared with other economic activities in the forest like wood production, pasture, slash-and-burn cultivation, hunting or gathering (Seibel 2013). These are primary economic activities that provide little added value but when nature-based tourism is started in the forest, it introduces a service sector activity.

Some contemporary stories about canopy tourism in less developed countries reveal that the hunters have been trained as eco-guides and later on they have become more dedicated guides for protecting wildlife and educating tourists about the forest e.g. Loango National Park, Gabon and Iwokrama River Lodge, Guyana (Ross 2004; Personal contacts: Raquel Thomas-Caesar, 2017).

When the locals obtain service sector jobs, who amongst them would not like to give their hands to protect the forest and wildlife and to protect their income? Accordingly, the time has come to think and change the use of the forest to ensure the sustainability of its biomass and of local livelihoods. Locals' education level and skills are not a decisive factor to get a job in the tourism sector as tourism opens many opportunities. Thus tourism development can be identified as a solution for forest depletion and climate change issues.

Third, conservation, education and community benefits are essential parts of canopy tourism because at the beginning canopy facilities were built for research and education purposes. Later on it was used for leisure purposes. Therefore, conservation, education and community benefits have remained as the main principles of canopy tourism. Therefore, canopy tourism is obviously more special than other economic activities or other types of tourism activities done in the forest as it is in line with the principles and rules of sustainable tourism development.

Here is one such case of nature-based adventure tourism which is conducted in a native forest under DoC. Rotorua Canopy Tours (RCTs) brand themselves as nature-friendly and New Zealand's only native forest zipline tour. This has become one of the must do activities in Rotorua as Trip Advisor ranks it as first out of 59 activities in Rotorua (Tripadvisor 2017). They recently won the Air New Zealand Supreme Tourism Award and Environmental Tourism Award at the New Zealand Tourism Awards in 2016. Tourism Industry Aotearoa (TIA) chairman, Chris Robert praised them: "we had entries from big corporates to small businesses, ranging from one operator that has been in business for over 100 years to our Supreme Award winner, an exciting young company achieving fantastic results in just 4 years of business" (Travel website for New Zealand 2016).

This business just celebrated 4 years of existence but it becoming the Supreme Award winner was not a random incidence. The owner interprets this tour as "personal encounters with nature, mixing thrill and excitement with passive forest

observation and environmental appreciation” (Martin 2012 4). But how and in what way do tourists appreciate the environment while mixing thrill and fun is the question that this thesis tried to construct an answer to. The owners of RCTs cooperate with DoC. They obtained a concession in a native forest where they could build their facilities and they insist that they have established a conservation programme to protect the forest. Such action should qualify them as an environmentally friendly activity.

Canopy tourism is certainly a new type of tourism in the world and in the New Zealand context, it becomes a brand new experience as the first infrastructure was built in 2001. Environmental potentials, government support, a positive New Zealand world image and tourists’ expectations matched each other and created an optimum space to grow this tourism sector in this land. Still no research has been conducted so far on New Zealand canopy tourism, so probably this would be the first academic research project on the topic.

1.4 Research question and objectives

The overall objective of this study is to examine whether the RCTs in the Dansey Road Scenic Reserve (DRSR) follows the rules of sustainability, so my research question is:

Can canopy tourism (as an example of nature-based adventure tourism) commodify nature in a sustainable way so that it can provide thrills and education for tourists as well as benefits to the local community?

I used RCTs and the DRSR it is located in as a case study to respond to the specific objectives that follow in order to answer the research question.

1. To explore the role and participation of three major stakeholders, like tour operators, tourists and DoC.
2. The thesis will also look at the degree of sustainability of decisions made by these stakeholders. Canopy tour operators are engaged in a native bird conservation project in collaboration with DoC. This research then aims to discover how the conservation program is conducted, whether it is effective, and its link to tourist activity.
3. To determine the achievement of three main aims of Canopy Tour Organizers such as fun, adventure and education. In other words, can the

owners use fun and adventure to raise awareness about the environment? It is then important to examine how tourists react to directives about greater nature-friendliness.

4. To find out good practices that others can follow to establish a nature-friendly and responsible form of tourism.

1.5 Structure of the thesis

The first chapter outlines the background of this study which concerns sustainability, tourism and their importance in today's world. Then I discuss how canopy tourism contributes as an economic activity and its appropriateness for tourism in New Zealand. The last part of this chapter presents my research question and objectives, and then the structure of the thesis.

The second chapter discusses the theoretical framework of this study. The first part is about the relationship between adventure and nature-based tourism. It supports the identification of my case study between these two categories. Then I examine canopy tourism at the global and national levels on the basis of various scholars' research. The final section of this chapter presents sustainability and its subsequent use in formulating sustainable tourism and responsible tourism to understand the consequences of tourism development.

The third chapter is about the research methodology and methods I used to design my research project. In this chapter, I discuss qualitative methodology and its appropriateness for this type of Social Science research. Then I explain how I practiced reflexivity throughout the field work and my positionality. The next part of the chapter clarifies what methods I used for data collection and analysis. My personal field research experience is also included as appropriate.

The fourth chapter gives a complete overview and a first analysis of the case study in this research project. After a description of the geographical characteristics of the study area: DRSR, it examines how RCTs and their conservation efforts function.

The fifth chapter contains the main analysis of the field data. Critical discourse analysis was applied to the data collected from various stakeholders through qualitative methods to discover how well RCTs implement their discourse about their nature friendliness and thus the level of sustainability they practice.

The final chapter reveals the outcome of this research: constraints and strengths of the sustainability practices and the lesson learned. A few suggestions for improving the business's standard, research limitations and future research directions are also discussed.

CHAPTER 2

Responsible Nature-Based Tourism

“Tourism is like fire-out of control, it can burn down your house, but if you harness that energy, you can cook food with it”

Christ (2003)

2.1 Introduction

Tourism is a significant phenomenon in today’s world with a high capacity to affect the environment as well as human society up to both positive and negative extremes (Torres-Delgado and Palomeque 2014). This industry has had detrimental impacts on some environments and societies while elsewhere it has been able to flourish. All the stakeholders are responsible for whatever results it offers (Waligo, Clarke and Hawkins 2015). Minimizing the negative impacts and equitably distributing the benefits are the ultimate goals of sustainable tourism. These goals are emphasized in the academic context but their practical application needs to be investigated.

This chapter considers relevant literature from various secondary sources or previous research and draws the theoretical framework for this research project to support understanding of the circumstances that characterize my case study in order to fulfill my research objectives (Buckley 2012). What can sustainable tourism development be? How sustainable tourism is approached by canopy tourism? Does my case study site practice the rules of sustainability? These are the questions this research project seeks to answer using the theoretical framework designed in this chapter. This framework will also guide my choice of methodology.

Sustainability is a broad and adaptive paradigm many disciplines follow in addition to being known as a topic much discussed for the last few decades (Ballantyne, Packer and Sutherland 2011; Hunter 1997; Sharpley 2000). Practice or implementation of sustainability implies that economic actions are subordinated to social and ecological priorities. It has received many critics because it is deemed too difficult to implement. It has, however, been adopted even if only as a discourse, by different human activities such as tourism. Sustainable tourism is one of those discourses that has its origin in the sustainability paradigm. Sustainable tourism

emphasises the three dimension interrelationship between humans, environment and development combined with socioeconomic and political elements (Sharpley 2009; Shaw and Williams 2002).

Nature-based tourism is the branch which has been selected for this research because it relies on nature and this study is concerned with its environmental impacts through various stakeholders' perspectives. Ecotourism and responsible tourism have been developed as more environmentally friendly forms and both are conceptually and mutually reinforcing themes which are supposedly derived from the principles of sustainability. They share some similarities with nature-based tourism which explains why nature-based tourism should be responsible (Briassoulis 2002).

Canopy tourism in New Zealand is the selected sub-branch of nature-based and adventure tourism as it is an emerging sector which utilizes and relies on the country's clean and green image. TNZ supports canopy tourism, in fact, because of the suitability of geographical conditions, nature and landscape in this country. New Zealand's natural landscapes no doubt encourage nature-based adventure tourism. Further, environmental conservation and sustainability are important concerns to enhance the country's image in the global market. I was curious to see how a particular business in New Zealand was responding to these demands.

Since this project examines how sustainable a certain form is, as practiced in New Zealand, the chapter starts with a general description of tourism, followed by a study of nature-based tourism, as well as of the role of adventure in the nature-based tourism sector. The next section covers the main topic canopy tourism, types, structure and characteristics, as well as its geographic distribution at the global and local scale. Sustainability and the sustainable development concept are then discussed prior to presenting sustainable tourism discourses (Bramwell 2015), principles, indicators, and tools from various scholars' viewpoints (Juvan and Dolnicar 2014). This allowed me to sharpen my vision of tourism sustainability in order to gain answers to sustainability questions in New Zealand canopy tourism.

2.2 Tourism

Tourism is a broad, globalized phenomenon linked to various dimensions of social, economic and environmental impacts (Darbellay and Stock 2012). Though tourism

is an old concept, after the Second World War it emerged as an economic activity of social significance (Murphy 1991). In the past, tourism was a luxury activity which could only be afforded by upper level social classes but in late 19th century, it gradually became affordable to the middle class community (Williams and Lew 2015). Today, modern tourism is a rapidly growing industry and a large foreign income generator worldwide. Correspondingly, tourism creates a great number and a wide range of employment opportunities. Therefore, many countries around the world believe that the tourism industry can make a growing impact on their economic development (Hall and Lew 2009).

Tourism is different from travel or day to day mobility. There is no exact academic definition for tourism though there have been many discourses for several decades. Thus, many writers indicate some particular factors or conditions to recognize 'what is tourism' (Murphy 1991; Shaw and Williams 2002; Wall and Mathieson 2006). It is known as an experience industry since according to some authors (Robinson cited in Murphy 1991 03; Shaw and Williams 2002) tourism sells experience. Other authors refuse to identify tourism as an industry as it does not produce goods or any other special product (Murphy 1991). Tourism exploits products such as the natural environment (e.g. forests, beaches) or cultural sites (e.g. ancient heritage). Unlike in other industries, tourism consumers (tourists) travel to the product rather than the product go to the consumer.

Some may think of tourism as based on a time from, for example, between more than one night to less than a year if someone is traveling out of his/her own habitat. At the same time, writers stress that tourism is combined with leisure related activities (Shaw and Williams 2002; Wall and Mathieson 2006). According to the UNWTO definition (1955 1), "tourism comprises the activities of persons traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business, and other purposes". Since, tourism has dramatically evolved to include education, visiting friends or relatives and many other purposes.

Wall and Mathieson (2006) agree with the UNWTO definition but add that tourism includes the facilities and services in the destination areas which support tourists' activities. Tourism is a combined process that consists of leisure and services/industries for transport, accommodation, food and beverages,

communication and retail. Tourists are the recipients of these services while government, the private sector and the local community are the service providers or facilitators of this tourism industry. On the other hand, these facilitators have become beneficiaries when considering the foreign revenues and employment opportunities. Therefore, tourism is a result of numerous activities which inter-link (with) multiple stakeholders (Williams and Lew 2015).

Darbellay and Stock (2012 443), citing Leiper, agree that tourism is a system which has five elements: tourists, tourism industry and three geographical elements: generating region, transit route and destination region. This research focuses on three of those elements: tourists, tourism industry and destination region. In this research, the DRSR is the destination which is a protected native forest under DoC. RCTs and their operations are used in this research to determine the essence of nature-based tourism. They are a small part of the tourism industry in the form of one attraction. Tourists are involved as participants for this study. This project concentrates on the relation between nature-based tourism and nature to examine how positively sustainable it is.

The four 'Ss' concept (sun, sea, sand and sex) was popular in the period when the tourism industry emerged but as mentioned in the second and third paragraph of this section, tourist purposes have now diversified. Tourists are much more fascinated in gaining different experiences and they have various motivations (Williams and Lew 2015). Even though beaches are still famous among tourists who are interested in sunbathing, surfing and diving, different sub-branches have emerged recently: adventure tourism, religious tourism, nature tourism, dark tourism, heritage tourism and so on. The various adjectives used in front of the term tourism seem to indicate that each is a special kind of tourism but all in all, they all describe the same tourism. Putting adjectives before tourism or naming tourism now has become a special market trend for branding and promoting businesses.

Another reason to establish these various types of tourism is the fact that mass tourism has degraded the environment and culture of many areas (Murphy 1991; Prentice 2004; Shaw and Williams 2002). Meanwhile, the transformation of the development concept affected tourism so that some forms are now labelled as nature-friendly or sustainable tourism. These alternative forms of tourism have also been named nature tourism, ecotourism, responsible tourism or ethical tourism.

Tour operators now seek to demonstrate that they are conscious of the negative effects of their products not just of their positive contributions (Sampaio, Thomas and Font 2012).

The tourism industry provides memorable experiences. It offers activities and builds infrastructure to facilitate the activities and these experiences. Disney World is one such theme park which offers a number of activities for all age groups in an artificial environment (Walt Disney World 2017). Great Walks are famous in New Zealand which include different activities such as mountain biking, camping, hiking and photographing in different natural settings. Accommodation, transport services and guiding facilities are available to offer much comfortable touring (Department of Conservation 2016d). The next section examines one of these new forms.

2.3 Nature-based tourism (as a form of sustainable tourism)

Nature tourism and nature-based tourism have always relied on the same idea but many scholars (Hall and Boyd 2005; Pickering and Weaver 2003) prefer the term 'based' with nature to stress the meaning and better indicate how it relies primarily on nature. Christ, Hillel, Matus and Sweeting (2003 04) defined nature tourism as "travel to unspoiled places to experience and enjoy the nature". In 2003 (03), the book *Tiger in the Forest: Sustainable Nature-Based Tourism in Southeast Asia* defined nature-based tourism as "the segment in the tourism market in which people travel with the primary purpose of visiting a natural destination". (Goodwin 1996 287) adds that "the use of natural resources [is] in their wide and undeveloped forms". Certainly, nature tourism or nature-based tourism describes activities which occur within natural places away from home. None of these definitions, however, show much concern about the outcome or quality of the tourism product.

On the other hand, the concept of ecotourism or sustainable tourism highly emphasizes the impacts of nature or nature-based tourism on the natural environment and the local people (Kuenzi and McNeely 2008). These terms were used at the beginning stage of tourism in natural areas. Green tourism, ecotourism, and sustainable tourism are modern and conceptually developed terms used nowadays to indicate somewhat more responsible tourist activities conducted in natural environments (Hardy, Beeton and Pearson 2002; Leslie 2012; Pforr 2001).

However, it is clear that green tourism, ecotourism or sustainable tourism concepts come under the umbrella of nature or nature-based tourism (Weaver 2005).

2.3.1 Scope of nature-based tourism

Mirzaei (2013) has described the scope of nature-based tourism (Table 1). Firstly, this table represents some types of tourism within the boundary of nature tourism like adventure tourism and wildlife tourism as well as ecotourism, sustainable tourism and green tourism. Second, this table depicts some of the qualities expected from nature tourism, for instance ethical tourism and soft tourism, but at present nature tourism must be responsible. Therefore, responsible tourism should be included in this table. Third, one can question why agro tourism, agricultural tourism or farm tourism are considered nature tourism because these are located in human-made environments and offer experiences of human activities. In some of the literature rural tourism is also considered nature tourism (e.g. Eagles, Bowman and Tao 2001). Rural areas are human settlements and different from natural environments not yet transformed. Thus, I question whether rural or agricultural landscapes identify as natural environments.

Table 1: The scope of nature-based tourism

The scope of nature-based tourism	
Nature-oriented tourism	Nature travel
Environment-friendly tourism	Wildlife tourism
Environmental pilgrimage	Ecotourism
Ethical tourism	Nature tourism
Soft tourism	Special interest tourism
Agro tourism	Green tourism
Agricultural tourism	Farm tourism
Alternative tourism	Adventure tourism

Source: Adapted from Mirzaei (2013 22), Used with the permission

2.3.2 Types of nature-based tourism

According to Goodwin (1996 278), "nature-based tourism encompasses all forms of tourism: mass tourism, adventure tourism, low-impact tourism, ecotourism which use natural resources in a wild or undeveloped form including species, habitat, landscape, scenery and salt and fresh water features". Here the author mentions that nature-based tourism includes all types of tourism including mass

tourism. However there is confusion about why all types of tourism are taken into the nature tourism category. Some types of tourism such as urban tourism, sex tourism, casino tourism or heritage tourism are not ever nature tourism (Weaver *et al.* 1999). On the other hand mass tourism may also have different purposes like beachside resort holiday tourism or any other kind of tourism which is conducted in a human made environment. Therefore, it is inappropriate to generalize mass tourism as a type of nature tourism, although in some cases nature tourism is practiced by large numbers of people.

Therefore we can agree with the rest of the definition that adventure tourism, low-impact tourism and ecotourism can be grouped under nature tourism. Meanwhile, a question can be raised about what are these different types of nature-based tourism. Weaver *et al.* (1999) have illustrated a resource based classification for nature-based tourism (Table 2).

Table 2: A classification of nature-based tourism resources

Category	Elements
Climatic	Warm weather, cool weather (for winter sports), low precipitation, moderate cloud cover, moderate breezes
Hydrological	Oceans/seas, lakes, rivers, waterfalls, geothermal water, glaciers, snow, wetlands
Lithospheric	Mountains, beaches, canyons, caves, fossils, dunes, gemstones
Biotic	Plants, animals, insects, reptiles, fish
Celestial	Stars, eclipses, aurora borealis/australis

Source: Adapted from Weaver *et al.* (1999 08), Used with the permission

In general, the environment consists of five spheres according to geographical definitions such as atmosphere, hydrosphere, lithosphere, biosphere and human sphere. In this classification (Table 2), the human sphere is not included as they are the people involved in tourism. Instead a celestial sphere has replaced the human sphere with space tours as space travel has become a popular concept.

Present day nature tourism appreciates the category of non-captive and non-consumptive wildlife (Figure 1). This classification also can be applied to natural vegetation. For instance, at one end there is natural vegetation which is non-captive and non-consumptive (for nature-based tourism) while at the other end there might be agricultural tourism or spice garden tourism. My research is located in this

classification, within the non-captive and non-consumptive category: the DRSR is a DoC land in which native forest and wildlife are highly protected.

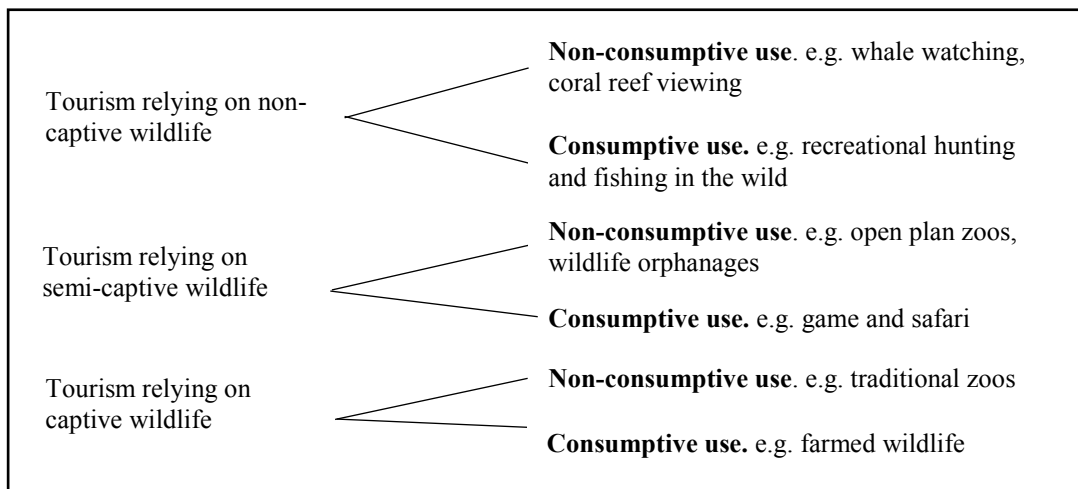


Figure 1: Types of wild life tourism
 Source: Adapted from Tisdell and Wilson (2012 05), Used with permission

2.3.3 Classifications of different activities in nature-based tourism

Hall and Boyd (2005), mention three forms of nature-based tourism considering the way tourists interact with the natural environment. One is doing tourist activities in natural settings like adventurous activities. Second is travel that focuses on a special element of the natural environment like bird watching or wildlife safari. Third is tourism which is conducted in conservation or protected areas, e.g. ecotourism or visit to national parks. Significantly, RCTs in DRSR is an example that consists of all three forms in one place because it has some adventurous activities like zip-lines. It also enables watching rare birds and it occurs in a DoC protected native forest. Valentine (1992) has introduced tripartite activities tourists engage in during their nature tour such as dependent, enhanceive and incidental activities (Figure 2). ‘Dependent activities’ fully depend on nature like wildlife observation.

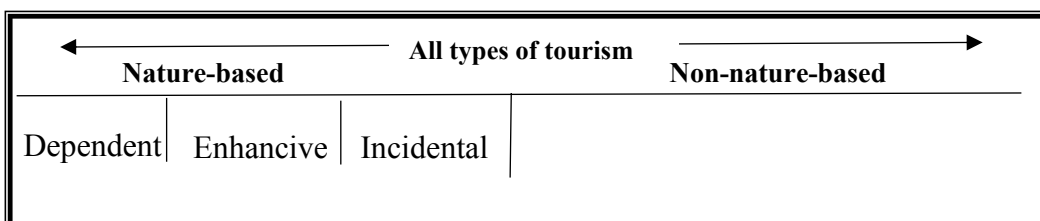


Figure 2: Types of activities in nature-based tourism
 Source: Adapted from Weaver, Faulkner and Lawton (1999 08), Used with permission

In Valentine's point of view the idea of 'enhancive activities' are the practices which increase the value of the natural environment in a positive manner. But I question the example, camping, that Valentine uses to explain enhancive activities. The problem is how can camping enhance nature; even examples are very rare. Few can agree that camping leads to natural enhancement because it often causes degradation of the natural environment. Some 'incidental activities' arise depending on the availability of time or resources, for instance sun bathing or rock climbing.

In this research these three types of tourist activities are examined to determine the impact of each on the natural environment. When I first attempted to conduct participatory observation I noticed that there was no way for participants to conduct incidental activities as the canopy tour is pre-planned and fixed in a specific time frame. However it was possible to study dependent and enhancive activities. The canopy tour can be considered as a dependent activity because the canopy walkways and zipping line are installed in a native forest, therefore, fully dependent on nature. The tour operators also highlight their native bird conservation project as a kind of nature enhancement but it needs to be carefully examined.

Direct values describe how tourists experience nature by visiting, engaging with some activities and being in direct contact with nature. Indirect value occurs when tourists passively interact with nature like photo taking or just sightseeing. In this research I have focused on the direct and optional values in DRSR as described by Huijbens and Benediktsson (2013).

2.3.4 Ecotourism

Ecotourism is a conceptualized version of nature-based tourism which was introduced around three decades ago. Some writers indicate that ecotourism is the shortened form of 'ecological tourism' (Ceballos-Lascuráin 1996). Ecotourism has currently become big business and is the fastest growing segment of tourism around the world (Seba 2012). Ceballos-Lascurain cited in Ballantyne and Packer (2013) stated that this tourism type has an annual growth of 20-25 percent. Even though Romeril first mentioned ecotourism in 1985 (Markwell 1998), many authors point out that Ceballos-Lascurain was the first to define 'ecotourism' (Fennell 2015; Markwell 1998; Tisdell and Wilson 2012).

Ceballos-Lascurain cited in Tisdell and Wilson (2012 07), defined ecotourism as “traveling to relatively undisturbed or uncontaminated natural areas with the specific objective of studying, admiring and enjoying the scenery and its wild plants and animals as well as any existing cultural manifestations (both past and present) found in these areas”. The International Ecotourism Society (2016) added that it should “sustain the well-being of the local people and that it involves interpretation and education”. Both these definitions highlight ecotourism as travelling to enjoy the natural environment and learn about it because people are not always aware of the vulnerability of an area, or that it is being degraded (e.g. for economic survival). Ceballos-Lascurain had emphasised admiring the local culture as part of ecotourism but at this time, my study site has no cultural elements.

Buckley (2013) has explained the six fundamental criteria of all the definitions highlighted such as ecotourism is a type of tourism; which is nature-based; which aims at environmental management; which emphasises environmental education; which contributes to conserve and socially benefit the local community. Ecotourism is mostly concerned about community participation and benefits for the local community (Fennell 2015; Honey 1999; Weaver 1998). In this research, local people are not considered as they are little involved in the tourist activities; the tour operators are not branding this location as an ecotourism product but as a destination for nature lovers. Consequently, the most appropriate way to look at this location is as a nature-based tourism destination.

2.4 Adventure tourism

Historically adventure tourism had several purposes like religious, geographical, political, military or commercial. After World War II, white water rafting and hunting in colonial countries became popular (Buckley 2010). After 1970, adventure tourism was commercialized and private companies began to offer guided tours. Within a short period of time, adventure tourism developed significantly within the conventional tourism industry. Adventure tourism varies widely from very large scale to small scale and it is a young field of study in tourism academia (Buckley 2010), especially since it entails embodied experience. Such a notion has only been recently used when studying tourist behaviour.

Muller and Cleaver (2000 156) define adventure tourism as “characterized by its ability to provide the tourist with relatively high levels of sensory stimulation, usually achieved by including physically challenging experiential components within the (typically short) tourist experience”. According to this definition, adventure tourism gives a comparatively higher elation and cheerful experience than other types of tourism. These authors highlight that it is a physical challenge (Hudson 2003; Muller and Cleaver 2000). When a tourist overcomes the challenge, the above mentioned stimulation would be the result. Other types of tourism offer pleasure and leisure for both active and passive participants. In contrast, adventure tourism is frequently for the active participants and offers a chance to test their physical abilities. Thus, Hudson (2003 208) introduced it as “work rather than vacation”. As a result, when participants can achieve certain physical challenges, it causes mental stimulation, builds up morale and self-pride. But tourists seek some physical advantages also such as losing weight, building a physically fit body and reducing stress (Hudson 2003).

Apart from considering adventure activities, Addison (1999) introduced experiencing an unfamiliar environment or community as an adventure. For instance, Sir Edmond Hilary touched the world’s highest point for the first time and it was an adventure tour because it had been scientifically proven that the temperature was not suited for living for Western humans on Everest, and it had been thought to have remained untouched. Similarly, when tourists visit an unfamiliar community like tribes in remote areas, they would consider it an adventurous experience to some extent. Today, tourists from western societies visit slums in third world cities like Rio de Janeiro and Cape Town, which they consider an adventure because of various social, medical and safety aspects (Frenzel, Koens and Steinbrink 2012). Some people take an adventure as a challenge based on different purposes e.g. charity work like ice bucket for donating money for patients who suffer from Amyotrophic Lateral Sclerosis (Koohy and Koohy 2014).

2.4.1 Characteristics of adventure tourism

Swarbrooke *et al.* (2011) state that according to various definitions and interpretations adventure gives different feelings and different experiences to human life like thrill, excitement, fear, challenge, risk, inspiration, daring and success. All these experiences satisfy tourists as they help build a strong

personality. This is the motivation of tourists for adventurous activities. According to Muller and Cleaver (2000), a high level of sensory stimulation is the final result of the combination of these core characteristics (Table 3).

Risk is the fundamental component of adventure tourism which has a dual function as the major motivation factor for the tourists and as the marketing factor for tour operators. Tourism businesses promote risk as a commodity in adventure tourism (Palmer 2004). From a medical perspective adventure tourism businesses need to fulfill medical requirements like first aid and operators should be aware of tourists' medical requirements in the case of an emergency. Nevertheless, tourists also should be in good health and physically fit to face the risk. When tourists choose some extremely dangerous activities, they do need to legally confirm their own responsibility. From a social perspective, risk builds up harmony within the group who participate in the adventurous activities because the team can achieve the target better than through individual participation (Buckley 2010). Therefore, risk is a multi-dimensional component which plays a significant role in adventure tourism.

Table 3: Core characteristics of adventure

- | |
|--|
| <ul style="list-style-type: none"> • Uncertain outcomes • Danger and risk • Challenge • Anticipated rewards • Novelty • Stimulation and excitement • Escapism and separation • Exploration and discovery • Absorption and focus • Contrasting emotions |
|--|

Source: Swarbrooke *et al.* (2011 09)

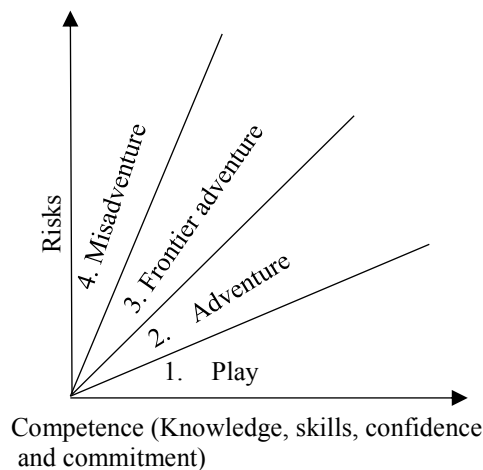


Figure 3: Mortlock's four stages of adventure

Source: Adapted from Swarbrooke, Beard, Leckie and Pomfret (2011 11), Used with permission

Considering the degree of risk, difficulty and skills needed there are two main types of adventure such as soft adventure and hard adventure with a continuum in between (Figure 4). According to Hill (1995), hard adventure refers to high levels of risk, which need intense commitment and advanced skills. This idea contradicts Mortlock’s four stages of adventure (Figure 3). When a tourist chooses a hard adventure s/he obviously needs advanced skills, high commitment and confidence. When the risk is extremely high, tourists’ skills and qualities would not be useful enough. In such circumstances, the activity loses its adventurous purpose and converts the situation into a struggle between life and death (Kormákur 2015).

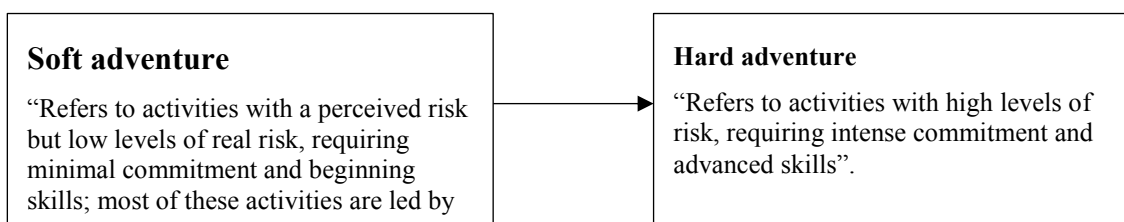


Figure 4: The continuum of soft and hard adventure
Source: Hill (1995 59)

Swarbrooke *et al.* (2011) categorized soft and hard adventures; camping, hiking, animal watching and photo safari are taken as soft adventures while rock climbing, rafting, diving and caving are hard adventures. Considering various scholars’ ideas on risk and challenge, the level of adventure the RCTs offer was identified as moderately risky (Hill 1995; Swarbrooke *et al.* 2011). Zipline Consultant (2017) and Sky Tour (2017) confirm that “all adventure activities done above the ground carry certain inherent risks”.

2.4.2 Adventure tourism and nature-based tourism

Nowadays adventure tourism has become popular so that some overlaps exist between adventure tourism and other types of tourism. For example, Swarbrooke *et al.* (2011 20) have stated that “nature has been identified as an important ingredient in many adventures”. Some adventurous activities are conducted in human made settings like skateboarding, downhill luge and bike or car racing but the majority is conducted in natural settings. When outdoor leisure activities offer adventurous experiences, they can be categorized as nature-based adventure activities. Accordingly, adventure tourism intersects with urban, rural and nature-based tourism. Figure 5 illustrates how nature-based tourism and adventure tourism

identify as two different types but overlap so nature-based adventure tourism activities fit in the overlapped section.

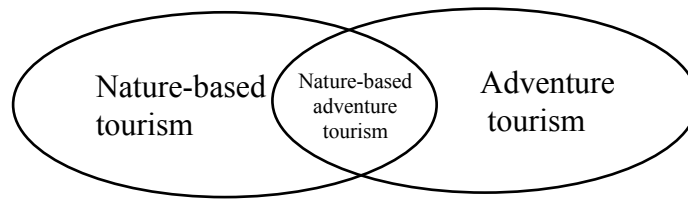


Figure 5: Identifying the placement of nature based-adventure tourism
Source: Created by author

Figure 6 depicts the diversification and the complexity of nature-based adventure tourism. Nature-based adventure tourism has spread out into the desert, sea, jungle, polar areas, mountains and rivers. The third level of the figure describes what the various adventurous activities under each natural settings are. In this research, the example is provided under the ‘jungle’ label because this research focuses on adventurous activities conducted in the forest. The canopy tour is one nature-based adventurous activity which can be practiced in the forest. Canopy tours again can be divided as tree top walk and zipline (Figure 6). Both types are offered by RCTs.

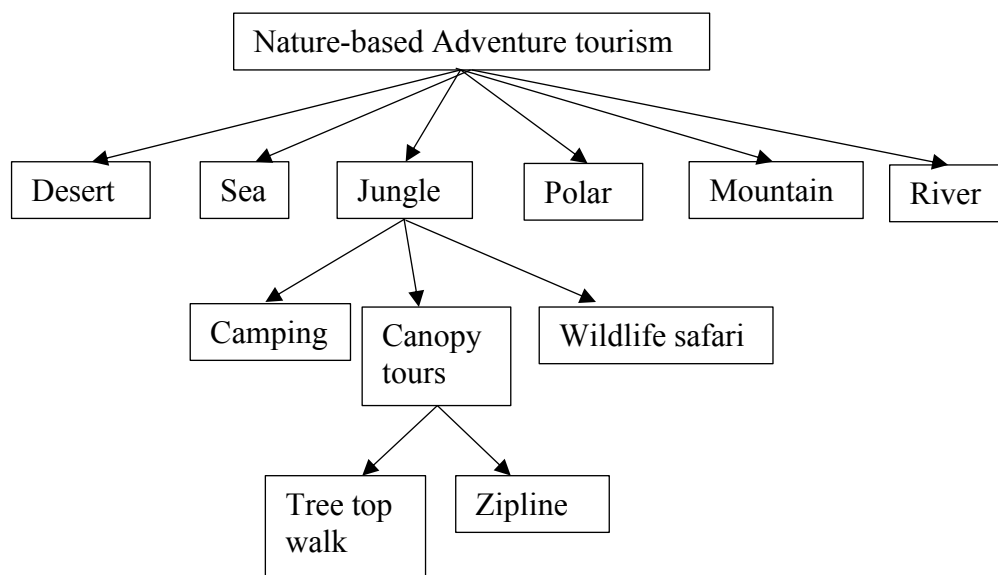


Figure 6: Diversity in nature-based adventure tourism
Source: Adapted from Hudson (2003 204) and modified by author

Figure 7 was adapted and modified for this study by referring to the figure of “dichotomies within adventure tourism” of Swarbrooke *et al.* (2011 36). The original figure has twenty one dichotomies but this has only fifteen. This figure

helps to understand the status of the RCTs as a nature-based adventure site. Each black dot indicates where RCTs are situated. For example, the black dot indicates that RCTs are in between ‘hard’ and ‘soft’ adventure. That is because it is neither too difficult nor too easy. Thus, it is in between ‘high-risk experience’ and ‘low-risk experience’. The dot on the second line represents RCTs as a physical activity and the dot on line five as located in a natural setting i.e. only slightly transformed to permit consumption.

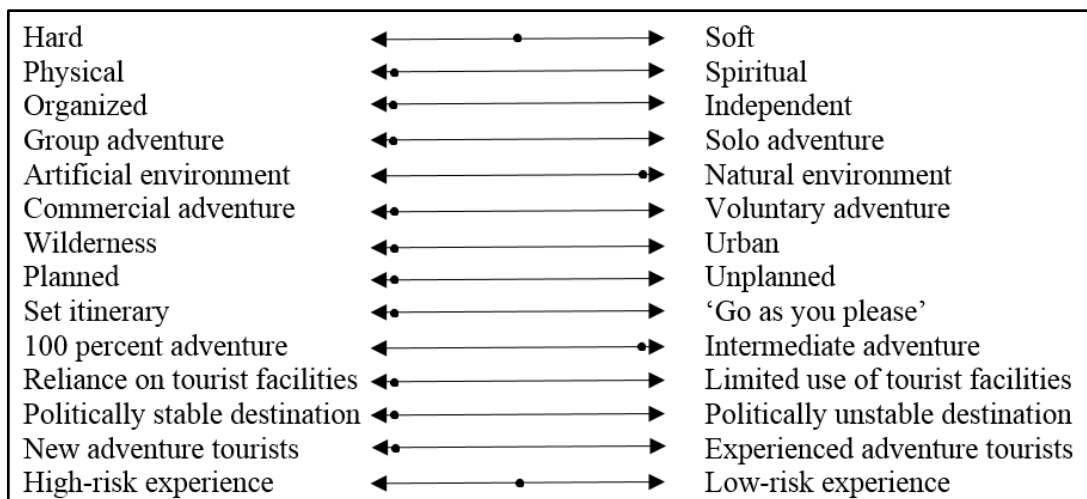


Figure 7: Identifying the nature of adventure tourism of RCTs
Source: Adapted from Swarbrooke *et al.* (2011 36), Used with permission

2.4.3 Adventure tourism and nature conservation

It is clear that adventure tourism can be based on nature. Some adventure lovers tend to participate in adventurous activities in order to contribute money for nature conservation. Adventures are based on nature but tourism or human leisure has become a threat to nature. For instance, hunting wild elephants reduces biodiversity and air transport contributes to air pollution. The idea is that when humans use nature for their entertainment, tourism needs to try for nature conservation (see section 2.6.3). Interestingly, Buckley has dedicated his book *Adventure: tourism management* (2010) to two significant athletes who have committed their life to promote nature conservation: Christina Franco who crossed the Sahara desert to protect rhinos and Wang Shi who dedicated his life for river conservation.

The Adventure Travel Trade Association (2017) highlighted their ambition as “a platform for pushing boundaries, creating movements and propelling the industry toward a sustainable future”. In this summit, two keynote speakers delivered their

speech under the theme of sustainable tourism. One was about “building a home for future generations” by Robert Ghukasyan, the director of Time Land Scientific Foundation in Armenia. Kalavan in Armenia is a mountain village and a home for Azerbaijani refugees now. This place has become popular for adventure tourism of mountain biking. This Foundation tries to raise funds for locals to ensure that they feel this place as their home and to ensure environmental protection for future tourism.

The second keynote was on “acknowledging our coexistence and the rights of nature” by Princess Lucaj. She works for Resisting Environmental Destruction on Indigenous Lands to protect the Coastal Plain of the Arctic National Wildlife Refuge (Adventure Travel Trade Association 2017). Having these kinds of projects and discourses within the context of adventure tourism is a green light for sustainable tourism. But the lack of these sorts of practices in large scale tourism is still problematic as such effort does not cover every tourism space.

2.5 Canopy tourism

Erwin (cited in Seibel 2005 03), had announced that “rainforest canopy tourism takes place at the last biotic frontier of this planet” because world forest cover has been disappearing rapidly during the last few decades. The tree canopy is the upper part of trees and consists of branches and leaves. Canopy height and density vary according to different forest types. Canopy tourism is a journey that includes outdoor recreational activity done above the ground in the upper part of the bush and is also known as ‘canopy tour’, ‘tree top walk’ or ‘sky walk’ (Newsome 2013). When the canopy tour is lengthier and deeper it brings more adventurous feelings.

It uses “every way to bring tourists up into the forest canopy to create an experience which is considerably different from the one on the ground” as it permits visitors to observe the ground from tree tops with a bird’s eye view (Seibel 2010 3). In fact, this style of tours above the ground are significant as they disturb less since there is less contact with the ground. Tourists can observe animal behaviours on the ground without disturbing them as well as not exposing themselves to potential attacks. Thus, this is a safe approach for both parties, wildlife and tourists. The forest ground layer is saved from destruction by trampling or off-road trekking and it prevents soil erosion.

Canopy tours are conducted in plantation forests e.g. redwoods in Rotorua, New Zealand or natural forests e.g. Taman Negara in Malaysia [considered as one of the oldest rainforests in the world (Seibel 2010)]. Some canopy tour operations are conducted on private lands. According to Seibel (2005 3), “no canopy tours exist in public protected areas in Costa Rica”. However, there are examples of public-private partnerships in canopy tourism in New Zealand because private canopy tour operators run their businesses on public lands, like RCTs. They are a private company but run their tours in DRSR in New Zealand which is governed by DoC.

Beebe (1917 85) pointed out that “yet another continent of life remains to be discovered, not upon earth, but one to two hundred feet above it...”. Sixty-six years later in 1983 Erwin commented on Beebe’s idea that “at present, we know almost nothing about it” (Erwin 1983 14). After another eighteen years Stork mentioned that “...we are only just beginning to discover this part of the world” in canopy research (2001 313). What one can learn is that the forest canopy has been touched by humans now for four decades. Biological research is the main purpose which forced humans to reach the forest canopy.

In the very first days, reaching the upper part of the giant trees was an absolutely difficult task. A ladder was used to climb and after reaching a certain height, a platform was made. Then the ladder was used again to reach the next level from the first platform to again make the next platform to reach the very top. This process was very dangerous as the ladder could slip at any point and it was time-consuming. One had to start from the bottom to reach each canopy and there was no way to reach from one tree canopy on to another directly. Muul thought to use a horizontal ladder from the hillside to access the canopy and thus invented the first canopy walkway (Muul and Lim 1970). Though there are different types of walkways used in canopy tourism nowadays, here I use the term of ‘walkway’ in general.

The website www.canopyaccess.com, provides a database of worldwide canopy walkways (Lowman *et al.* 2006 123). They have developed a world map with the location of each canopy walkway. This world map is zoned according to ‘biogeographic regions’. This classification was adapted from Clemson University (Canopy access 2005). The database gives details of each canopy walkway such as the type of walkway, the starting year, type of forest and use of the walkway. This

database also mentions that the Bukit Lanjan walkway in Malaysia was built in 1968 and that is the oldest one among all the walkways in the database.

Canopy Access's web database would be very useful for canopy researchers if it was up to date. According to Table 4, New Zealand's first canopy tourism facility (a walkway) was built in 2001 and the first zipline was installed in 2004. All the other canopy tourism facilities were installed after 2004. Updating the Canopy Access website stopped in 2005 and this explains that New Zealand's canopy tourism details have not appeared on this database. One might think that at least details about the 2001 walkway should be on this website but perhaps it was used as a public pathway and not seeking promotion.

2.5.1 Types of canopy tourism and structures

Even though the canopy walkway was originally built for research purposes, it has become popular as an outdoor recreational facility. Nowadays canopy tours are even more attractive as an adventure activity. Different structures are built up in the forest for canopy tours such as walkways, ziplines, observation towers or metal poles, traverse lines, aerial trams, portable rafts and gondolas. During the tour, tourists travel several kilometres through the canopy. Interestingly, canopy touring is not tiring like bush walk or trekking because people are always under the shade of the canopy cover and are exposed to the wind. Sunny weather is better for this outdoor activity but the operators promote rainy days too by highlighting that forests are more beautiful during rain, e.g. "the forest is at its most beautiful during rain. We provide high-quality wet weather clothing free of charge, if required" (Rotorua Canopy Tours 2016c).

i. Walkways: Walkways are built by using metal or wood materials that link several tree platforms. Some walkways are made as solid structures and some are hanged on trees. The walkway in Figure 8 was made of wood and is wide and stable. This type of walkway is normally built a few meters above the ground because it is supported with timber logs. Figure 9 depicts a metal walkway and its bottom part was made of stainless steel. It is lightweight, small in size and comparatively narrower when compared with the wooden walkways. So, it can be built at higher levels than the wooden ones. It hangs on trees by wires. A safety fence or a net always guards both sides along the walkway.



Figure 8: A wooden walkway, A.H. Reed Memorial Park, New Zealand
Source: Whangarei District Council (2016), Used with permission



Figure 9: A steel walkway, Iwokrama Canopy Walkway, Guyana
Source: Surama Village Eco-Lodge (2016), Used with permission

ii. **Ziplines:** This mode of canopy tour has also been introduced with some other names in different regions like ‘sypline, zip wire, aerial runway, aerial rope slide, death slide, flying fox, traverse lines or foefie slide’. This mode is more fun and adventurous than walkways because the tourist is hanging while s/he travels by zipline and it is faster than walkways (Figure 10). The disadvantage of ziplines is that tourists cannot spend as much time as they need (as on the walkways) because the tourist moves automatically until s/he meets the next platform. The tourist cannot stop or control the speed of travel even though s/he might want to hang at some point of his/her way to observe the surroundings. If one can stop and hang, it is not comfortable enough to conduct a long observation.



Figure 10: Author having a zipline ride, RCTs

Source: Photo taken by the guide (13 Sep 2016)

iii. Platforms: Platforms are normally built using wood or metal, supported by giant trees. Sometimes, they are built with timber logs or metal structures (Figure 11). Almost all canopy tours normally have platforms as those are the linking stations of walkways or ziplines. When a group engages in a canopy tour, all the group cannot go by zipline or walkway at once because there is a weight limit. For instance, when ziplining, tourists go one at a time. Therefore, the rest of the group needs to wait on the platform until their turn. Tourists can observe birds or the forest during this waiting period. Platforms are solid and strong enough to carry 10-15 people at once and those are protected by a safety fence most of the time.



Figure 11: A platform, RCTs

Source: Photo taken by the author (13 Sep 2016), Used with permission

iv. Observation towers and Canopy cranes: Observation towers provide a 360-degree view around the forest and these towers are made of wood, iron or stones. When they are made of metal, they are called metal poles (Figure 12). Observation towers are built higher than platforms and the forest canopy so one can observe even a long distance away. The canopy crane takes a step further than the observation tower, as it enables a broader outlook (Figure 13).



Figure 12: An observation tower, Westcoast: tree top walk and cafe, New Zealand
Source: West Coast: Tree Top Walk and Cafe (2017), Used with permission



Figure 13: A canopy crane, Parque Natural Metropolitano, Panama
Source: Smithsonian Tropical Research Institute (STRI) (2016), Used with permission

v. **Chairlifts, Aerial trams and Gondolas:** These are used to reach higher places or to climb a hill. In this type, family or a whole group can enjoy a ride together. They are also safer than ziplines.

vi. **Portable rafts:** The portable raft (or tree top or canopy raft) is a light structure which is similar to the rafts used for water rafting (Figure 14), that can be moved by an air balloon from one place to another, as it glides on the canopy layer of the forest, where it makes a platform and offers an extraordinary experience to the tourists.

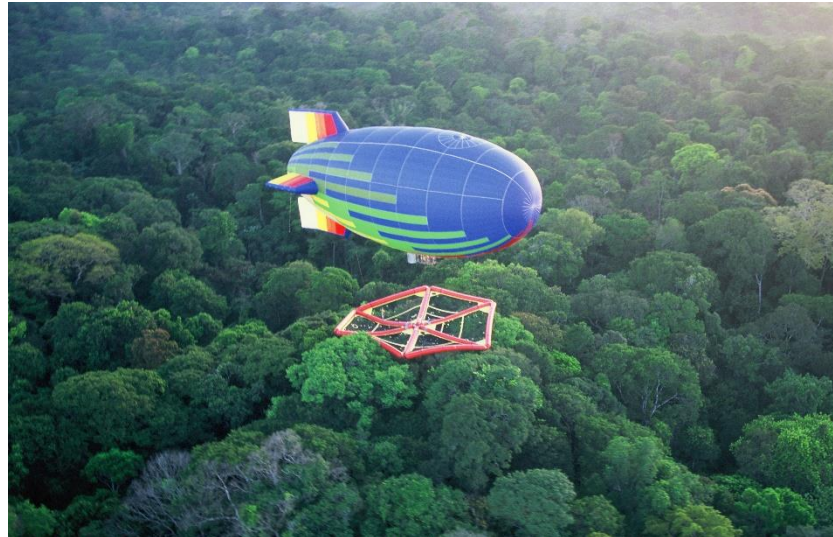


Figure 14: Portable raft, Operation Canopy, Romania
Source: Opération Canopée (2015), Used with permission

vii. Innovative ideas on canopy trails: Research projects are still continuing to find ways to reach the top layer of the forest canopy. A student in the Architectural Association School of Architecture, Yi Yvonne Weng has designed the structure in Figure 15 and named it ‘the 6th Layer – Explorative Canopy Trail’ (Stewart 2012). According to her, people can easily and freely move on the forest canopy using this structure, which consists of three layers. The first layer is made of metal to keep this structure strong. The second layer is of medium density and birds can easily move through it. The third layer has high density and people can move easily on the canopy platform. This innovation is light and it can be held by the tree tops. It also combines with vertical parts shaped like teardrops (Figure 16). Each drop has a ladder inside. She has proposed to install this Explorative Canopy Trail in the Amazon forest, mainly for research and ecotourism purposes. This innovator received the ‘2012 Foster+Partners Prize’ for this design (Stewart 2012). Even though this is still a hypothetical structure, some issues can be raised when this structure materializes. If the structure is kept for a long time in the tropical rain forest, what will happen to bird life even though the innovator insists that birds can pass through the second layer? The lives of other animals depend on tree canopies, like monkeys. This is a massive web like structure. Thus, it would really disturb the natural ecosystem. When this structure remains in the same place for a long time, wildlife would definitely lose its biological niche. Researchers can hardly conduct real biological research when animals have left their habitats.



Figure 15: The 6th Layer-Explorative Canopy Trail
Source: Stewart (2012), Used with permission



Figure 16: Tear-drop shaped hanging mesh
Source: Stewart (2012), Used with permission

If this structure can be made on a small scale and be set with a large distance between two and is used only for research purposes, then it would be a great idea for biological research. When it is used for tourism, it will definitely be converted into large scale structures and would greatly disturb this native forest. Another question is, when these structures are kept for a long time, how would they affect the growth of the forest canopy? Usually the trees in tropical rainforests change leaves throughout the year. The growth of the forest may change in these structures. Though it is still just a concept, it also questions intentions in future canopy tourism and adventure. Stork (2001 315) worries that “...canopy tourism is beginning to expand; as more novel ways of experiencing and accessing the canopy are

developed there are important questions to ask for future canopy tourism”. All forms of canopy tourism have impacts on the environment they use, starting with construction but most then maintain contact with the forest. The activities of the tourists also disturb plants and mostly the fauna. However, there is no mention in the literature of any monitoring of the potential impacts of this activity, a gap this thesis seeks to address.

2.5.2 Characteristics of canopy tourism

Canopy tourism is not a single activity. It is a combined process of five activities such as ecotourism or nature-based tourism, adventure, community participation, education and conservation (Ramlan *et al.* 2012; Seibel 2010; 2013; Stork 2001). A number of canopy tourism sites around the world provide examples of such combination.

i. Ecotourism or nature-based tourism

Seibel (2013) stated that “canopy tourism has the potential to create a unique tropical forest experience”. According to Ramlan *et al.* (2012), bird watching, nature observation and experiencing forest life are the activities or outcome of canopy tourism. Canopy tourism obviously should be done in a natural setting like a forest. Thus, this can be put into either ecotourism or nature-based tourism. Stork (2001) highlights that, in Australia, nature-based tourism has more demand and canopy tourism is one of the pioneer products. Seibel (2010) in his interpretation of Malaysian canopy tourism points out that some businesses offer other ecotourism products with canopy tourism. Consequently, it is clear why canopy tourism can be categorized as either ecotourism or nature-based tourism.

ii. Adventure

Canopy tourism happens above the ground. Therefore, whatever type or structural facilities used, there is a certain amount of risk in each mode or method (see section 2.4.1). Many scholars mention canopy tourism as an adventure tourism activity in their research projects (Ramlan *et al.* 2012; Seibel 2013; Weinberg, Bellows and Ekster 2002) In fact it is true that ziplines, cranes and portable rafts are more adventurous than other types of canopy tourism. This adventurous experience brings fun and enjoyment to participants (Field survey 15 Dec 2016). For instance, Seibel (2005 05), has commented that “the rainforest thereby very much becomes

a scenic backdrop for a kind of tourism, which focuses more on thrill and adventure than on a nature experience”. Hence, tourists focus more on this outcome than on nature observation, appreciation and education (Senarathna 2017). This attitude and behaviour of the tourists has resulted in widening the negative impacts on the environment. For example, Seibel (2005) has mentioned several negative environmental impacts in the rainforests of Costa Rica where canopy tourism was first developed.

A range of adventurous activities named ‘arborism’ have now become a new trend of canopy tourism (Nobre 2007). These activities also include ziplines or walkways and are also conducted above the ground. They offer different courses of different heights and difficulty levels. Courses can be chosen considering age and physical fitness. Prices vary according to the time duration and types of courses. Completion of a course aims to minimize height phobia and improve concentration, balance and courage to conduct climbing, hanging and zipping above the ground. Arborism focuses on adventure rather than the environment where it happens. Therefore, plantation forests like pines are used as the location. This has led to popularization of the concept of adventure rather than of an ecological experience.

iii. Community participation

Canopy tourism supports the local community by providing livelihood opportunities to and empowering the local people (Ramlan *et al.* 2012). Seibel (2005) on canopy tourism in Costa Rica, found none of the negative impacts on society, local economy or culture because 90% of the employees of these businesses are locals. Canopy tourism is a type of adventure tourism and it needs a larger labour force to maintain the structures and as guides. Normally, in ecotourism or nature-based tourism one guide leads a group but in canopy tours like ziplines, at least two guides are needed to ensure the safety of the tourists, as one guide needs to launch the tourists from the first platform and the other guide has to be on the second platform to collect tourists safely (Field survey 15 Dec 2016). Hence, canopy tourism has a wider potential to create job opportunities for the local community than other types of nature-based tourism or ecotourism.

iv. Education

As mentioned in the beginning of this section, the foundation of canopy tourism was forest canopy research. Even nowadays, some structures used for canopy tourism are made for canopy research. Educating about the environment that tourists visit and appreciating its values are the main characteristics of ecotourism. It can be seen as a win-win situation between education and canopy tourism. Nevertheless, canopy tourism encourages not only students and researchers but also tourists to learn about the value of the environment they visit. Canopy tourism can be combined with outdoor education (Ramlan *et al.* 2012; Stork 2001; Weinberg *et al.* 2002). Furthermore, Ramlan *et al.* (2012 86) state that “canopy tourism tends to create an experience...and indelible awareness of the beauty and importance of the forest and its diversity”. Lowman (2009 545) concluded that, “over 20 canopy walkways currently operate in a tropical forest around the world serving research, education and ecotourism”.

v. Conservation

This is the most significant characteristic of canopy tourism when examining canopy tourism destinations around the world (Seibel 2005; 2013; Weinberg *et al.* 2002). Some scholars suggest that canopy tourism can be used as a tool to protect areas or destinations (Ramlan *et al.* 2012; Seibel 2010; Stork 2001). Lowman (2009) has proven that canopy tourism can conserve nature in three ways; first, through scientific research in the field of biology; second, by facilitating employment opportunities for locals because they eventually tend to protect the environment in order to secure their jobs; third through educating all the visitors about the value of nature. Ramlan *et al.* (2012) believe that educating and researching is the method to spread the message of conservation and canopy tourism can play a vital role in that sense. They provide an example about the walkway at the Amazon Conservatory for Tropical Studies which facilitates a science education program called Jason Expedition. Around three million school students have learnt about canopy ecology by using satellite technology (Ramlan *et al.* 2012).

Besides providing forest conservation, canopy tourism can be an alternative solution for deforestation for timber by providing a sustainable livelihood. Another example highlighted by Seibel (2005) in Costa Rica shows that most of the canopy

tourism sites were pasture lands in the past. Canopy tourism can create direct and indirect benefits to locals and it is a solution for illegal logging and poaching. Tourism development contributes the infrastructural development in rural areas and locals also benefit. It stimulates the rural economy contributing to regional development. It can help to upgrade the locals' quality of life.

2.5.3 Canopy tourism in the world

There is no statistical evidence to identify the distribution and usage of Canopy tourism sites around the world. Seibel (2013 362) highlights that “it was impossible to determine how many canopy tourism facilities exist globally or how many tourists visit those annually”. Canopy tourism is a young field of research when compared with other types of tourism (see section 2.5). Developed countries are emerging in this field nowadays but in the beginning, it was limited to the developing countries with tropical rainforests and their valuable biodiversity.

Central America and South-east Asia were the pioneer regions for canopy tourism. Respectively, Costa Rica and Malaysia come first. These two countries are indicated in dark green on Figure17 which shows the country-wise spatial distribution of canopy tourism in the world. Brazil, Peru, Ecuador, Colombia and Guyana in Latin America, South Africa and Rwanda in Africa are the next popular countries (Figure 17). Other developing countries such as Mexico, Ghana, Gabon, Madagascar, India, China, Laos, Fiji and Samoa conduct canopy tourism and are depicted in light green. All the other countries in very light green are developed countries which have canopy tourism facilities. The USA and Australia are world famous for canopy walkways and ziplines.

Some of them have a considerable history of canopy tourism. However, some obstacles can be identified like management issues and negative environmental impacts. For example in Costa Rica, all the canopy tourism businesses are run on private lands. In fact, environmental impacts are high e.g. noise pollution by the sounds produced through rolling steel parts and visual pollution by the huge metal structures built in the forests. Unguided tours provide opportunities for wider negative environmental impacts. The other issue is that canopy tourism is a standalone product. Tourists are not aware what percentage of their tickets contributes to conservation, if any. Lack of environmental impact studies and

unavailability of eco-certification lead to underestimate the negative impacts of these canopy tourism products (Seibel 2005; 2013).

On the other hand, some cases provide stories of successful canopy tourism underlining the positive role of private-public partnership, nature conservation, education and community participation. In Gabon, former poachers have trained as eco-guides in Loango national park (Ross 2004). In Malaysia, all the canopy tourism sites are located in government forests. Taman Negara, for instance, is one of the oldest rainforests in the world governed by the Malaysian government which provides canopy tourism facilities with other ecotourism products (Seibel 2010). Monteverde, Costa Rica provides some examples for community participation, ecological farming, education and conservation even outside of the reserve (Weinberg *et al.* 2002).

Even though the forests in developed countries are not as rich in biodiversity they try to offer a quality product to tourists with proper management. They brand their canopy tourism nicely and use various marketing strategies to promote it to tourists; e.g. the official webpage of Ecozip Adventures in New Zealand has been designed to attract tourists from around the world. They display some fascinating pictures and provide opportunities to read their pages in different languages. Some governments totally support canopy tour operators through providing government lands for running the business with the aim of stimulating conservation programs and encouraging community participation, e.g. Myakka River Canopy Walkway in Florida (Lowman 2009).

Peaceful and supportive political background in developed countries encourages entrepreneurs to invest in these kinds of tourism businesses to attract large numbers of tourists to these places (La Porta, Lopez-de-Silanes, Shleifer and Vishny 2000). Even though they actually do not follow sustainable tourism principles thoroughly, they try to brand and highlight that they implement some sustainable principles and are environmentally friendly. In the developed countries, canopy tourism businesses try to minimize the environmental impacts to some extent when compared with developing countries.

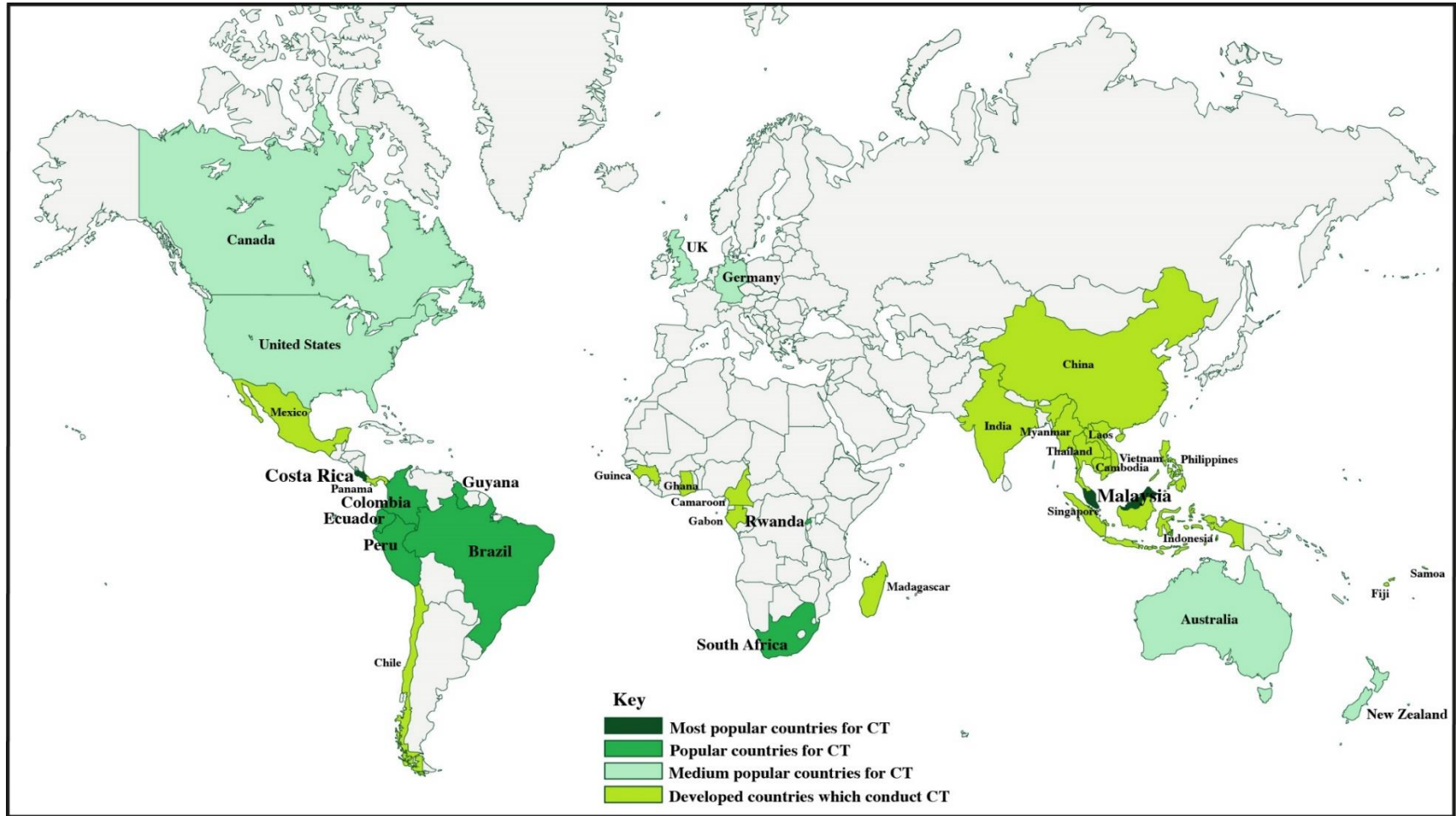


Figure 17: Spatial distribution of canopy tourism in the world, 2017
 Source: Created by author, Base map downloaded from Deziqnu (2017)

Emerging canopy tourism businesses in developed countries are more tourist friendly, safe, and nature-friendly than developing countries' canopy tourism products. They offer access to disabled people and for tourists in different age groups, e.g. A.H. Reed Memorial Park canopy walkway in New Zealand, Valley of Giants, North Queensland in Australia and Tahune Forest Airwalk in Tasmania provide access to people in wheelchairs (Stork 2001; Turner 1977; Whangarei District Council 2016). They operate the tours systematically, train the staff to maintain the quality of human resources and provide effective service to tourists. Domestic as well as international tourists from other developed countries visit these places in great numbers.

2.5.4 Canopy tourism in New Zealand

Canopy tourism is quite a new concept in the New Zealand tourism industry. No research paper or journal article has been published in tourism academia about New Zealand canopy tourism yet. There might be some ongoing research projects but most probably this master's thesis could be the first research project which contributes knowledge to canopy tourism in New Zealand. Figure 18 illustrates the locations of the canopy tourism attractions in New Zealand and each attraction is given a number. This number refers to a map reference number in Table 4 to identify each attraction.

Twelve locations have been identified according to my web search. Eight attractions are located in the North Island and four in the South Island. However, one or two might not have been captured by this web search because some search engines are not supportive for some web pages and there may also have been problems with keywords matching. I had to send several emails to contact some of the businesses to know or clarify some information which is not available on their websites. It was time consuming but the aim was to ensure the accuracy of the database. Future researchers can contribute their knowledge to complete and update this map and the database.

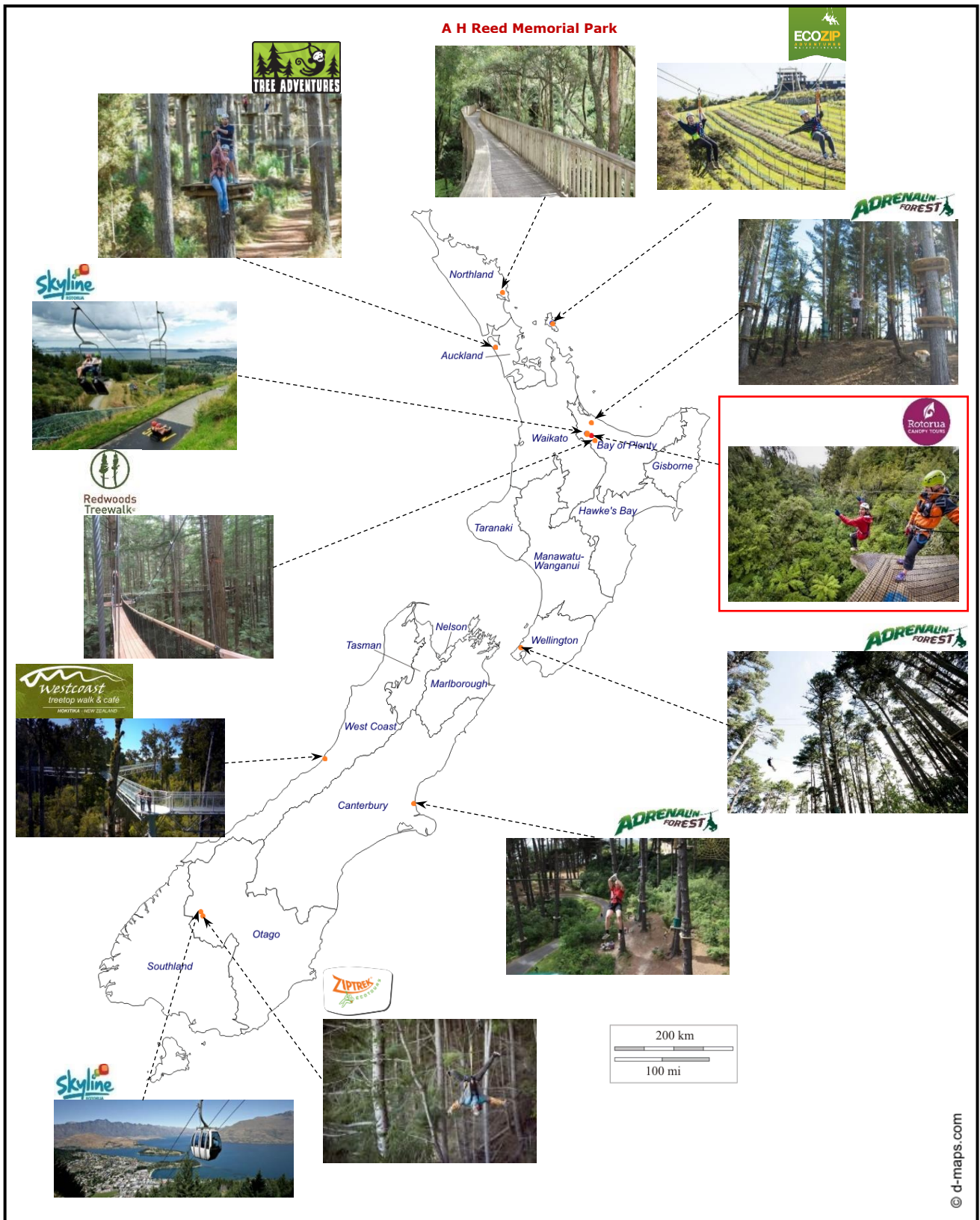


Figure 18: Location map of the canopy tourism attractions in New Zealand

Source: Created by author based on the data collated from organisations' websites, Base map downloaded from D-Maps (2017) and Photos used with permission

Table 4: Database of the canopy tourism attractions in New Zealand

Map Ref .No	Island	Location	Name	Started Year	Forest Name	Type of forest	Land Ownership	Tour Operator	Prices (NZS)	Guiding	Types of facilities					Length and Depth of Walkway/Zipline		Time Duration	Observations	Side Benefits		
											W	Z	OT	G	Other	Length	Depth			Hours	CP	Edu.
1	North	Rotorua	Redwoods Tree Walk	2015	Redwoods	Plantation	Public	Private	C- 15, A- 25	No	21	-	-	-	-	553m	12m	30mt	Trees, Birds	-	-	-
2		Rotorua	Skyline Rotorua	1985G/2014 Z	Mt.Ngongotaha	Not a forest	Private	Private	C-85-125 , A 95-135	Guided	-	2	-	1	Sky swing	383m	NA	NA	Sightseeing	-	-	-
3		Auckland	Tree Adventures	2004	Woodhill	Natural but not native	Private	Private	A- 17-42/ Students 5 off	Guided	-	18	-	-	TAA-10 courses	900m	3-14m	20mt-3h courses	-	-	-	-
4		Whangarei	A.H. Reed Memorial Park Walkway	2001	A.H. Reed Memorial Park	Natural but not native	Public	Public	Free	No	2	-	-	-	-	300-890m	26m (Highest point)	1.5h	Kauri trees, birds, waterfall	-	√	√
5	Island	Waiheke Island	Ecozips Adventures	#2010	NA	Natural but not native	Public	Private	C- 79, A- 119-299	Guided	-	6	-	-	-	200-300m	NA	NA	Sightseeing	-	-	-
6		Bay of Plenty	Adrenalin Forest	2011	Adrenalin	Plantation	Private	Private	C-18-28, A- 43, S-36	Guided	-	√	-	-	TAA-6 courses	NA	1-20m	3h	-	-	-	-
7		Rotorua	Rotorua Canopy Tours	2012	DRSR	Native	Public	Private	C-105, A- 139	Guided	2	6	-	-	-	W 15-50m Z 40-220m	9-22m	3h	Birds	-	√	√
8		Wellington	Adrenalin Forest	2010	Adrenalin	Plantation	Private	Private	C-18-28, A- 43, S-36	Guided	-	√	-	-	TAA-7 courses	NA	1-31m	3h	-	-	-	-
9	South	Christchurch	Adrenalin Forest	2006	Adrenalin	Plantation	Private	Private	C-18-28, A- 43, S-36	Guided	-	√	-	-	TAA-7 courses	NA	1-20m	3h	-	-	-	-
10		Queenstown	Ziptrek Ecotours	2009	Gondola hill	Natural but not native	Public	Private	C- 89, A-139 , S-89	Guided	-	4	-	-	-	240m	25m	1.5h-2h	Sightseeing	√	√	√
11		Queenstown	Skyline Queenstown	1966G	Bob's peak	Not a forest	Private	Private	C-85-21 , A-33	Guided	-	-	-	1	-	NA	NA	NA	Sightseeing	-	-	-
12		West Coast	West Coast Tree Top Walk & Café	2012	Mahinapua	Natural but not native	Public	Private	C-15, A- 38, S- 34	No	1	-	1	-	-	1.2km	20m	NA	Birds, Sightseeing	-	-	-

Key:

NI- North Island	SI- South Island	G- Gondola		Z-Ziplines		TAA- Tree Adventure Activities			Con. - Conservation			
NA-Not Available	Reserve	# After	W- Walkways		mt- minutes		h- hours			Ref.- Reference		
C- Children	A- Adults	S- Seniors	OT-Observation Towers		CP- Community Participation		Edu. -Education			DRSR- Dansey Road Scenic Reserve		

Source: Created by author based on the data collated from organisations' websites (2017)

The logo and a featured photo of the attractions were used to indicate canopy tourism attractions on Figure 18. The logo is useful to identify the tour operators because some tour operators run more than one business in different places. Skyline has two businesses; one in Rotorua and one in Christchurch while Adrenalin Forest runs three in Wellington, Bay of Plenty and Queenstown. All the others are single businesses operating in New Zealand. The photos give a quick overview of how the attractions look like and help identify the type of canopy tourism facilities such as canopy walkway, zipline or gondola and the nature of the landscape or environment where it is located e.g. a natural or a plantation forest.

In New Zealand, two types of canopy tourism can be identified such as tree adventure activities like ‘arborism’ in Brazil (see section 2.5.2, ii) and the traditional type of canopy tourism using walkways, ziplines or gondolas (see section 2.5.1). Tree adventure activities are more frequent for adventure tourism than nature-based tourism but they have the facilities for ziplines which are used in plantation forests like pines. In New Zealand, Tree Adventures and Adrenalin Forest provide these tree adventure activities.

According to Krasicki (2014) and Ziptrek Ecotours (2017), New Zealand’s first canopy tourism operator is Ziptrek Ecotours which was established in 2009; they launched the world steepest zipline ride in 2010. In 2001, Ziptrek Ecotours was established in Canada which led to start the New Zealand business. According to Table 4, however, four canopy tour facilities started before Ziptrek Ecotours. The canopy walkway of the A.H. Reed memorial park opened in 2001. This not a private business; it belongs to the Whangarei District Council. In the A.H. Reed memorial park, only canopy walkway facilities are available but not ziplines.

Tree Adventures was started in 2004 but as mentioned earlier they offer tree adventure activities. Therefore, they cannot be identified as a pure canopy tourism business. Skyline opened their gondola operation in 1966 in Queensland and they just celebrated their 50th anniversary. They have installed their second gondola system in 1985 in Rotorua. Both businesses are not located in a forest. These two were built to climb two

mountains while enjoying the scenic beauty and observing natural vegetation around the area. Now, Rotorua Skyline has a zipline ride above the tree canopy which was established in 2014. Considering all these details, the canopy walkway in the A.H. Reed memorial park can be recognized as the first canopy tourism facility as well as the oldest canopy walkway in New Zealand. Ziptrek Ecotours can gain the honour of being the first canopy zipline tour in New Zealand. Further, they also can hold the credit of being the first private business of canopy tourism in New Zealand.

Canopy tourism facilities are available in various types of locations in New Zealand like plantation forests, natural forests or native forests. Land ownership is public as well as private. The New Zealand government readily collaborates with tourism businesses; it facilitates access to public lands to establish tourism businesses. If it is a large construction like a hotel then the business needs to work according to the Resource Management Act (Environment Foundation 2016). If it is land under the Department of Conservation (2016b) and used only for tourism activities but without large constructions in the forest, then the operators need to work under DoC concession forms and pay DoC a fee for hiring the land.

DRSR is the only native forest where a canopy tourism activity is run. It is clear when examining the photos on the map that the density of the vegetation is greater on the RCTs' photo. Hillwood, A.H. Reed Memorial Park, Waiheke Island's greenery and Mahinapua are natural forests but they do not mention that they are native forests. A.H. Reed Memorial Park, built by the Te Ngahere, is the only canopy tourism facility in New Zealand which offers free entrance for everyone (Spencer Jellyman, personal communication 2017). This concept came through the council commission. Te Ngahere is an organization which supports private and public clients to protect the environment (Te Ngahere 2009). Other canopy tourism enterprises are business oriented and are operated by private companies.

Ticket prices in Table 4 give a rough idea about the charges because they vary according to facilities or activities offered, as well as type and time duration of the tour. Only Tree Adventures offer a discount for students but Adrenalin Forest and Ziptrek

Ecotours reduce the price for senior citizens. The most adventurous tours are guided like zipline tours but the operators who only have canopy walkways do not provide guides. RCTs and Ziptrek Ecotours provide two guides per one group for zipline tours. Some websites have indicated the number of walk ways or canopy tours they have but some are not indicating the number of facilities. They only mention that they have ziplines or walkways. In such a case, a tick sign is used just to indicate that the facility is available (Table 4). New Zealand's highest number of walkways and ziplines are at Redwoods and Tree Adventures respectively. Zipline is the most popular word in New Zealand but Tree Adventures and Ecozips Adventures use the word flyingfox as well.

West Coast Tree Top Walk & Cafe has a 47m high observation tower; it is the only one out of the twelve businesses (Figure 18). They also own the longest canopy walkway in New Zealand which has 11 stops and is 1.2km long. Skyline Rotorua owns the longest zipline in New Zealand, which is 383m long. Tree Adventures only mention the total length of their 18 ziplines, which is 900m. Adrenalin Forest in Wellington has the highest zipline but not all operators have mentioned the length and depth of their ziplines. Out of the four facilities with a canopy walkway in New Zealand, A.H. Reed Memorial Park has the highest walkway. According to Table 4, the highest point of the walkway is 26m and it is high over the valley. Normally, tour durations vary from 20 minutes to 3 hours depending on the facilities and activities. A.H. Reed Memorial Park has one walkway which can be accessed by wheelchairs and the tree top walkways of West Coast Tree Top Walk & Cafe are both wheelchair and pram friendly.

The four operators who offer tree adventure activities focus mainly on adventure and there is neither opportunity for observation nor side benefits like conservation, community participation and education. They have different aims (section 2.5.2) but other canopy tourism facilities offer a chance to watch birds and sightsee. A.H. Reed Memorial Park is famous for Kauri trees which are believed to be more than 500 years old and Redwood forest in Rotorua has 110 years old Redwood trees.

Only three operators: A.H. Reed Memorial Park, Ziptrek Ecotours and RCTs out of twelve create side benefits. Only Ziptrek Ecotours provide all three benefits of

conservation, education and community participation. For instance, they conduct a Locals' day program and provide internships for local students. They are involved also in a few charity programs like youth booth and cure kids. For conservation, they hold a partnership in paper for trees, Queenstown biodiesel program and Wakatipu reforestation trust. For education, they collaboratively work with Queenstown primary school and Sustainable 360 Business Program in Otago Polytechnic. These are just a few examples because they have been involved in a total of fourteen charity and conservation programs. Someone has to research whether all these projects are successful and whether their contribution is satisfactory.

A.H. Reed Memorial Park and RCTs do not conduct any program especially for the local community but they contribute to education and conservation. In the A.H. Reed Memorial Park, the canopy walkway has educational information boards along it in order to make tourists aware about the environment they visit. They also conduct a weed eradication programme with the aim of keeping the site predominantly weed free and improving the health of the forest (Spencer Jellyman, personal communication 2017). Skyline, Ecozips Adventures and Ziptrek Ecotours hold the Qualmark accreditation. RCTs, Adrenalin Forest and West Coast Tree Top Walk & Café have received other different tourism awards.

Even though canopy tourism is linked with nature, one cannot assume that it appreciates nature and sustainability because the natural environments of these places are consumed by visitors for their leisure. The level of natural resource consumption, environmental pollution or degradation can be different from place to place but some disturbance of nature obviously occurs everywhere like visual pollution, screaming or equipment related noise pollution, littering, vandalism or off-road trekking. Some pressure can occur on the wildlife in the particular natural environment, disturbing animals' breeding and feeding patterns by consuming their biological niche for canopy tourism.

Overall, New Zealand is a newly emerging country for canopy tourism. It has few facilities compared with other developed countries that run canopy tourism. The

operators are still beginners which is clear when considering the side benefits they generate (Table 4). New Zealand, however, has the potential to develop this industry under their clean and green image theme. It would then stimulate nature-based tourism as there is quite a bit of that already going on in the country, using the beautiful landscapes as backdrop. It also could create opportunities to educate people about nature, community participation and conservation since canopy tourism brings people close to nature. Therefore, further research should be conducted to find whether these businesses are responsible and in what ways they can contribute to sustainable tourism and to maintaining New Zealand's clean and green image.

2.6 Sustainability and tourism

Different disciplines have given different interpretations to explain the term 'sustainability' but anyone can agree that this has been famous everywhere not only as an academic scenario but also among the general public. It has been accepted that it means improvement in the quality of life, conservation of natural resources and recognition of the needs of future generations. Hence it has become a more fashionable and attractive word by its usage but that is not visible in practice. The importance of sustainability emphasizes real time circumstances around the world. Environmental degradation characterized by wide spread habitat and biodiversity loss, human and population growth, climate change and continued resource extraction requires that people change perspectives and priorities. Government and policies also have a role in facilitating the implementation of sustainability (Farmaki 2015).

Agenda 21 (Chapter 11) encouraged governments to promote ecotourism to support sustainable resource management and planning. It has been widely embraced because Agenda 21 sought to combat poverty, change consumption patterns and propose management of resources for sustainable development (Gee and Fayos-Sola 1997). Practicing sustainability is a form of resistance to extraction by those who operate within a strictly capitalist mode of exploitation (Weaver 2010). A number of publications (d'Hautesserre 2010; Hughes 2004; Scheyvens 1999; Sharpley 2000) however, question whether the lofty goals of sustainability can be reached considering

the unsustainable nature of many tourism operations around the world. Liu confirms that the use of sustainability principles in tourism is “patchy, disjointed and often flawed with false assumptions and arguments” (2003 459)

Consequently, to address the contemporary issues in the implementation of sustainability, there should be better contextual knowledge of human and environmental interactions. Such understanding needs to be built up at different scales local, regional and global to link with the bottom up approaches. Local community knowledge needs to be considered when designing the policies and plans for tourism development (Harris 2003). Environmental sensitivity and responses are the other decisive factors (Sampaio *et al.* 2012) to be carefully considered before initiating responsible partnerships between various stakeholders in tourism.

2.6.1 Origin and definition of sustainable development

Because it is difficult to implement sustainability, academics and government officials have opted for the more practical notion of sustainable development from which sustainable tourism was born (Mowforth and Munt 2009; Williams and Lew 2015). Although it is accepted that the concept of sustainable development originated at the World Commission of Environment and Development held in 1984 and documented as ‘Our Common Future’ in the ‘Brundtland Report’ in 1987 (Weaver 2006), the discourse about the essentiality of a ‘nature friendly development approach’ had emerged some decades prior. The ‘Club of Rome, 1968 and its report ‘Limits to Growth’ (Meadows, Meadows, Jorgen and Behrens III 1972) and the ‘Stockholm declaration’, the report of the UN conference on the Human Environment released in the same year 1972 (UNEP 2016).

Fennell (2015 64) has stated that the basic idea of sustainable development is “balance between economic, social and ecological systems”. These three dimensions that should be included in the concept of sustainable development were a result of the discourse on environment and development over time (Gibson 2001; Mayer 2008). In that sense, sustainable development is a process or mechanism to obtain sustainability. The Brundtland Report (1987 43) has defined sustainable development as “development

that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs".

Even though this concept is a known solution for environmental and development issues at present, it faces many criticisms. The most popular argument is that sustainable development is sound theoretically but difficult to practice just like sustainability (Bonevac 2010). Political support is essential to ensure the efficient process of the three dimensions. Weaver (2006 10) synthesises critically that "sustainability and development are two contradictory standards" because 'sustainability' emphasises the idea of 'steady and consistent flow of something' but the word 'development' means 'positive growth'. In order to ensure continuous development, the natural environment or cultural values have to be sacrificed. However, the goal here is to keep growing the economic benefits at the same time protecting the natural environment for future generations thanks to new science and technology. Most of the time, technology is able to enhance the capacity, accuracy or efficiency of socio-economic development while minimizing the environmental impacts but it is not possible without the support of political power (Mowforth and Munt 2016).

Robinson (2004), criticized sustainable development as a vague, hypocritical and artificial concept. It is vague because this concept is so broad: it encompasses many aspects like economic, sociological, environmental, technological and so on. The argument about hypocrisy focuses on the misuse of the word 'sustainability'. Unsustainable businesses can be promoted under the name of sustainability, which is called 'greenwashing'. It is identified as an artificial concept because misuse of the concept can easily deceive. For instance highly developed countries can hinder development of less developed countries in the name of carbon emission or natural resource consumption (Miller 1995).

2.6.2 Evolution of the sustainable tourism concept

A conference was organized by Pacific Asia Travel Association (PATA) in 1973 under the theme of ‘Tourism Builds a Better Environment’. This idea was followed up by WTO in the Manila Declaration on World Tourism in 1980. Nevertheless, there is no remark about ‘sustainable tourism’ in the Brundtland Commission Report of 1987. The first attempt at sustainable tourism was evoked in 1992 at the second United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro (Wall and Mathieson 2006). The conference led to the ‘Agenda for 21st century’. This is the historical milestone for international concern about tourism and the first attempt to consider the sustainable development of tourism. Stancliffe cited in Mowforth and Munt (2016), provided a summary about the importance of tourism for the 21st century by mentioning the economic value of tourism and its potential role as a mechanism to protect natural areas.

In this summit 178 countries discussed about “how to strengthen national and international efforts towards sustainable and environmental friendly development” (Mowforth and Munt 2009 19). In fact, this concept was adopted by many economic sectors such as agriculture, fisheries, forestry and even tourism. Yet, UNCED cited in Weaver (2006 10) notes that “the Rio Earth Summit in 1992, made only a few incidental references to tourism as both a cause and potential ameliorator of environmental and social problems”. In 1993 the founding of the peer-reviewed *Journal of Sustainable Tourism* was a bench mark of sustainable tourism in academia (Wall and Mathieson 2006; Weaver 2006) as an indication of academic interest in this new concept. Even prior to that date, Weaver (2006 09) did note that “...by the early 1990s, the term ‘sustainable tourism’ was gaining currency among academics and practitioners”.

In 1995 the World Conference on Sustainable Tourism held in Lanzarote introduced the principles for sustainable tourism. In 1980, the Manila declaration had explained the role of tourism by considering various economic, social, and spiritual aspects and its potential to develop global peace. This declaration was accepted by the WTO General Assembly meeting in Santiago in 1999 (UNWTO 1999). The third world

conference on environment and development (known as Rio +10) which was held in Johannesburg, emphasised the value of maximum participation of the world business community for achieving sustainable development goals (Mowforth and Munt 2009).

The historical evolution of the sustainable tourism concept was depicted by Hudman (1991) and Jafari (2001). At the beginning, concerns about the environment focused on leisure. But gradually this notion changed to protection of the environment. Change to the environmental concept in tourism came from adopting negative changes such as environmental degradation and natural resource depletion from the concept of development so attention went to the negative environmental impacts of tourism. Millennium development goals introduced in 2000 highlighted the potentials of tourism for poverty alleviation. Pro-poor tourism and community based tourism concepts appeared under sustainable tourism. According to Jafari (2001: 29), “what is required is a holistic, systematic approach that utilizes rigorous scientific methods to compile the knowledge needed to properly assess and manage the tourism sector”. However, some scholars argue that the holistic approaches are not always applicable and location and situation based approaches are needed.

Swarbrooke (1999) and Clarke (1997) introduced the notion of ‘polar opposites’ which describes mass tourism (large scale) and sustainable tourism (small scale) as contradictory concepts. However for Weaver (2006) small scale tourism is not always better than large-scale tourism because sometimes mass tourism in urban settings does not have direct negative environmental impacts but some small scale tourism in pristine areas does. It depends on where tourism activities occur and on the nature of the place, landscape or density of the population. In this sense, several dimensions are to be considered. Therefore, the view of ‘mass tourism is always bad’ cannot be generalized everywhere (Clarke 1997; Swarbrooke 1999) but the difference between mass tourism and sustainable tourism still needed to be identified. They also introduced a ‘continuum approach’ which identified the previous polar opposition as no longer valid. Stakeholders and academics need to find out what type of tourism is best for a particular destination based on sound scientific analysis of the place, characteristics of

the particular form of tourism, planning options and management strategies that is why case studies can bring useful information.

A third notion was the ‘movement approach’, which recognized that mass tourism is not the enemy of sustainable tourism but sustainable tourism gained more attention (Clarke 1997; Swarbrooke 1999). Their final approach is ‘convergence’ and it describes the current sense that sustainable tourism is the main goal to achieve. It also accepts sustainable tourism as belonging to the broad concept of sustainable development. Therefore, it is expected to ensure that the principles of sustainable development are implemented in each and at every scale of tourism to achieve sustainable tourism development.

In Figure 19, below, the part above the time line (that dissects the figure) shows the historical events that affected the evolution of the sustainable development concept. Meanwhile, the part below the time line illustrates the emergence of the concept of sustainable tourism in parallel to the evolution of the sustainable development concept. Both ends of the sustainable development time line represent two eras such as the economic development era before the 1950s and the present sustainable development era. Under each era there are two ‘callouts’ which describe two contradictory viewpoints about nature in peoples’ mind. For instance, in the economic development era, people used nature to maximize profits but in the sustainable era, people (or at least some) tend to think that nature is to be carefully used to maintain it for future generations. The same ideological change concerns the evolution of the sustainable tourism concept.

2.6.3 Sustainable tourism

In Jafari (2001)’s ‘platform’ model each platform introduces the important incidents that took place in the field of tourism in a particular decade. The 1980s introduced the ‘Knowledge-based’ platform and in this decade ‘alternative tourism’ is identified as a partial solution for global tourism problems. Thus, was introduced ‘sustainable tourism’. The WTO (UNWTO 2016) defines sustainable tourism as “tourism that takes full account of its current and future economic, social and environmental impacts,

addressing the needs of visitors, the industry, the environment and host communities”. This definition is broad enough to include all the stakeholders and to cover all the intended outcomes in sustainable tourism. The question is: will it be practised by all concerned?

Environment, local community and socio-economic benefits are the three major focuses in sustainable tourism (UNWTO 2016). Environmentally it means protecting the biological diversity and maintaining ecological processes and effective use of natural resources. The local community looks for protection of their tangible and intangible cultural values; respect of the local community and their authenticity; and support for inner cultural understanding. Benefits depend on ensuring a long term economic process to provide stable employment or income opportunities; guarantee the fair distribution of socio-economic benefits among all the stakeholders; and offer social services for poverty alleviation of local communities.

Sustainable tourism is to provide tourist satisfaction by ensuring the tourists are happy when they leave and bring positive attitudes to their home countries because word-of-mouth helps to brand the image of the destination internationally and to increase visitor and return tourist numbers (Murphy, Mascardo and Benckendorff 2007). To ensure efficient implementation of sustainable tourism it is essential to have strong political leadership (Bramwell 2011). It is more likely to encourage a wide range of stakeholder participation and mutual understanding. Sustainable tourism is a cyclic process. Monitoring impacts and identifying draw backs need to be conducted on a regular basis. The process should then be readjusted to get back on to the right track.

Practice and application of sustainable tourism have caused debate in academia just as the concept of sustainable development had. According to Wall and Mathieson (2006) sustainable tourism links with many other systems such as resources, energy, transport, labour, capital, waste management and so on. Different levels of usage of each system depend on the scale of tourism. Nevertheless, there is some competition between systems such as resources versus energy.

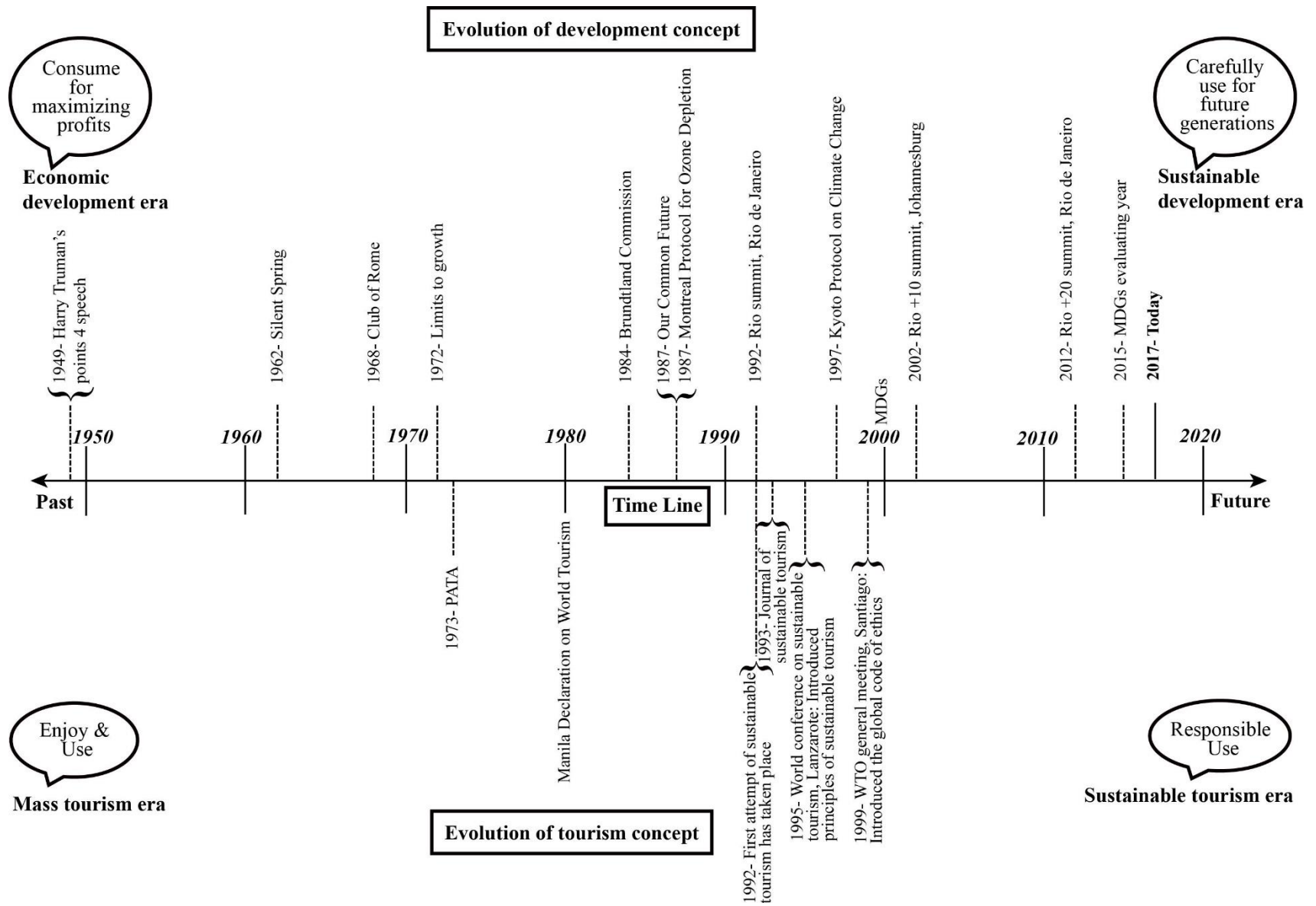


Figure 19: Evolution of the concept of sustainable tourism in line with the sustainable development concept
 Source: Created by the author based on the literature review of the research (2017)

A consistent balance among each system is impossible to ensure because, when one needs to ensure sustainability any other system has to make sacrifices; e.g. if a tourism business tries to conserve energy then it may need to use more labour power and then it may create employment opportunities for local communities but it may reduce profits of the business. It seems environmental friendly (in terms of energy/resource conservation and minimizing environmental pollution) and to provide benefits to the local community but tour operators do not implement energy conservation programs because they run a business which obviously seeks to generate profits. Hence, what this example explains is how difficult it is to maintain a balance in order to minimize environmental impacts, conserve natural resources, benefit the local community and maximize profits.

The question that next comes to mind is whether sustainability in tourism is practical. According to Wall and Mathieson (2006), there are few examples of tourism developed in pristine environments. To convert a natural environment as a tourist attraction in order to generate income, some constructions are needed to provide infrastructural facilities for tourists. Some kind of harm is thus inflicted on the natural environment but that is sometimes necessary even if locals themselves have initiated tourism development. Before any development it is necessary to check whether the area is a native pristine place with rare species in which case it should be protected as an untouched natural heritage site. Other locals and their interests and/or their environment can be overrun by officials who want to facilitate development by foreign investors since they might receive a kickback (Mowforth and Munt 2016).

If there is little serious concern for the environment then one can start tourism development but seek to conduct tourism activities without disturbing the environment and local lives with long term liabilities. Unfortunately, businesses which are located in or based on the natural environment brand themselves as running 'nature-friendly' or 'sustainable' tourism. How come? Marketing strategies use such branding strategically. Tourists who are nature or adventure lovers but without deep understanding about real sustainability can be easily attracted to such places. Business can thus survive but without practising real sustainability. Critics in tourism academia call it 'green washing' (Ringham 2015) because conserving

the environment or culture in an area is necessary for ensuring sustainable tourism but this idea has been misused for business purposes (Maier 2011). Some authors point out that unsustainable things are going on under the label of sustainable tourism (Mowforth and Munt 2009; Shaw and Williams 2002). A sustainable tourism industry needs to implement sustainable principles and their environmental friendliness be reflected through sustainability indicators.

Table 5 is a summary of the principles, indicators and tools of sustainable tourism which have been explained by various scholars. Principles explain what fundamental rules should be followed to become a sustainable tourism business. Indicators are the measurements which help to indicate how far a business follows sustainability principles, and the level and quality of the business. Tools need to be used for establishing sustainable tourism. Mowforth and Munt (2016) and Fennell (2015) introduce the principles of sustainable tourism but in two different ways. Mowforth and Munt (2016) discuss broad topics like ‘ecological sustainability’. One method for ensuring ecological sustainability is calculating carrying capacity. According to McCool and Lime cited in Williams and Lew (2015) carrying capacity is a traditional type of question that should be concerned with the qualitative aspect rather than just calculating the number of people. The question “how many people can be sustained in a particular area?” should really be “how much change is acceptable given the goals and objectives for an area?” (Williams and Lew 2015 120).

Resource sustainability, reduction of waste and maintenance of diversity are what would ensure ecological sustainability in Fennell’s detailed list of principles. Again Mowforth and Munt’s ‘conservation elements’ overlap with Fennell’s resource sustainability and maintenance of diversity. These scholars have thus focused on similar areas but using different terminologies. In contrast to Fennell’s three principles such as planning tourism, consulting stakeholders and public and marketing responsibly are not covered by Mowforth and Munt’s principles but are mentioned under the tools.

Table 5: Principles, indicators and tools of sustainable tourism

Principles		Indicators	Tools
<i>Mowforth and Munt (2016)</i>	<i>Fennell (2015)</i>	<i>Mowforth and Munt (2016)</i>	<i>Mowforth and Munt (2016)</i>
1. Ecological sustainability	1. Resource sustainability	1. Resource use	1. Area protection
2. Cultural/ social sustainability	2. Reduce waste	2. Waste	2. Industry regulation
3. Educational elements	3. Maintaining diversity	3. Pollution	3. Visitor management techniques
4. Local participation	4. Planning tourism	4. Local production	4. Environmental Impact Assessment
5. Conservation elements	5. Support local economy	5. Access to basic human needs	5. Carrying capacity calculation(CCC)
	6. Community involvement	6. Access to facilities	6. Consultation and participation
	7. Consulting stakeholders and public	7. Freedom from violence	techniques
	8. Training staff	8. Access to decision making process	7. Codes of conduct
	9. Marketing responsibly	9. Diversity of natural & cultural life	8. Sustainability indicators
	10. Undertaking research	To manage a wildlife park	9. Footprint & carbon budget analysis
		<i>Fennell (2015)</i>	10. Fair trade in tourism
		1. Species health	
		2. Use intensity	
		3. Encroachment	
		Site specific Indicators	
		<i>Wall and Mathieson (2006)</i>	

Source: Created by author based on the literature review of the research (2017)

Mowforth and Munt (2016), Fennell (2015) and Wall and Mathieson (2006) have introduced overall sustainability indicators for any tourist destination, sustainability indicators for wildlife parks and site specific indicators respectively. Encroachment means the number of times the park is affected by illegal intrusions like vandalism or off-road trailing. Wall and Mathieson (2006) have discussed further site-specific indicators because of concern for different environmental, socio-cultural and economic circumstances. Landscapes, natural resources and impacts of tourism are different from place to place. For instance beaches and mountains can be more vulnerable (Williams and Lew 2015). Sometimes, environmental degradation varies by season.

One should develop indicators with inputs of stakeholders and local knowledge (Ross and Wall 1999). Site-specific indicators should then be implemented and monitored. Wall and Mathieson (2006) do mention that indicators do not represent whether the particular policy, plan or production system will be sustainable. Research is needed to verify outcomes. It is also obvious that macro and micro level indicators be identified to reflect the grass root level circumstances. In an academic scenario it is easy to discuss in detail how to develop sustainable tourism. However the problem that always arises is how to cope with the practical issues, who wants to establish sustainability and how or whether the private stakeholders who own tourism businesses are really interested in sustainability.

Table 6: Various ways to modify human behaviour

1. Channel visitors and their vehicles.
2. Attract people away from vulnerable areas.
3. Disperse use over a wide area so no part is unacceptably altered.
4. System of rotation, then used area gets a chance to recuperate.
5. Use hard surfaces, barriers and specialized site layout and designs to control use.
6. Employ cultural treatments (watering, seeding of durable species, fertilizing).
7. Pricing.
8. Information provision through such means as signage and interpretation.

Source: Gilbert, Peterson and Lime cited in Wall and Mathieson (2006)

Some scholars try to find ways for sustainable tourism by managing tourists' behaviours (Gilbert, Peterson and Lime cited in Wall and Mathieson 2006; Mowforth & Munt 2009). A rotation system, cultural treatments and information provision are not among Mowforth & Munt's visitor management techniques, but they proposed a zoning technique. Other techniques are common in both authors. In contrast, Gilbert, Peterson and Lime have gone beyond visitor management techniques as they emphasise the value of visitor participation for environmental conservation activities (Table 6). If tourists can be made aware by providing them information, it is believed that results would be positive. Again, the next question is about who should take the steps to handle visitor flow or behaviours. What are the motivations of tour operators to do these?

Another option offered to establish sustainable tourism is using a code of ethics. There is an international code of ethics for sustainable tourism and there are some regional and national level codes of ethics, including in New Zealand (Wall and Mathieson 2006). However, the code of ethics does not have the power of legal rules or regulations. Ethics are known as moral principles which control people's behaviours. It is realistic only when the particular people believe in those ethics because behaving according to ethics is fully voluntary (Fennell 2006). Therefore, it is positive to have a code of ethics but it is not a realistic solution for establishing sustainable tourism.

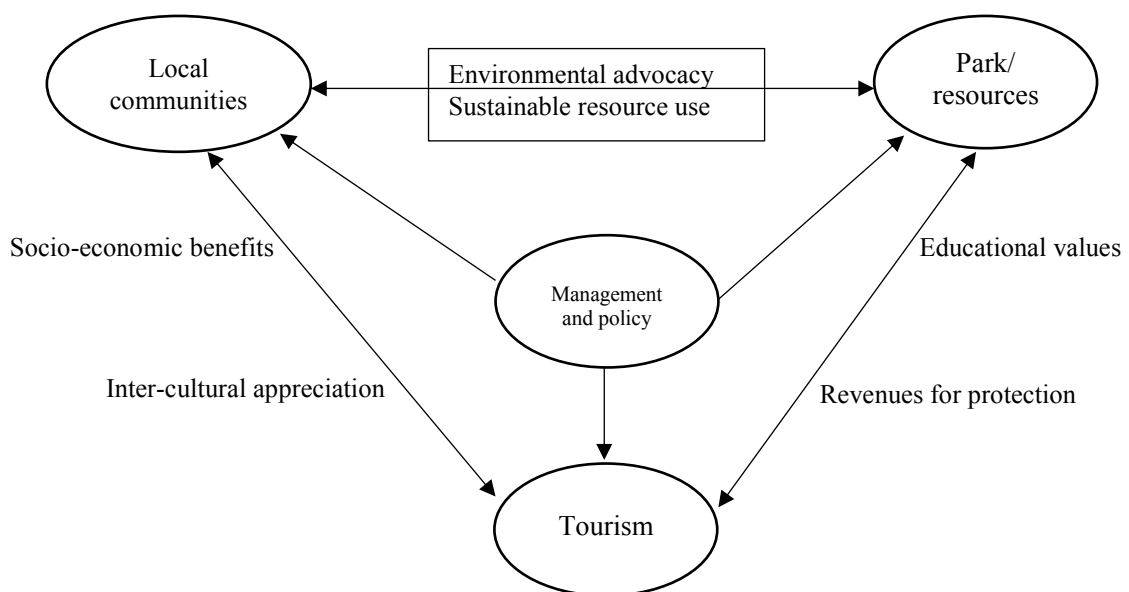


Figure 20: A framework for conceptualizing and evaluating ecotourism
Source: Ross and Wall cited in Wall and Mathieson (2006 309), Used with permission

Wall and Mathieson (2006) further propose that community-based tourism can contribute to an analysis of the validity of the indicators, if power relations within the community have been taken into account. Ross and Wall have developed a framework to represent the positive link between people, environment and tourism by emphasising the attitudes towards tourism of local people (Figure 20). They demonstrate how the local community, tourism and parks or whatever the natural element in the site is, are benefiting each other based on the sustainable tourism mechanism. Tourism management and the policy production mechanism (government) are in the middle of the above mentioned three components in order to control their drawbacks. It aims to provide high quality and satisfactory tourist products to tourists, ensure long-term environmental protection and establish a community based tourism approach. Balanced development of all parties is the ultimate goal of sustainable tourism. Implementing this framework would need to be further researched by considering site-specific situations.

Wall and Mathieson (2006) have not explained the role of government and policy in this figure. I would like to underline that government is supposed to provide a satisfactory atmosphere for the tour operators and also the tourists and local residents. For the park/resources, it produces rules and regulations to ensure the protection of nature. For the local communities, it supports collaboration and harmony among locals, tour operators and tourists. Government and policy development should be in the centre of the whole system and it should be well functioning. Government is the most appropriate player to hold the management and policy making role but the strength of the government depends on various political situations. It varies also according to the development levels of different countries.

2.6.4 Responsible tourism

Responsible tourism is not a special type of tourism but it should be part of every type of tourism and in every stakeholder's mind to achieve sustainable tourism goals (Goodwin 2011; Harrison and Husbands 1996; Leslie 2012). The World Tourism Organization (WTO) organized an international seminar on 'Alternative Tourism' in Tamanrasset, Algeria in 1989. During this seminar WTO stated that alternative tourism at that time was a discriminatory phenomenon and it should be

changed. They decided that it was better to replace the term 'Alternative Tourism' by 'Responsible Tourism' and defined it as "all forms of tourism which respect the host natural, built and cultural environments and the interest of all parties concerned" (Smith 1990 480). Responsible tourism relies on individual responsible behaviour, which might be easier to put into practice than educating large groups about sustainability.

Goodwin (2016 17) confirms that "responsible tourism and sustainable tourism are not the same. Responsible tourism puts the emphasis on what individuals and groups do to address those sustainability issues which are raised in particular places, addressing local priorities, transparently reporting what is being done to address the local priorities". The transparency it depends on is linked to the role governments play in the countries' development. If the government is strong enough to control the influence of capitalism and globalization and their detrimental impacts, there will be a chance that the stakeholders will behave more transparently. Then one can trust that responsible tourism will happen. Thus Goodwin can argue that responsible tourism can be an answer but again there should be strong and long term support to obtain expected outcomes.

Responsible tourism would seem to be the solution to provide sustainable development. However, some of the critics say that sustainability lacks measurable indicators. Even if some indicators exist (section 2.6.3 and Table 5) how one can prove that they really measure the level of sustainability? Goodwin (2016) argues that responsible tourism more accurately reflects reality and that such changes are necessary for tourism practices, e.g. airline networks and their gas emissions.

Harrison and Husbands (1996) defined responsible tourism and established the International Institute of Responsible Tourism at Tamanrasset. Further, the idea to "think globally, act locally" was put forward to ensure responsible tourism follows sustainability principles. They pointed out that being responsible in tourism is the way to make a healthy tourism industry. Accordingly, responsible tourism can be identified as the practical implementation of sustainable tourism.

Spenceley (2002) mentioned that responsible tourism is about tourists, tourist entrepreneurs, local communities and the benefits of tourism while it supports the

conservation of natural resources. New Zealand Tourism (2015) is also especially concerned with responsible tourism. It defined it as “respecting, protecting and benefiting local communities, cultures and the environment”. Summarizing all the ideas on responsible tourism Stanford (2008) has highlighted three major points. Responsible tourism considers all the aspects (economic, cultural and environmental), covers all forms of tourism (mass tourism, nature tourism and so on) and benefits all the participants (tourists, tourism providers and local communities). However, responsible tourism cannot be established by force. It is totally voluntary (Goodwin 2011).

It is believed that establishing responsible tourism is a responsibility of the government and tour operators yet this is not always the case. This responsibility should be equally distributed among these five major groups of public, private, voluntary sectors, community and tourists. The public sector should be encouraged to practice responsible tourism for which the government can create norms or rules. It needs to identify ways the local community can benefit and how it can help protect the environment. The private sector also should be responsible and not focus only on profits but it could be the most difficult to practice (Lovelock and Lovelock 2013; Mowforth and Munt 2016). Communities themselves have an obligation to participate responsibly in tourism.

Being responsible is not yet known as a quality of the tourism industry. This quality cannot be easily measured and it should be achieved through ethics and morals (Weeden 2014). Tourists themselves also should be honest and responsible. Therefore, it is clear that responsible tourism should be the mark of all the types of tourism and of all stakeholders.

According to Goodwin (2011 31) “the problem is when something is everyone’s responsibility it can end up being nobody’s”. However, if the government is strong enough, responsible tourism is no more a dream. Goodwin (2011) depicts three aspects of responsibility such as accountability, capability and response. Accountability describes that someone should be responsible for the impacts of tourism, which enables legal actions. Secondly, capability or capacity means individual or co-operative ability to do something by means of responsible tourism.

Response is the final aspect that enables discussions by individuals or organizations to address further issues.

Responsible tourism practices are accredited by Qualmark, founded in 1993. It proves that the Qualmark holder in New Zealand follows sustainable principles in his/her business(es). “This helps our visitors and international travel sellers to select the right tourism product to suit their needs” (TNZ 2017b) and it provides a star grading system for accommodation, venues or other tourist business providers. It is a non-profit programme which aims to upgrade the quality of the New Zealand Tourism industry. However, accreditation is often another form of greenwash (Lovelock and Lovelock 2013; Mowforth and Munt 2016).

In this research project only three major stakeholders are considered: one as belonging to the public sector (DoC officers), one to the private sector (Rotorua Canopy Tour operators) and tourists. Two other parties such as the local community and volunteers are not considered because they show no direct involvement with the tourist activities studied. Though there is a Hapu (local Maori tribe) living nearby the DRSR, they are not included in this research because of ethical considerations of the university that could not be handled within the limited timeframe of this study.

One interesting problem which arises here is whether the people interested in travelling expect pleasure and leisure i.e. do they want to relax for a few days away from their day to day responsibilities? If they are asked to behave responsibly during their holidays, they may be disappointed and it may cause them dissatisfaction. But on the other hand being responsible is currently necessary to avoid the increasing negative environmental impacts of tourism. The challenge for academics and practitioners nowadays is to identify the ways to make tourists aware about responsible tourism and its value. Efforts are needed to gather the support of all the stakeholders, so tourism development will become more (and more) sustainable in the future.

2.7 Conclusion

Tourism is labelled by various adjectives depending on its nature, activities and resources used. Nature-based tourism is one such type as well as an important

segment of tourism because its stakeholders appreciate using nature, so that form of tourism has a potential to conserve the environment. Canopy tourism is one such nature-based adventure tourism conducted around the world, which combines aspects of ecotourism/nature-based tourism, adventure, community participation, education and conservation. It boasts less than four decades of history but there is little published in tourism academia about its impacts, positive or not. This chapter tried to interpret various scholars' perspectives about how sustainably the environment is used for tourism and leisure purposes and how the principles and indicators are a help to depict the level of sustainability. Voluntary support is needed from all the stakeholders to ensure the long-term sustainability of tourism.

This theoretical framework has shaped this research project, which is to find out the human perspectives of environmental impacts on one type of nature-based adventure tourism. It helped me choose the type of tourism to study because the specific case (RCTs) shows five major characteristics of sustainable practice. Some forms of tourism should be more environmentally friendly than others since they do rely on nature for their own economic sustainability. This chapter indicated though that sustainability is more a discourse than a practice. In fact authors have demonstrated that it might be easier to obtain cooperation for responsible behaviour because sustainability principles are too lofty, considering society's attitudes today. Responsibility is a practice of the individual. In tourism even the largest enterprises are run by individuals who might be more easily swayed to behave responsibly as individuals. Site-specific indicators and tools to modify individual human behaviours (of all the stakeholders) are found to be a more practical way to establish responsible tourism (and hence, hopefully more sustainable tourism) in order to conserve the natural environment.

It also paved the way to select the methodology and methods relevant to the data which I needed to collect. Especially, during the field data collection phase, this literature review guided me as to what I should be looking for during observations. Thus, it obviously assisted me to develop the tools for data collection like observation and interview schedules and questionnaire. Further, this theoretical understanding led me to filter the most appropriate knowledge and discourses from previous studies which I needed to understand in order to achieve my research

objectives. I wanted to discover the level of sustainability in New Zealand canopy tourism through a study of RCTs and how it supports New Zealand's unique nature-friendly image in the global tourism trade. The methodology developed, based on this theoretical framework, is the topic of the next chapter.

CHAPTER 3

Methodology and Methods

3.1 Introduction

The careful and scientific process of investigation about a critical issue can be introduced as research. What is the necessity of research? The answer to this question can be explained by another question: Is to be aware of something to clarify what it actually is? Why is it there? Who uses it? What is the meaning of using? What are the impacts of using? How can the negative impact of using be minimized? How could it be changed for the betterment of the society or environment? All the questions mentioned above could be asked about any topic. In this study, these questions have been asked in relation to ‘responsible nature-based tourism’ or ‘canopy tourism’.

This chapter, will give an overall idea of the methodology. ‘Research Methodology’ describes how this research has been conducted from beginning to end. Therefore research is identified as a systematic process (Barbour 2001). In general, there are three types of methodology such as qualitative, quantitative and mixed research methodology. Qualitative methodology widely uses text or descriptions in order to represent human ideas and emotions. Quantitative research methodology tends to collect information by referring to numerical data and statistical analysis. Mixed-research methodology adopts both qualitative and quantitative methodologies. The beginning of a research project is common for all types of research such as topic selection, objectives and research questions identification and to ascertain the significance of the study. Considering the type of data which is suited for a particular study, its theoretical framework will determine the qualitative or quantitative methods, which is how the appropriate research methodology is chosen.

This project will use a qualitative research methodology. The reason for selecting this methodology and its strengths and weaknesses compared to quantitative research methodology are described in section 3.2, its importance to Social Science

research, as well as reflexivity and positionality about this research are described in the following sections. Qualitative data collecting methods and analysing methods used in this study are explained in detail in the final phase of this chapter.

3.2 Qualitative research methodology

Qualitative research methodology has been employed for this research because my interest is in obtaining social perspectives and attitudes of the people involved in the commodification of nature (Sarantakos 2013). In this research various attitudes of tourists, tour operators and DoC officers regarding responsible nature-based tourism were gathered and analysed. Qualitative methodology helps to understand different human attitudes and feelings which cannot be recognized by numbers. Winchester and Rofe (2016) illustrate two questions in order to answer ‘what is qualitative research?’: First, qualitative research finds out about the social structures and what factors helped establish them. Second, it seeks an answer for what are the individual experiences of someone in a place. This methodology is not generalizable nor does it highlight the situations but clearly and genuinely describes the actual situation at the grass roots level.

To provide a balanced overview of qualitative methodology, it is important to mention that there are some weaknesses in this methodology too. For one, knowledge produced by following qualitative research methodology cannot be generalized for other settings as it is specific for the particular context(s) of the research project which is an in-depth niche subject. Identification of trends or predictions are not possible with qualitative data. Qualitative data represents real time (Kitchin and Tate 1999). Furthermore, data collection and analysis are time consuming. The results can be more easily influenced by the researcher’s personal viewpoints, which could lead to biased outcomes (Yin 2016). Even though these weaknesses are characteristic of qualitative research methodology, several factors mentioned below were considered to choose this methodology for this project.

Bryman (2016) and Jennings (2010) describe several aspects of qualitative methodology and its advantages. Qualitative methodology tries to explain and interpret things rather than collect numerical values and do calculations for data analysis. In quantitative research, the researcher collects real world data as

numerical values, then analyses these values through calculations and the output comes up as numbers. Most of the time, the researcher tries to interpret the meanings of these numbers and sometimes, the researcher draws graphs based on the numerical outputs. S/he then explains the real world situations through those graphs or diagrams (Sarantakos 2013). However, during the calculation phase, data could be over generalized and important incidences could be hidden or evaded as outliers while less important situations can be over highlighted.

In a qualitative format, however, the researcher collects individual experiences in their own words with the purpose of gaining a contextual understanding. Reflexivity and positionality ensure the transparency of the study. They support the researcher to analyse and interpret data with minimum bias to give a balanced conclusion (Yin 2016). Consequently, qualitative methodology offers rich information by reflecting reality at the core level as it is for those involved in it. Accordingly, qualitative methodology tends to present participants' point of view rather than researchers' opinions. In qualitative research the researchers have more opportunity to become close to the respondents. It helps to find out unidentified factors otherwise hidden in a multi-dimensional society and its complexity (Hennink, Hutter and Bailey 2011).

Qualitative research methodology suits micro-level research because it focuses on small scale and in-depth studies. That factor led to my choosing qualitative methodology for this work on RCTs in DRSR which is a single tourist site that consists of 500 hectares of native forest. The owners of the tour company are the only operators conducting tourist activities within this forest. Two other factors led to the selection of this research site; first, RCTs indicate that they are the only tour operators who provide a zipping line canopy experience in a native forest within New Zealand, and second, they conduct a native bird conservation program in collaboration with DoC and tourists. I chose a qualitative methodology in order to determine how nature-friendly this attraction was and what the actual tourists' experience was in this place. Such issues are difficult to understand when using statistical or other quantitative methods and analysis.

According to many scholars there are several approaches for qualitative research methodology (Bryman 2016; Hennink *et al.* 2011; Jennings 2010) such as

naturalism, ethnomethodology, emotionalism and postmodernism, symbolic interactionism, phenomenology, heuristic research and ethnography. The phenomenological approach was adopted for this research to identify the stakeholders' perceptions through their own senses. This approach gives an opportunity to get close to human feelings and grab their experience from their own angle. In order to gauge human sensations, the researcher has to carefully approach and contact the respondents.

3.3 Research ethics

Research ethics reminds the researcher of his/her responsibilities throughout the research project towards the respondents' willingness to participate but also towards the topic studied. It also reminds the researcher that others will come often, so s/he should leave the domain still researchable (a positive impression).

3.3.1 Ethical conduct

After the Second World War, research ethics were more significant in the field of medicine following the dark experience of Nazi experiments and it was soon adopted after words leaked to other disciplines such as Ethnographic research and Social Science research (Neuman 2006). At present, human research ethics are emphasised when conducting Social Science research (Kitchin and Tate 1999). Some tourism related studies come under the umbrella of Social Science. Tourism basically can be seen as a social activity that requires making decisions and follows specific behaviours, attitudes or activities (Williams and Lew 2015). Therefore, the ethics following the criteria of the Human Research Ethics Committee of the Faculty of Arts and Social Sciences at the University of Waikato were followed in this research project.

According to Walliman (2011) and Dowling (2010) there are two related viewpoints to consider in research ethics. The first is the researcher's individual qualities such as frankness and good faith which emphasise the value of responsibility and accountability of the researcher. The second concerns how the researcher treats respondents such as when obtaining informed consent, ensuring confidentiality and anonymity and practicing respectfulness and courtesy. During this data collection stage one should consider the possibility of deception that can

arise if one uses incentives to encourage respondents to participate. In my study, respondents were entirely voluntary as there was no form of reward or payment for participation.

Rapport between researcher and respondent should be ethical as well as socially acceptable. The researcher should be assured of future support from respondents if s/he builds up a sound ethical rapport with them. Accordingly, Sieber (1992 2) stated that “the ethical researcher creates a mutually respectful, win-win relationship with the research population”. In terms of interpersonal relationships involved in research ethics, Neuman (2006) has mentioned that a tourism researcher has to associate with six groups of stakeholders such as society, government, the scientific community, research participants, sponsors or clients and other researchers. Consequently, following an ethical framework is rather important when conducting tourism research for all the stakeholder groups.

Jennings (2010) stated that three major steps should be guaranteed ethical treatment, for example, design, conduct and report on the research. Walliman (2011) confirms that the research report should answer a couple of questions such as what the researcher has done and how it was done. It simply means that each step of the research should be transparent and ethically responsible. Aims of the research, how information was obtained, techniques used for data gathering, analysis and results should be clearly described in the research report.

Gathered data and interpretations given by the researcher should avoid bias and should abstain from any kind of fabrication (Jennings 2010; Walliman 2011). The researcher’s theoretical stand should be clearly defined. In view of ethics while working with secondary sources, one must cite and give due respect to previous researchers or authors. This is essential as we learn background information and identify knowledge gaps by using their previous work or publications. This thesis has followed scientific referencing methods to acknowledge authors of all the secondary sources referred to in this project.

According to Guillemin and Gillam (2004), there are two dimensions in terms of place or situation in which ethics are employed. First is “procedural ethics” which identify that one did obtain ethics approval from a recognized university or institute

prior to conducting field work which involves humans. The researcher has to assure that the conduct of the research will follow the guidelines of the ethics committee. I submitted an ethics application to the Human Research Ethics Committee at the Faculty of Arts and Social Sciences in the University of Waikato and obtained approval (Appendix 1).

The second dimension is 'ethics in practice' which means ethics followed by the researcher when actually carrying out the fieldwork and how to overcome real-world ethical issues as they arise when dealing with different cultures and communities. Using theoretical knowledge and previous research experience the researcher should be strong enough to handle the obstacles. For this research I contacted three groups of stakeholders in RCTs to gather primary information. Those were the tour operators of RCTs, DoC officers and tourists. All the participants should be free from harm including physical, psychological, legal or any other harm during or after participating in this research (Jennings 2010).

I invited respondents who could be contacted via email such as operators of RCTs and officers of DoC to contribute to my research with the information sheet. When they were ready to be interviewed, they received the consent form and interview schedule by email so that they had some time to think about the questions. I could not contact tourists before I met them on site at the conclusion of their Canopy tour. I handed over a brief questionnaire with the help of the tour operators after confirming whether they had time and would like to participate in my research. I requested permission from Rotorua Canopy Tour Operators to use their name for this research. If my research discovers that the tourist activities of Canopy Tours are not responsible or not nature-friendly, it could have a negative effect on their business. However the owner James Fitzgerald gave his permission to use their name and provided his support any time I needed it. To the best of my knowledge, other respondents are not at risk if they chose to participate in this research.

Even though, the researcher is well aware about the procedural ethics and ethics in practice, some sudden situations can arise during the field work. These situations or challenges have to be overcome by his/her own capacity and wisdom. Similarly, a researcher's ability to rise to the occasion depends on the researcher's personality and discipline. I had to be careful when I dealt with the tourists as they came from

different countries and cultures. Furthermore, once they had finished the tour they were in a rush to leave. Therefore, I did not force them to fill in the questionnaires. Hence sometimes I could obtain nothing from some groups and I had to wait patiently until the next group had completed their tour.

In addition, I had to obey the requests of tour operators. For instance, one group arrived and I observed that their facial expressions were not very pleasant as some of the other groups that had completed the tour successfully. When I was ready to give my questionnaires to them, a girl in the reception suddenly appeared and asked me, "can you skip this group as they completed their tour behind their scheduled time?" I understood that this group was not to be approached and therefore waited for the next group. I understood that something had gone wrong because I was previously aware of the time schedule and the group had arrived exactly on time. But I did not refuse the reception girl's request.

I gave notification to the tour operators before each visit. I found this was a disadvantage at times because they could have pre-arranged and changed their normal routines which my research would not notice. When I joined the zipline tour to conduct participatory observation, they had pre-arranged it and allocated well experienced tour guides. One had completed his 1000th tour recently. I tried to be transparent throughout the research in terms of respect to the research ethics. I avoided asking questions when guides were busy and each time when I needed to take photos I asked the operators' permission. Practising all these ethical actions helped me develop a good rapport with all the respondents as well as conduct my field work without any impediments.

3.3.2 Reflexivity

Reflexivity is necessary in social research and employed in qualitative methodology because it is important to ensure ethics are in practice at the micro level during the field work (Fook 2002; Pillow 2003). This situation is called an "ethically important moment" according to Guillemin and Gillam (2004) because several sudden ethical issues can arise during the field work phase. Reflexivity can be described in procedural ethics but it is rather different to ethics in practice. The real form of reflexivity develops with the researcher's maturity through field

experiences s/he has gained over time. Many scholars have defined reflexivity as seeing something through the eyes of others and as a human ability to study ourselves and the relationship with our context (Foerster 1991; Jennings 2010; Longhofer and Floersch 2012; Morley 2015). However, reflexivity can be simply defined as an ethical procedure which the researcher should follow to understand about the social contexts of both parties (researcher and respondents). The researcher is expected to maintain an impartial role from the beginning to the end of the research process.

The word 'reflexivity' is used in different fields such as ethnography, feminism, economics and political studies because it is considered an important concept of research ethics in qualitative methodology (Fook 2002). It expresses the meaning of transparency and there is some doubt about the difference between reflectivity and reflexivity. Reflectivity stands with the support of reflexivity which means reflectivity assures the overall transparency throughout the research process while reflexivity underpins and confirms the transparency of each circumstance (Fook 2002). Robertson (2002) has employed the word 'mirroring' to express the idea of transparency and explain reflexivity. Consequently, the researcher can approach true knowledge via reflexivity.

Recent studies suggest that reflexivity is self-identification, in the form of self-sensitivity, self-examination or self-evaluation by the researcher (Anderson 1989; Chiseri-Strater 1996; Doyle 2013; Payne 2009). Callaway (1992 33) has indicated that "reflexivity is a continuing mode of self-analysis and political awareness". It is something about self-location of the researcher considering his/her nationality, religion, cast, family history gender, age, education, occupation, income, social class, disability, personal beliefs, attitudes, behaviours and other distinctions which are also mentioned under the positionality section (Bourke, Butcher, Chisonga and Clarke 2012; Robertson 2002). According to Hertz (1997), a researcher who follows reflexivity in his/her research has to answer these two questions, 'what do I know' and 'how do I know it'. The answer to the first question has been revealed in the research objectives and the answer for the second question is explained in detail throughout this chapter.

Reflexivity is important in each and every step in the research: prior to data collection, during data collection, during interpretation and analysis and at the stage of report writing. Robertson (2002) again claims that the reflexive researcher is a multi-sensory human being. As the researchers are human beings, they have five sensors such as eyes, nose, ears, tongue and body (sometimes it can be the skin). Each of these sensors has a unique function like sight, smell, hearing, taste and touch. Each sensor can capture (sense) data through their functions as images, smells, noise, tastes and touch/ physical experiences. Those are called sensations. For this research, only three sensing processes were conducted as smell and taste were not used.

For Pillow (2003), reflexivity is first recognition of the self which indicates the awareness of the researcher as an inner or outer person relative to the participants' social context. If the researcher identifies as an insider, s/he should be a part of the community or should have racial commonalities. I wish to disagree with Pillow when he states that it helps to understand another person's point of view. My research is on a New Zealand tourist destination and I hope to provide further knowledge even though I am not a resident of New Zealand. Through self-awareness the researcher knows his/her particular position or 'self-location' and so is more able to compare his/her perspective and accept differences with that of the respondents (Pillow 2003).

Out of four types of reflexivity described by Marcus (1994), only two were considered in this research project. One is subjectivist reflexivity which is normally the same as the general idea of reflexivity which describes the social dimensions in the study area. In general, the tour operators, DoC officer and most of the tourists were Caucasian New Zealanders. Few were international tourists. My research site, DRSR is a land without human settlements. Therefore, socio-cultural variation was less in my study site when comparing to a study conducted in a rural or urban settlement. The other one is reflexivity as a politics of location which seeks to identify power relations of respondents and is important for social research (Marcus 1994; Nagar and Geiger 2007).

Pillow (2003) and England (1994) further described the power relationship between researcher vs respondents as having three levels. The first level is the reciprocal

relationship or same power relationship between the researcher and the respondents; the second level is an asymmetrical relationship which means respondents are more powerful than the researcher. The third level is the potentially exploitative relationship which indicates that the researcher is more powerful than the respondents. James (the owner), other officials and most of the tourists have a stable financial situation. When I consider the power relations between these respondents, and me, I feel that I have less power than them. However, everybody treated me as if we had the same power relationship.

Reflexivity is interpreted as truth gathering which increases the quality of the research (Marcus 1994). It is used as a tool or method as well as a skill that helps to overcome or minimize the gap between researcher and the participants (Pillow 2003). As a critical social scientist I do question whether any research can really be faithful and untarnished. The researcher has his/her own social and cultural context which is different to that of the participants. To some extent I can agree that reflexivity helps the researcher to understand, get familiar with or adapt to the respondent's social context.

In that manner, it helps to minimize the researcher's self-influence on the research. It attempts to avoid bias and gives the sense of a politically correct attitude. Therefore, it helps the researcher to be aware of his/her own role or to evaluate his/her own characteristics (Finlay 2002). The researcher should be impartial as s/he is the central figure who selects, collects and interprets data. It ensures the legitimacy and validity of qualitative research (Pillow 2003). Therefore, reflexivity plays a significant role to ensure more accurate analysis which should lead to increased productivity of the research work.

Some authors state the importance of field note taking while interviewing; not only writing the words of respondents' replies but also the researchers' opinion and feelings to keep the researcher on track with reflexivity (Elliott, Ryan and Hollway (2012). Dowling's (2010) research diary is not the fieldwork diary or notebook because those are used for writing observations, interview talk or mapping. The research diary contains the researcher's penetrating and authentic opinion about the research process such as the social/actual context in the field, how s/he feels about it and his/her role in the study. In this sense, the research diary would help the

researcher to identify his/her role as an insider or an outsider. In my case I have taken field notes using a notebook while I was observing and interviewing. At the same time, I wrote my independent opinions on my computer every time after I returned from the field.

Reflexivity appears to be a bridge which addresses the issues of procedural ethics through everyday practice in social research. Accordingly, it is obvious that reflexivity allows the researcher to think openly and widen his/her thinking and behavioural capacity because it would not permit the researcher to react on his/her immediate emotions. One author illustrates this mode of thinking: "I didn't change their lives. I didn't change anything for them. The research changed my own life, but I didn't matter. The participants live exactly the same way they did before" (Bourke *et al.* 2012 102). Probst and Berenson (2014) summarize the end result after using reflexivity as a tool for social research that helps to understand the meaning of real human experience.

The RCTs' owner offered two free tickets for my husband and me to participate in the canopy tour to conduct participatory observations. First, I was curious why he offered me free tickets: was it to help my research genuinely or as an incentive to make a good impression on me. But they never asked me to write positively about their business. I ensured the quality of my work by using reflexivity throughout my research. They allowed me to participate in the trapping program once and they supported my work by providing a permission letter to use their business name, a permit to use photos taken during observations for this thesis; they also provided some secondary data about the business, allowed me to talk with guides or any other officers freely and helped to build up contacts with the DoC officer. One guide also ensured that "James is not a money minded person but willing to do a quality job". I also can agree with this guide's comment when I consider his attention and support from beginning to end. As an international student, I was a bit nervous to go to the field for the first time but their welcoming and supportive attitude encouraged me and made me feel comfortable. This atmosphere opened my mind so I could focus on the data which I needed to collect in the field.

3.3.3 Positionality

According to Bourke *et al.* (2012: 97), “there is no escaping the GPS coordinates of positionality and people’s responses to it”. The *Dictionary of Geography* (Mayhew 2015: 221) explains that positionality refers to the fact that “where you are coming from must reflect your own personal viewpoint”. It means explaining the researcher’s own position in his/her academic work (Mayhew 2015; Pratt 2013). Hence, positionality is always combined with the researcher’s reflexivity (section 3.2, paragraph three). Positionality is an idea of Western self-critique. Since this research follows a qualitative methodology entirely, I tend to think about my positionality through reflexivity (Rose 1997).

According to Kim (1994) and Liong (2015), there are two different streams which could influence positionality. The first one is the researcher’s positionality and the second is the respondents’ positionality. I am a young, 30 year old Asian (Sri Lankan), female Buddhist researcher, who speaks English as a second language (Sinhalese is my mother tongue). This is the first time I am doing research in a western country. Thus, I obviously played my researcher role as an outsider but I have some sense of Kiwi culture, New Zealand people and the environment as I lived in the country for a few months before I went for field data collection. This experience helped me to build up some rapport with the owner, the conservation manager of the RCTs and the DoC officer by contacting them through phone and emails. However, I met the tourists for the first time at the site; it was impossible to have previous contact with them. My respondents’ positionalities were not highly diversified as mentioned in paragraph six, section 3.3.2.

3.4 Qualitative data collecting methods

There are three types of qualitative data collecting methods such as oral, textual and participation in the event or in its environment (Jennings 2010). In the oral category, all types of interviews, focus group discussions and biography methods are included. The textual data category consists of fictional literature, film, art music, maps, filled questionnaires and postcards. The third type is participation in the event or environment which could be conducted by following plain or participatory observation. In this research the first and third types were employed. Semi-

structured interviews, plain and participatory observation were the dominant data collection methods but I also used a qualitative questionnaire survey as well as brochures and websites. Considering the instructions of the Human Research Ethics Committee of the Faculty of Arts and Social Sciences at the University of Waikato, photographs were taken only during the private tour in the DRSR and with permission of the owners.

3.4.1 Case study method

The case study method is employed by both qualitative and quantitative methodologies as a data collecting method for pre-research or post-test (Baxter 2016; Sarantakos 2013; Yin 2012). Gerring (2007 342) defines case study as “an intensive study of a single unit for the purpose of understanding a larger class of (similar) units”. Case study can be a place which represents the same qualities of other places or a group of people who represents similar characteristics or has faced the same incidence as the other groups e.g. one particular forest can be selected as the case study to examine deforestation or the people in a particular village can be selected as the case study to investigate refugees’ life.

A case study aims to give an in-depth nuance in the ground phenomena to solve practical issues which provides more focused data covering the whole case, credible, trustworthy and descriptive data (Baxter 2016; Sarantakos 2013). The context understood by the case study can be generalized or transferred to similar situations, which is an advantage of case studies. Therefore it is more efficient than conducting a questionnaire survey to collect widespread data covering all the affected parties. Case studies are used for both theory testing or theory generating research (Yin 2012).

This research project aims to find out the sustainability of New Zealand nature-based tourism. Canopy tourism is chosen considering it as an emerging business, which is also based on the natural environment in New Zealand. According to my web search (Table 2.3) there are twelve canopy tourism facilities identified in New Zealand. Out of the seven facilities in the North Island, Adrenalin forests (two sites) and Tree adventure were skipped as they offer more adventure oriented products; Redwood and A.H. Reed Memorial park were ignored too as they only have

walkway facilities; Skyline Rotorua and Ecozips adventures on the other hand only have ziplines. Then only RCTs remained and was selected as the case study for this project. Further the following reasons justify why RCTs was chosen: they have both ziplines and walkways; they occur in a native forest governed by DoC; they brand themselves as the ‘New Zealand only zipline canopy tours’; they have a bird conservation program; they are managed by a local owner; and they are located in Rotorua and are thus accessible from Hamilton.

3.4.2 Semi-structured interviews

There is no doubt that the interview is the most popular as well as a powerful method for qualitative data gathering (Dunn 2010; Flowerdew and Martin 2005). Dunn (2010 149) defines interview as “a face to face verbal interchange in which one person, the interviewer, attempts to elicit information or expressions of opinion or belief from another person or persons”. It offers a broad opportunity for the researcher to understand human activities, feelings and ideas by personal two way communication. Additionally, it explains the reasons of those behaviours and attitudes. Interviews offer different advantages for the study, for example, as a gap filler to find out new knowledge or descriptive data which was not grasped by following other methods such as observation or questionnaire. Interviews help understand some complex situations and collect diversified data, for instance, meanings, opinions, perspectives, attitudes or criticisms about one issue. Equally, this method permits the researcher to get closer to the respondents so to better reveal the respondents’ experience (Dunn 2010; Rubin and Rubin 2012; Walliman 2011).

The three basic types of interviews are structured, semi-structured and unstructured interviews, which are classified based on their structure but there are some more types like Delphi interviews, narrative interviews and intensive interviews (Jennings 2010; Sarantakos 2013). Based on the mode or nature of handling the interview, other categories like face to face, telephone and online interview can be used. In qualitative research, semi-structured interviews are the most common (Sarantakos 2013). Dunn (2010 150) defines the semi-structured as an “interview [that] has some form of pre-determined order but maintains flexibility in the way issues are addressed by the informant”. It uses an interview guide and questions that are relevant to the main research question. The interviewer can decide to change

the questions' order. Therefore, a semi-structured interview has a flexible schedule but at the same time the interviewer is able to ensure whether s/he is on the right track. Consequently, semi-structured interviews are respondent-friendly and easier to adjust according to respondents' desire and the research situation (Jennings 2010; Sarantakos 2013).

This type of interview consists of more open type questions and enables one to cover a wide range of information, as queries can be clarified by asking follow-up questions (Jennings 2010; Walliman 2011). Semi-structured interviews provide a relaxed atmosphere for both interviewer and respondent. This research project mainly focuses on all stakeholders' behaviours and attitudes in order to develop responsible nature-based tourism. Considering all these strengths, semi-structured interviews were used for this study as a basic data collection method for the tour operators of RCTs and DoC officers.

3.4.3 Qualitative questionnaires

Sarantakos (2013 253) defines the questionnaire as “a process of translating the research topics into variables”. Questionnaires are normally distributed individually and the sample size is broad. It is used to gather original data about people, their behaviour, experiences and social interactions, attitudes and opinions and awareness of events (McGuirk and O'Neill 2016). Questionnaires usually collect qualitative and quantitative data so it is perfect for both methodologies. It does not provide in-depth qualitative data but there are some advantages such as more extensive data. McGuirk and O'Neill (2016 247) confirm that “first a questionnaire provides insights into relevant social trends, processes, values, attitudes and interpretations. Second, it is more practical, cost effective and able to cover large numbers of people”.

In every questionnaire the guiding principles for each question should be clear. There is also a need to be concerned about cultural safety (See third paragraph, section 3.3.2). In the initial stage of this research, I was supposed to collect data from the tourists by using a semi-structured interview method but considering the limited time factor, it was converted to a short questionnaire. This brief questionnaire was set up in order to collect qualitative data about tourists'

motivation, satisfaction, and attitudes towards nature tourism and the conservation program of the site. I handed over this brief questionnaire to 40 tourists with the help of tour operators after confirming whether the tourists had time and would like to participate in my research. One advantage was I could still get views and opinions from the tourists through the questionnaire.

3.4.4 Plain observation and participatory observation

Sarantakos confirms Kearns's (2016: 313) 'Seeing is believing' when he states that "observation is a research method that entails gathering data through vision as its main source" (Sarantakos 2013: 299). Even though eyes have first priority during observation, listening and sensing are also taken as partial functions of the observation process. Purposes of the observation are of three types: counting, complementing and contextualizing which lead to a number of categories of observations. The first two types are controlled and uncontrolled observation. In controlled observation the things to be observed are clearly pre-identified and this type is employed in natural sciences. Most of the social research adopts uncontrolled observation which has a special goal, but does not have any restrictions for what, how and when things should be observed as in controlled observation (Bryman 2016).

Some observations are conducted as a series depending on the research, for instance observation conducted prior to the questionnaire survey, during or after the data gathering process. Second, there are two types: primary and secondary observation. In primary observation, the researcher conducts observation and collects primary data during the field work. Secondary observation is conducted based on secondary data like tourist postcards, photos or videos by adopting the position of participants and interpreting the human activities. In this case the researcher interprets the observations done by others.

Third, the two types most commonly used, are plain observation and participatory observation (Sarantakos 2013). In plain observation, the researcher is unseen, observes the activities of the target group as an outsider and cannot be noticed by the targeted group. Sarantakos (2013: 231) defines participatory observation as "working alongside them and observing them in the inside" while (Kearns 2016

318) states that “participatory observation is strategically placing oneself in situations in which systematic understanding of place are most likely to arise. Participatory observation is very important for qualitative research because it has the potential for more natural interactions and responses to occur”. Based on all the above mentioned information regarding observations, I practiced both plain and participatory observation for my research project. Both were uncontrolled and primary kinds of observation.

I was granted permission by Rotorua Canopy Tour Operators to conduct observation during their tours. I also visibly identified myself as a researcher from the University of Waikato to all stakeholders and participants. I offered a flyer about my research project for potential participants when anyone inquired about my research project (Appendix 6). I observed the tourists in their activities, their behaviours and how they experience this natural environment, what they do for fun or enjoyment (Sarantakos 2013). Similarly, I observed the duties of tour operators during the tour, for instance, what they do in terms of offering the three major aims of fun, adventure and education. I also looked at animal traps and other equipment installed for the conservation programme.

I conducted participatory observations by presenting myself in a canopy tour as a normal tourist and observed all the events that I also participated in. Similarly, I observed the tour organizers’ duties such as how they manage the interaction of tourists with the natural environment, educate about the environment and advise tourists to avoid negative impacts on the environment. I observed how they conduct their conservation programme with DoC and obtain tourists’ participation in the project. I could observe facial expressions and sudden reactions of tourists, for example, when they saw a native bird or were flying down the zipping line. Furthermore, I was able to sense tourists’ feelings by hearing their verbal expressions of excitement (see fourth paragraph, section 3.3.2) while conducting participatory observation, [which is also a form of data collection (Walliman 2011)].

3.4.5 Photographs and video recordings

In this study photographs and video recordings were not used as a major data collecting method but some photos were taken with permission during the private tour which was specially offered to me for this project by the tour operators of the RCTs. The tour operators have a bank of photos and videos. They were happy to share some of them after I agreed to ensure the anonymity and confidentiality of the people on those images and videos.

3.5 Qualitative data analysis

Qualitative data analysis methods have been used for this study as it is based on qualitative methodology. Discourse analysis was the key method used to examine the data which was collected by using plain and participatory observations, semi-structured interviews, qualitative questionnaire, photographs and videos to answer the research question in Chapter 1 (section 1.4). McGregor (cited in Mogashoa 2014 105) defines discourse analysis as “giving the power of the written and spoken word”. Fairclough (2013) has introduced critical discourse analysis (CDA) to reveal social realities because “it is relational, it is dialectical and it is transdisciplinary” (Fairclough 2010 03). Waitt (2016 288) follows Foucauld’s idea that “discourse is a mediating lens that brings the world into focus by enabling people to differentiate the validity of statements about the world”.

The main job of CDA is worth considering for this research because there are two types of critiques used in CDA such as negative critiques and positive critiques. Negative critiques analyse what are the negative factors that exist in the society described by the statements, how they are produced and sustained while positive critiques question how to mitigate these social wrongs and to find ways to correct them. Subsequently, CDA plays a bridging role by building up relationships between the text and the ground (Dijk 1985). This research project has followed both negative and positive critiques as I have examined the negative impacts of tourism as well as looked at the positive practices that others can follow to ensure sustainable tourism.

According to Fairclough (1992), CDA is a three dimensional concept that consists of text, discursive practices and social practices. At the same time, each dimension

of CDA has its own task such as description, interpretation and explanation. However, interpretation and explanation are interrelated with neighbouring dimensions. First, considering the text, it could be any kind of data collected by various qualitative methods (interviews, focus group discussions or questionnaires). Thus, these texts could be verbal or written. Based on the text, the researcher's aim is to analyse by describing for example the relationship between certain texts or statements; it is also called content analysis.

The second dimension concerns discursive practices, which means how the text is produced and consumed like writing, speaking, listening or viewing. These various discourse practices are analysed to interpret what the statements or the speakers put forward or what they obfuscate, in other words, how such practices seek to mould their audience. The third dimension describes social practices in terms of the social, economic, political and environmental context and to explain their meanings. Further, the aim is to understand why and how the social practices are established and transformed in the way that they are now (Janks 1997; Mogashoa 2014; Poole 2010).

In this research, I have studied the social practice called 'tourism' which exists in a number of social, political, economic and environmental contexts. For instance, RCTs are a business which is linked to economic activities. The tour operators combine with the government via DoC which can be identified as an institutional practice as well as having a political relationship which gives the Canopy Tours some power from a public institution. Similarly, this business is conducted by using a native forest which represents the environmental context. Equally, tourists are attracted to this business because of their individual recreational needs and to be involved in adventurous activities that take place outdoors, in a native forest.

My use of CDA was relatively limited because my case study was considered too small. I analysed the statements of a few persons linked to a small tourist business using mostly thematic and discourse analysis. I sought to reveal their specific goals and whether they have a true passion for sustainability or whether they are just green washing. To understand these social practices, I have used various data collection methods like observation, participatory observation, questionnaire and interviews to gather information. I have received information from various practices of text

like writings, speaking and listening. This is the discursive practice of my research. I interpreted the information as I proceeded with the analysis in order to understand the real meaning of some answers. Sometimes, I had to interpret the meanings of emotions, body language, in-depth meanings and also the meaning of what was not said (silence/ pausing).

Next, I interpreted data as text. For coding I have used NVivo (version 11) which is software specially developed for analysing qualitative data. I uploaded the interview recordings which I could transcribe together with field notes, research diary notes, answers to the questionnaires. I used some photos to complement or illustrate the data analysis. NVivo has a facility to make nodes equal to codes. The content of the text was analysed through coding in order to discover the main themes which were then subjected to thematic analysis and discourse analysis.

At the next level, I looked at findings from different perspectives considering age, local tourists vs international tourists, tour operators, public, nature, adventure, environmental conservation and sustainability. I made arguments about what factors affected these findings, on the basis of my theoretical framework explained in Chapter 2. The common goal of all is to understand the meaning of various social practices. How and why are those practices there? Are those practices acceptable or tolerable under different circumstances? If not, how should the situation be improved? Various explanations can be provided for social practices identified as discourses.

Content analysis, thematic analysis and critical discourse analysis have been used for this study to examine the nature of inter-relationships among three major parties such as tourists, tour operators and existing natural environment. It was also used to interpret the strengths and issues of the canopy tour attractions in order to determine whether they follow sustainable standards by considering different human perspectives on the issue of sustainability.

3.6 Conclusion

This chapter has extensively described the research methodology and methods to research my topic. At the same time, considerable attention has been paid to ethics as well as to reflexivity and positionality to minimize bias in the researcher's practical experiences in the field. Qualitative methodology was employed for this research project as it focused on obtaining a critical Social Science perspective. Various stakeholders' motivations, perceptions and attitudes on nature-based tourism can be identified through qualitative methods like semi-structured interviews and participatory observations.

In qualitative studies, one necessarily is concerned with research ethics as bias can frequently occur. Therefore, this project fulfilled the University of Waikato research ethics requirements in order to approach the respondents. In fact, I tried a maximum to ensure reflexivity throughout this research project. Thus, certain field research experiences are described, providing real examples to support my claim of reflexivity in this study. Further, I have explained my positionality to express how I conducted this research in the New Zealand context as an outsider.

Collected qualitative data analysed through a discourse analysis method helped to determine various aspects of responsible tourism, nature-based tourism and conservation to understand the level of sustainability of RCTs. NVivo software version 11 used as a qualitative data analysing tool to analyse the data collected from primary and secondary sources also helped to develop some figures to visualize the outcome of the content analysis. Geographical Information System (GIS) 10.3.1 version was used to create some maps for this thesis. In conclusion, this chapter gives a structural overview about how this research was conducted. How RCTs conduct these five activities in their business is examined in the next two chapters as they are the case study of this research.

CHAPTER 4

RCTs: Nature Adventure in a New Zealand Native Forest

“Rotorua, you are certainly so much more than your geysers”

Bradley (2013 93)

4.1 Introduction

This chapter provides important details about my case study before the in-depth analysis in the next chapter which contains the most critical part of this thesis. Qualitative data analysis methods which were described in chapter three and qualitative data have been used to reveal the ground level scenario of this business. This chapter is divided into two major parts: the study area itself and RCTs. In the first part I cover location, physical and human geographic characteristics of the study area which is DRSR where the canopy tour is conducted. The DRSR is located in Rotorua which is known as the first major tourist destination in the North Island of New Zealand. This also has attracted more tourists to the study area which is rather small considering the whole map of New Zealand, within which it is too small to recognise. However, being a native forest, its value is not as small as its size.

Different types of data visualizing methods such as photos, maps, diagrams, graphs, figures, tables and flow charts are used throughout this chapter to represent what I observed and learned in the field. Having a clear knowledge and understanding of the location of the research site, why this location is important and the geographical characteristics which could affect this particular tourism business are useful to justify why this type of tourist activity was placed there, whether it is beneficial and to whom.

The next main section of the chapter explains the business which was chosen as the case study of my research project. Sub-themes describe the various aspects of RCTs to give a better understanding of the business and related processes as well as an insight overview of both their tour and conservation program, which comprise several functions. This section reveals how a visitor would feel or what would be his/her experience when visiting RCTs for the first time. The aim of this chapter is

to show comprehensive knowledge about the case study or research field from the researcher's point of view, from observations and experience, as well as what I understood from this experience to support the critical analysis in Chapter 5.

4.2 Study area

The DRSR and RCTs' head office are located close to Rotorua city. It is an area well known for tourism based on both physical and cultural characteristics. It is located in the North Island not too far from Auckland, the main point of entry for international tourists. Its climate can be described as mild temperate and its landscapes are varied, which can also be considered attractive for tourists.

4.2.1 Location

RCTs' head office is located on the Fairy Springs Road which is a section of the Thermal Explorer State Highway 5. The research site, DRSR is located along the Dansey Road and it is a 15 minute drive from their head office. This forest got this name from its location but on the Google Maps, the forest name has been shortened to Dansey Scenic Reserve. This is a preserved forest that DoC owns on behalf of the public. As this DRSR is situated near the village of Mamaku, RCTs always introduce the forest as 'Mamaku forest' on their website and brochure. It is obvious that the name 'Mamaku forest' is easy to say and memorise but it can create confusion as described in section 5.12

Absolute location coordinates of the DRSR spread between South latitude -38.071003 to -38.090678 and between 176.084224 and 176.115298 on the Eastern longitude (Google Maps 2017). There are two ways to reach the research site when one comes along State Highway 5 (Thermal Explorer Highway). The first one, when one comes from Hamilton to Rotorua, is to follow the road called Maraeroa road on the right-hand side. This road leads to the Dansey Road. The second option is from the RCTs' head office. When one comes from the Rotorua CBD along Highway 5, it meets the Dansey Road on the left-hand side but nothing indicates how to reach my research site. The DRSR is located about 10kms west of Lake Rotorua. (See map iii in Figure 21).

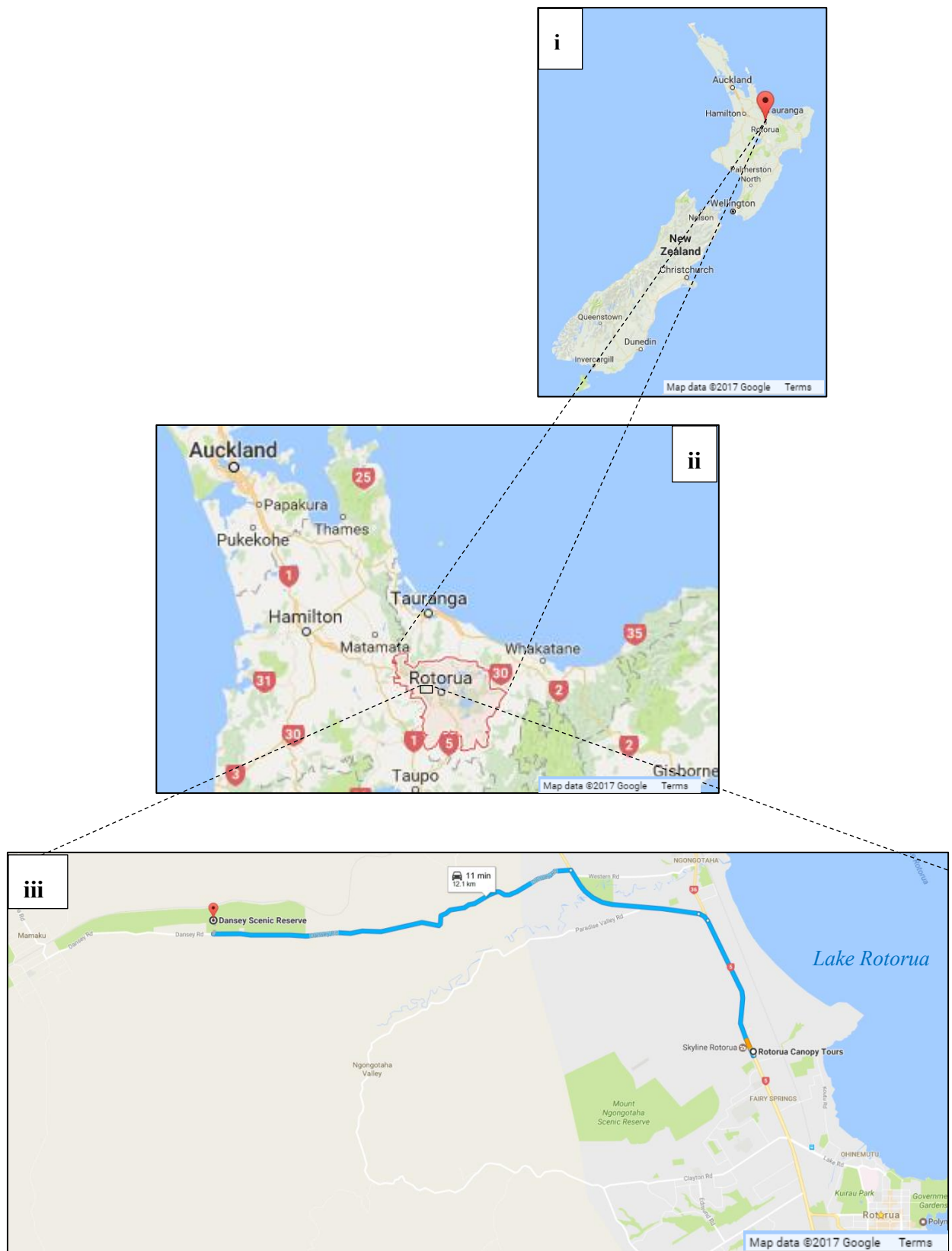


Figure 21: Location Map of DRSR
 Source: Original Maps from Google Maps (2017)

4.2.2 Physical geographic characteristics

The DRSR is 500 hectares in size. The forest is divided in two by the railroad which runs parallel to the Dansey Road. The canopy zipline facilities are installed in the South-eastern piece of the forest between the Dansey Road and the railroad. The zipline tour route is shown in yellow on Figure 22.

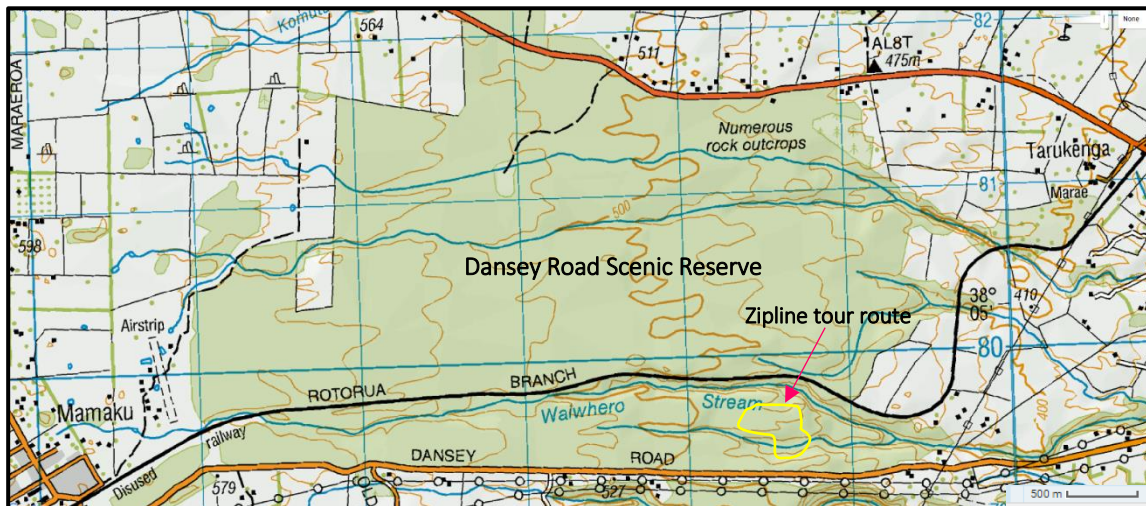


Figure 22: Distribution and the drainage pattern of the DRSR
Source: Land Information New Zealand (LINZ) (2017), Used with permission

The relief of the DRSR undulates between 400m-560m altitude (Figure 22). Branches of the Tupapakuria stream flow through this forest towards Lake Rotorua. One branch can be easily identified as Waiwhero stream, but the other branch names do not appear on this map or the Google Maps.

Temperature and rainfall vary throughout the year as this area is located in the temperate climate zone which has four seasons. Figure 24 shows how temperature fluctuates with the seasons. February reports as the peak of summer with the highest temperature (average of 16.4°C) and July is the coolest month with an average of 6°C. This temperature variation influences the outdoor recreation and the number of tourists that come to RCTs. According to the blog: Climatic-Data.org, February is the driest month of the year with 132mm of average rainfall while August is the wettest with 212mm of average rainfall (Figure 23).

According to the Manaaki Whenua Land Care Research, the vegetation cover around the DRSR is classified as indigenous forest (Kirkpatrick 1999). RCTs

introduce it as a native forest but the most reliable information was provided by DoC during my field work. This DRSR is a podocarp hardwood forest or tawa-broadleaved forest which is linked to the vegetation that was on the Gondwana supercontinent (DoC, 2016e). Most podocarp forests have high biodiversity with trees like rimu, kahikatea, miro, matai, tōtara and different ferns. This forest has remained intact and dense due to the absence of browsing ungulates (i.e. deer and goats). This makes DRSR an important site (Field survey 29 Sep 2016). There are, however neither endangered plants nor endangered birds like Kiwi in this forest. According to this officer, there could be some threatened native invertebrates but there is no evidence yet. The striped skink is currently rated as ‘at Risk – Declining’ (Field survey 29 Sep 2016).

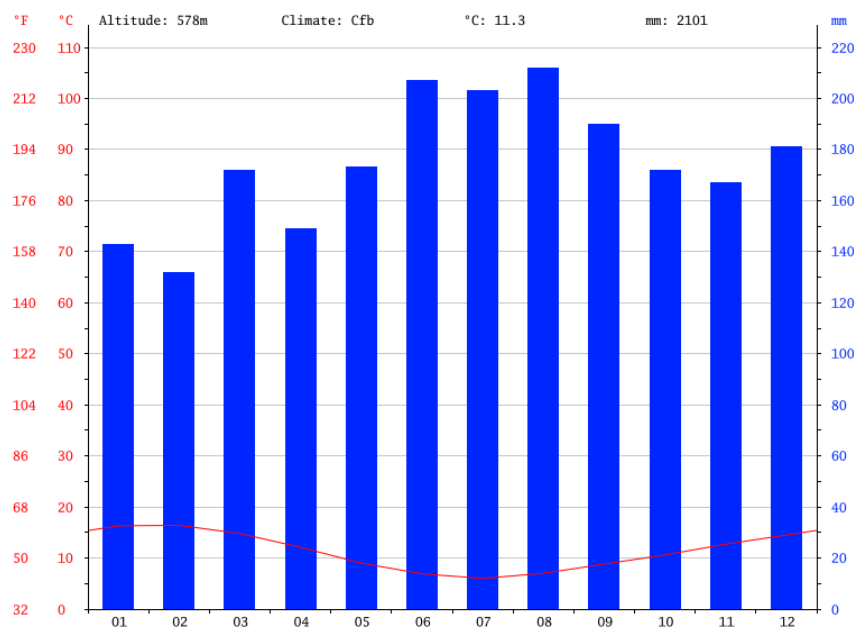


Figure 23: Climate graph in Mamaku
Source: Climate-data (2016), Used with permission

4.2.3 Human geographic characteristics

According to the 2013 census, the Rotorua district has a total population of 65,280 which represent 1.5% of New Zealand’s population (Stats-New Zealand 2016). It is significant as the 4th largest district where Māori people (22,413) live in the country. The tourism industry is the main economic activity of Rotorua city. This area is popular for volcanic related thermal activities like bubbling mud pools, hot water pools, and geysers and is home to some crater lakes which have led the city to become a tourist attraction since the 1800s. With 16 natural lakes, the Rotorua

district is popular for water sports such as boating, swimming and water-skiing. This city hosted, and Lake Rotorua was a venue, for two international water sports events (i.e. World Waterski Championships in 2007 and World Blind Sailing Championship in 2009). Sea planes can also land on this lake. This city has been popular among tourists as a spa town for more than two centuries because of its volcanic warm water springs.

The Rotorua museum is now one of the most visited places because of its unique and stunning architectural style. Mountain biking, adventure tourism, Māori cultural activities and the Pistol club are iconic tourist attractions in Rotorua. Māori cultural practices can also be experienced in different venues. These elements still attract international and domestic tourists, providing opportunities for human-made tourist attractions like Rotorua Gondola and Rotorua Museum. Rotorua as a popular tourist zone offers accommodation, tourism services and infrastructure facilities. These conditions can favour the fast development of newly established businesses. RCTs are one such example. This is the 10th largest urban area in New Zealand. Road, rail and air transportation facilities have been a considerably positive factor to stimulate the tourism industry.

4.3 RCTs: the business

The RCTs offer nature-based adventure tourism. They have attracted more than 70,000 tourists since their opening. They have installed canopy zipping lines and tree top walks in a native forest named DRSR. This place is not just about zipping line related activities but also to enjoy nature and native birds. Therefore, its operators brand this as a 3-hour eco experience with fun, adventure and education. This place is quite special because it is located in a native forest; this business is also an example of a public – private partnership in the tourism industry.

4.3.1 History

RCTs is a young business but has been fast growing. It started in 2012 and will be celebrating its fifth birthday in August 2017. The story of how its owners established it and the efforts they put into turning their dreams into reality provide an example for other such emerging business entrepreneurs. The initial idea occurred to James Fitzgerald in 2008. The first challenge he faced was finding a

suitable place. He explains on their official website that, “it would be in a native forest full of ancient trees, birds singing everywhere and people laughing, learning and having the time of their lives” (Rotorua Canopy Tours 2016d). This discourse proves that the founder had a clear idea about what the location should look like and what kind of experience tourists would gain. He might have wanted to get credit for being the only native forest canopy tour in New Zealand for marketing purposes to attract more tourists. However, his initial concept was to establish an environmentally friendly and a kind of ‘eco-thematic’ product.

James researched many locations before he came across the DRSR, which he chose because the forest located a short distance from Rotorua city. He then visited DoC in Rotorua and signed the concession to fulfil a formal agreement of public-private partnership. This concession allowed him to run a private business in a publicly owned forest for a specific time period under few strict exploitation rules. He shared his dream with his friend from university, Andrew Blackford. Luckily Andrew was an engineer and he helped to design and to build the zipline facilities. James and Andrew are the co-directors and owners of this business today. The two of them made a few overseas tours to get knowledge and experience of how to conduct such a business and on 1 March 2012, they began construction.

After six months, they finished building the tour and hired three guides who are still working for them today. Finding customers was quite hard at the beginning. James described how hard that effort was: “...banging on windows and not letting them get away until they agreed to come ziplining. Filling the Canopy Tours was hard work – while it looked cool, people were not prepared to take a risk spending a few hundred dollars on something they had not heard of before!” (Rotorua Canopy Tours 2016d). According to him, the hardest part was to get customers to trust their safety because even at that time, canopy tours or ziplines were not much popular in New Zealand.

A few months later, the media started to talk about this business and within one year they were able to process more than 10,000 customers. They have around 20 permanent staff and during their peak tourist season, in the summer, they hire up to 35 guides on a temporary basis. In October 2013, they started their forest restoration program to conserve native birds. DoC published an article on the conservation blog

of their website about the conservation week arranged by the RCTs to mark the starting of the conservation program (Griffiths 2013). In the beginning, they introduced their conservation program as 'Forest restoration' until early 2016, thereafter renaming it as the 'Canopy Conservation Trust'. They have two separate web sites for the canopy tour business and the conservation program. Now they run the business at purposely built headquarters and are dreaming of creating a second zipline tour.

4.3.2 Visit to the head office

RCTs' outer appearance can be seen when one travels along the Fairy Springs Road (Figure 24, I). Their newly built head office has enough parking space for 20 vehicles (Figure 25, II). This is the main car park for park operators' vans used to transport tourists to the canopy tour site as well as for the vehicles of tourists. Sometimes, they pick up tourists from the hotels around Rotorua township upon customers' request to avoid a rush at the main car park. There is another car park behind this which is used for employees' vehicles to avoid encumbering the main car park.

When I went for data collection, they asked me to come around 9.45 am to participate in the 10.00 am tour but I arrived around 7.30 am and it was already open. Their first tour starts at 9.00 am but they open the business two hours early. This is a positive characteristic for a newly emerging business because it shows their passion for what they do. On the glass of the main front door, there is a sticker: 'Safety Audit CERTIFIED' with a 'right/correct' symbol (Figure 25, III). This certificate is given by the New Zealand Adventure Activity Regulations. Displaying this sticker on their front door gives an impression to everyone that this activity is safe. It helps to develop trustworthiness in the safety of their activities and reduce fear or nervous emotions of the tourists.



Figure 24: Outer Appearance of the RCTs' head office
 Source: Pictures taken by the author (29 Sep 2016), Used with permission

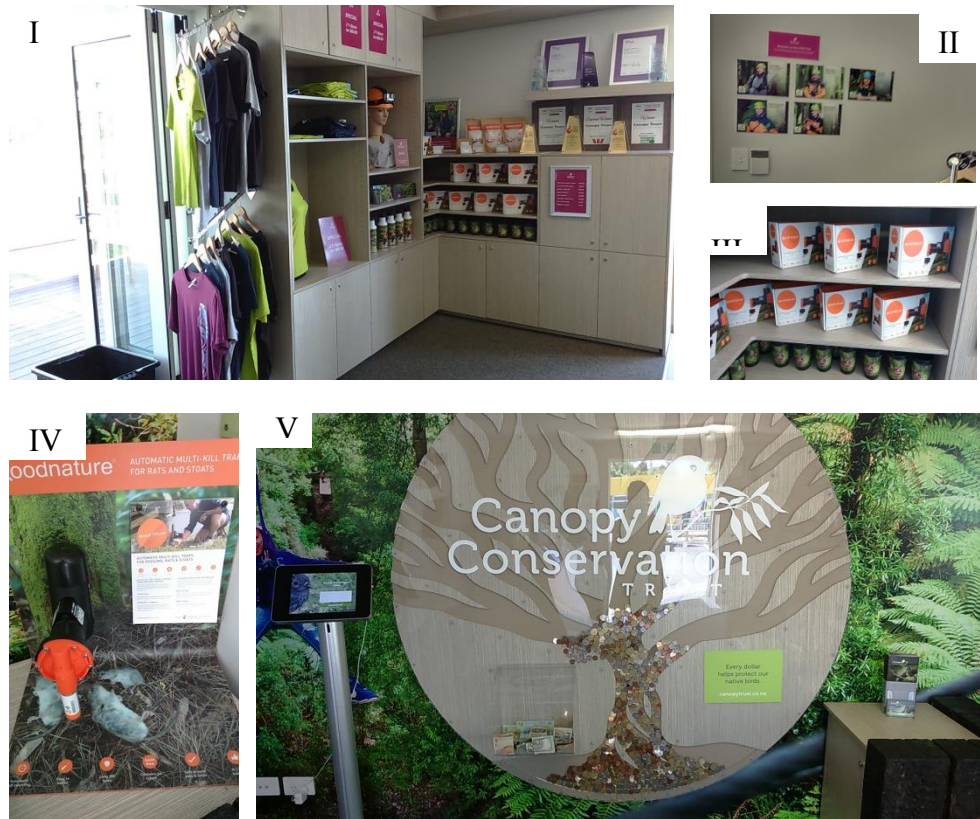


Figure 25: Inner Appearance of the RCTs' head office
 Source: Pictures taken by the author (29 Sep 2016), Used with permission

RCTs use their head office as their information centre together with the front desk and as a souvenir shop. There are seating facilities for the visitors. The front desk handles the tour bookings and they have a schedule to avoid rush in the office by tourists. The day's guides are displayed on the wall (Figure 26, II). Side cupboards are used to keep valuable things of the tourists locked as they only allow them to bring their phone and camera during their tour. Four safety cameras are continuously monitoring the site. They keep brochures of the tour and conservation program, awards, souvenirs such as bottles, cups, T-shirts (Figure 26, I).

Relevant to the conservation program, there is a big tree shaped till fixed to a wall and there is a screen with details about the donor (Figure 26, V). A trap is fixed in another corner with a guidance manual of the traps and under it, there is a digital photo which shows dead mice (Figure 26, IV). If somebody needs to read it, s/he can rip a page from the manual. This is a model of the traps they use and explains how they see dead rats when they go for trap clearance. New traps and fillers are displayed for sale if any tourist would be interested to buy after they have been made aware of this conservation effort at the end of the tour (Figure 26, I & III).

4.3.3 Pre-tour details

The zipline tour is introduced as a three-hour eco-experience with adventure. This tour is virtually pictured in the minds of tourists once they have heard or read something about it. Then they compare with the other attractions or activities they would like to visit or engage with. If their motivations fit, if peers recommend this place or if the budget matches, then they make plans to do this activity.

- i. Booking:** Tourists have the facility to book their tour online via the RTCs website (Rotorua Canopy Tours 2017a). Trip advisor's most recent reviews are available on the same webpage. This is to ensure the safety and to build up trust about the tour for first-time participants. The price for an adult is NZ\$ 149 and a child NZ\$ 105 for the year 2017. They consider customers between the ages 6-15 as children. The price has increased by NZ\$ 10 compared to last year. It proves that demand and thus their market are increasing year by year.

- ii. Weather:** The tour operators promote that this outdoor activity can be conducted during both sunny and rainy weather. "...the forest is at its most beautiful in the rain. At all times you will remain warm and dry as we supply high-quality wet weather gear and warmer outer layers if the conditions require it" (Rotorua Canopy Tours 2016c). According to the guides, the forest is fresh and leaves are shiny when it is raining. Definitely heavy rain is not good for the tour and a clear blue sky is a blessing for this kind of outdoor adventure activities. Operators also recommend that the forest is more beautiful in the early morning or late afternoon. The operators run their tours in all-weather except when circumstances are threatening to customers who then have the right to a full refund or to choose to come back another day. They also announce that, "we only cancel or postpone during extreme weather conditions like high winds and electrical storms or when the owners determine it is unsafe to operate. Alternative departures or a full refund will then be offered" (Rotorua Canopy Tours 2016c).
- iii. Age:** The minimum age limit for zipping is 6 and there is no maximum age limit if one is physically fit to do this tour. The oldest person who has successfully completed this tour was 93 and he took his 87 year old sister along. According to the operators' records, more than 100 visitors over 75 years of age have successfully completed this tour. The operators remember that elderly visitors have told them that "it makes them feel young again" (Rotorua Canopy Tours 2016b). According to Bradley (2013), "if you have not done this, you really must have a go and age is no excuse as the boys (guides) tell us that they hosted a 93-year-old who wore a three-piece suit during the ride".
- iv. Safety:** Safety is the major concern of this kind of adventure related business. RCTs also conduct training sessions about safety for their guides regularly. Once every three or four months, they check and maintain the infrastructure and ziplines to ensure their safety and durability. The management advises the guides to check and report to the managers if something is loose or broken on the infrastructure during their regular tours. Two guides work on one tour to ensure safety because one guide needs to connect the zipline safely and the other guide to help tourists land on the platform safely and then to disconnect from the zipline. The guides

give safety instructions to the group very clearly on the first platform which is the starting point of ziplining. All the instructions are given in English. Therefore, if some tourists do not speak English, they give a printed safety guideline in their language for them to read. I could capture one such incident while conducting participatory observations: the Korean couple in Figure 26 is reading the safety instructions in their language while others are given the verbal instructions in English. After the instructions, the two guides double check all the safety equipment worn by the tourists.



Figure 24: A Korean couple is given to read the safety instructions in their own language
Source: Picture taken by the author (13 Sep 2016), Used with permission

“Don’t touch anything metal” is their popular safety instruction because if tourists touch metal things like carabiners, zipline trolleys or the zipline while ziplining their hands can be damaged. Their promotions about safety can be classified under five themes such as experience, engineering, audit certification, quality equipment and trip advisor comments. They highlight they have more than four years’ experience in this field by conducting over 70,000 tours and some of their guides have guided more than 1,000 tours each. They mention that they use high-quality safety equipment.

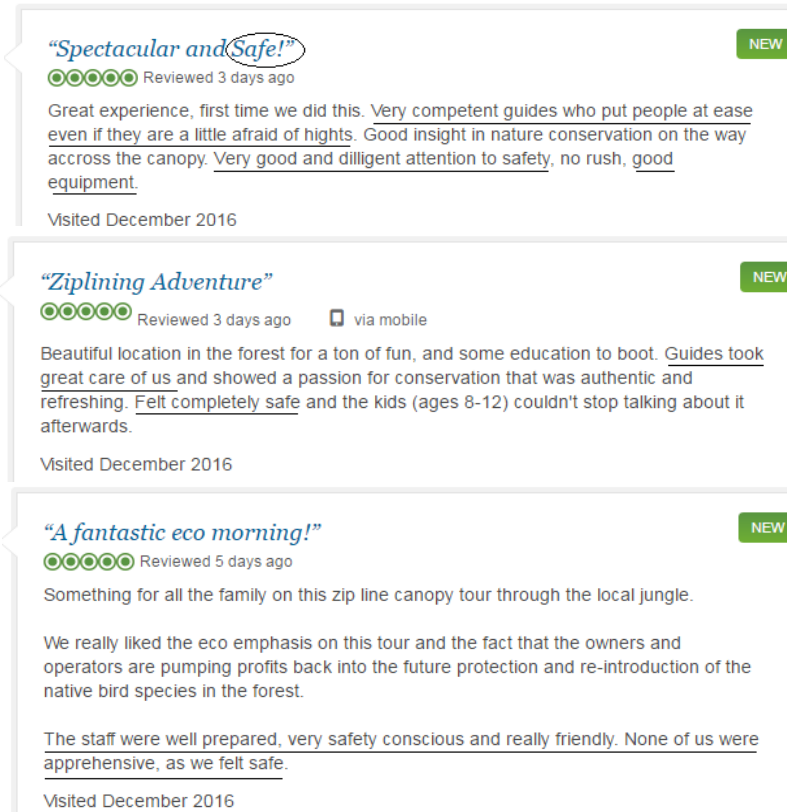


Figure 25: Three most recent Trip Advisor comments which mentioned safety after completing the zipline tour of RCTs
 Source: Trip Advisor (2016), Used with permission

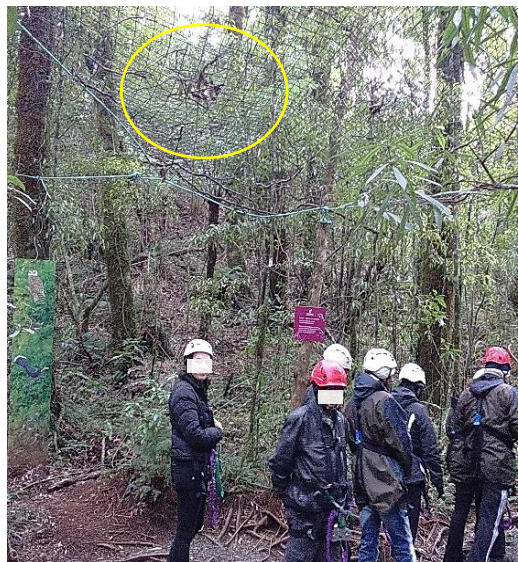


Figure 26: Safety net to protect from sticks falling
 Source: Picture taken by the author (13 Sep 2016), Used with permission

Andrew Blackford is the structural engineer and one of the directors who still conducts maintenance. This business has been certified through safety audits by

the New Zealand Adventure Activity Regulations in 2010 as the sticker pasted on the front door attests (Figure 24, III). All the tourists I observed seemed satisfied that their safety was considered during the tour. Figure 27 is evidence that the Trip Advisor commentators are confident about their safety, for example, they have fixed safety nets to protect tourists from sticks falling in some places along the walking trail. People gather there and spend a few minutes like the spots where the Robin bird feeds, or the place where the guides describe about extinct birds and traps (Figure 28).

- v. **Tourists:** According to James, 40% are local visitors and 60% international visitors. The number of tourist arrivals depends on the seasons with more tourists in summer and fewer tourists in winter. Plain observations helped to classify customers i.e. young or middle-aged couples, young mixed groups (boys and girls come as groups to celebrate a birthday or just to have fun), a family with small kids (kids between 6-15), middle aged female friend groups and adventure loving individuals (boys or girls). It was clear that group participants gained more fun than participants on their own.

There were some repeat visitors. During my data collection, I met two sisters from Auckland; a nurse and an engineer and they have both done this tour 4 times. After their first experience, they used to bring their friends and relatives from time to time. This time they came with 4 other female friends. The engineer expressed that she wanted to bring her father who is 75 years old next time. I met two other visitors who have done this tour for the second time and all these repeat visitors were locals. Obviously it is more accessible for them than for international tourists. Sometimes, international tourists might not choose the same country for the second time but if they did choose to come back, they might prefer to consume different experiences.

- vi. **Guides:** The guide staff of the RCTs consists of local males and females. They play a major role in this business by ensuring safety, offering an amazing experience to visitors and building a positive image of this tour. From the preparation process until the group ends the tour at the head office, the tourists are under the responsibility of the guides. RCTs have around 15 permanent guides. The operators could not mention the exact number of permanent guides because

some permanent employees who are assigned other responsibilities also work as guides depending on the demand.

The management is thoroughly concerned by the attitudes and behaviours of their guides. The owner said that *“If the guide is talented but their attitude is not good, then we let them go”* (Field survey 29 Sep 2016). However, during the peak of summer, the business increases by up to 36 guides; the gap being filled by hiring temporary guides. During the summer, one guide has to take 3-4 tours per day. Apart from guiding, they need to be involved with the conservation program and related duties.

The guides carry a backpack to bring plasters, sanitizer, water and sometimes gloves or caps if tourists need them at some point. When they provide a very satisfactory experience to visitors, some tourists give them tips. I observed one such case during my field data collection. When the group reached the head office after finishing the tour, a foreign tourist put a US\$ 10 cash note in the guide’s hand. This is normal in other parts of the world but this incident shows that this particular business also accepts that the guides take tips even though it is uncommon in New Zealand. This could be a motivation factor for guides to serve for a long time in this business.

- vii. Preparation for the tour:** When the tourists enter the office, the girls in the front office welcome them, and verify their booking details and issue the payment receipts at customers’ request. They are asked to stand on the scale to measure their weight. The maximum weight is 120kg and there is no minimum weight limit but if anyone is below 35kg, they have to inform the office when booking. They put a stamp seal on the back of each tourist’s hand to indicate that they paid and were admitted to the tour officially. The tourists need to be present at the head office 15 minutes before the tour starts for pre-preparation. The tourists receive a tab to fill an online questionnaire about their basic information, health conditions, details of the contact person in case of emergency and to sign that they agree to participate in the zipline tour (Appendix 7). These details are automatically uploaded to the database on the front desk computers. There are two advantages to this system; one is that in case of emergency, the tourists’ details can be found efficiently and the second is, they can use these details for future research purposes

i.e. to analyse the spatial patterns of place of origin of their customers and to understand how tourists hear about this zipline tour for marketing purpose (Field survey 29 Sep 2016). I could not access these details because RCTs wanted to ensure their customer details' confidentiality.

Next, tourists are asked whether they need the toilets by mentioning that it is the last chance to go as there are no toilet facilities in the forest, which minimizes impact. The tourists are then introduced to their guides who take them to the preparation room where they keep warm jackets, rain coats, helmets, and safety strips. They give hair bands to ladies to tie up long hair. Guides help tourists to put on the safety equipment while engaging in small talk, for example asking names and a few details about the customers who participate in the tour. After having prepared all the tourists, one of the guides gives basic instructions about how tourists should behave responsibly in the forest, for instance, not litter or shout. Figure 30, shows this moment; the operators' vehicle is waiting outside to take the group to the canopy tour site.



Figure 27: Preparation room of the RCTs and a female guide is giving the basic instructions
Source: Picture taken by the author (13 Sep 2016), Used with permission

4.3.4. During the tour

The tour initially begins when the group and the two guides get into the van and they go to the DRSR. The guides try to break the ice from the beginning. According to my field research experience, we got one lady guide and a male guide. The lady guide spoke first while the male guide was driving "You guys have hopped into a

van and we turned up the windows; we too are strangers and we have no idea where we are going?... ”. The group suddenly laughs and she explained that this is the way in New Zealand because people trust each other. She tried to give a good impression about the people of her home country to foreign visitors.

Then she started to talk about New Zealand forests and according to her definition, New Zealand has only 15% forest cover now. Out of this 15% forest, only 5% are untouched and this ‘Mamaku Forest’ (RCTs use this name for DRSR. See section 4.2.1) is one of them. She wanted to highlight here that their canopy tour site is a special and pristine forest. Then the two guides introduced themselves and asked tourists to do so by answering four questions mentioned below.

- i. What is your name?*
- ii. Where are you from?*
- iii. What do you do in your free time?*
- iv. If you have a super power, what would you like to do?*

The fourth question created a joyful situation among the group and it helped develop some familiarity with one another. In the meantime, the vehicle arrived at DRSR. They have cleared a very small area to make the car park which is only sufficient to park three vehicles, a positive indication of environmentally friendly tourism. On the other hand, one can assume that this is because DoC does not encourage clearing the forest to an operator’s wish. However, using a small car park can be identified as a positive mark.

4.3.5 The tour itself

When tourists get off the van, they start a bush walk through the forest from the red colour cross sign on Figure 30. This is a narrow footpath and the forest has not been cleared to make the track. When the group reaches the ‘Silver fern bridge’ the lady guide starts to explain how important silver ferns have been since ancient times (Figure 31, I). Māori people have used this as a navigator, medicine, food and shelter. Then the lady guide took out a live worm and a Robin bird in Figure 31, II came out and stayed for a while on the ground so everybody could watch. They have trained these birds little by little.

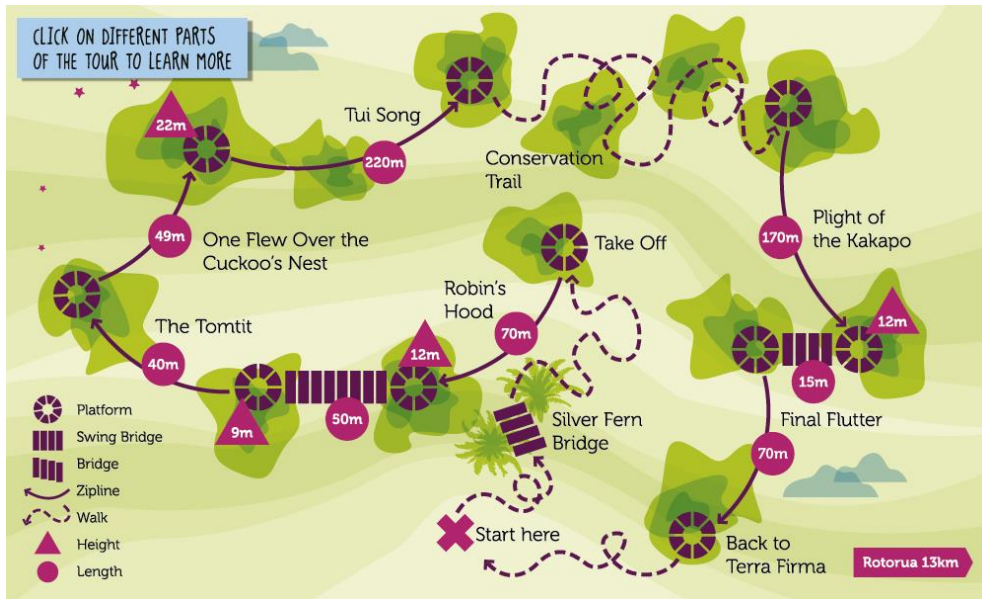


Figure 28: Tour map
 Source: RCTs (2016e), Used with permission

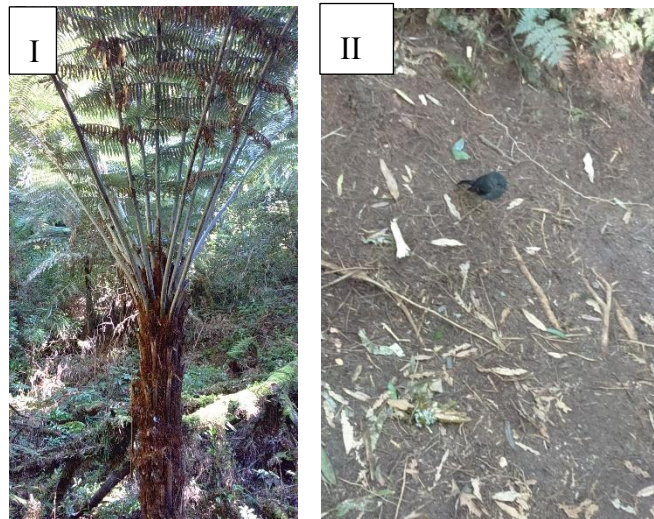


Figure 29: Silver fern (I) and Robin bird (II)
 Source: Pictures taken by the author (13 Sep 2016), Used with permission

After a short walk from the silver fern bridge, the group can reach the first platform. This tour uses ten platforms and how the tour is conducted is described below using my participatory observations.

1. 1st platform is for take-off which means the beginning of the zipline tour. At this stage, the male guide gave the safety instructions (see section 4.3.2, iv).

This 1st zipline is 70m long and the proposed posture to take this zipline is ‘Robin Hood’s style’ as mentioned on Figure 30.

2. 2nd platform’s height is 12m and leads to a 50m long wooden swing bridge which is the longest canopy walkway of the two swing bridges in this tour. At the end of this bridge a guide takes photos of each tourist (Figure 32).



Figure 30: The longest swing bridge, RCTs

Source: Picture taken by the author (13 Sep 2016), Used with permission

3. 3rd platform is 9m in height and leads to a 40m long zipline. This zipline is named Tomit.
4. 4th platform is the birds’ platform where the guides explain about birds that can be seen in this forest. They describe appearance, behaviours and breeding patterns of 10 birds. Figure 33 depicts those birds and their Māori names. Some birds are endemic to New Zealand and some are threatened birds.



- | | |
|--|-----------------------------------|
| 1. Whitehead (<i>Pōpokotea</i>) | 6. Bellbirds (<i>Korimako</i>) |
| 2. Tui (<i>Tui</i>) | 9. Morepork (<i>Ruru</i>) |
| 3. Grey warbler (<i>Riroriro</i>) | 8. Woodpigeon (<i>Kereru</i>) |
| 4. Long Tailed Cuckoo (<i>Koekoea</i>) | 7. Tomtit (<i>Miromiro</i>) |
| 5. North Island Robin (<i>Toutouwai</i>) | 10. Fantail (<i>Pīwakawaka</i>) |

Figure 31: The birds that can be seen in the forest
 Source: Picture taken by the author (13 Sep 2016), Used with permission



Figure 32: The bird feeders
 Source: Pictures taken by the author (13 Sep 2016), Used with permission

While one guide explains about birds the other guide tries to attract birds by making some birds' noise. Some bird feeders are hanging around, fixed into the tree trunks (Figure 34) but they are made to blend in the scenery so they

are not obtrusive. Some supply sugar water to birds but the problem is whether sugar water is good for birds. This water supplement aims to attract more birds to be viewed by the tourists but at the time we arrived, no bird was there. This platform leads to a 49m long zipline and the proposed style is to go as if flying over the cuckoo's nest. So, the tourists flap their hands like a bird's wings while zipping.

5. 5th platform is quite special at 22m high because it was built using an old tree for its base. As the guides mentioned, this tree is more than a thousand years old. It is around 50m high. This tree is still alive and the DoC officer believes no drilling was done to trees when these platforms were built. From this platform, the tourists can take the longest zipline (220m) of this tour (Figure 35). The guides proposed to turn back when launching the tour for two reasons. The first one is to observe this old giant tree well and the second reason is to avoid fear of zipping this long distance. 'Tui song' is the theme of this ride.



Figure 33: The longest zipline from the old giant tree
Source: Picture taken by the author (13 Sep 2016), Used with permission

6. 6th platform is on the ground and marks the start of the conservation trail. The lady guide again put live worms out and two robin birds arrived. There was a fight between the two birds. The strong bird did not give the other bird any chance to eat. The next moment the guide asked who would like to

feed the bird and put worms on the tourists' palm. We only saw the Robins during the first and second time as they are trained birds. No efforts were made to observe any other birds in the forest during the tour because the two guides were always busy with passing tourists from one platform to another. They obviously need to concentrate on tourists' safety and finish the tour on time to avoid a time clash with the next tour. Unfortunately, this busyness avoids or at least erases their one major objective of bird observation. It is clear that adventure and fun are the major focuses of this zipline tour. However, a conservation trail is the step taken from platform 6 to show visitors the actions of this zipline tour enterprise to reduce the number of pests (bird predators) in this forest (section 4.4).

7. 7th platform leads to a 170m long zipline and its theme is Plight of the Kakapo.
8. 8th platform is 12m high and leads to a 15m long second swing bridge of this canopy tour. This bridge is used to take the most adventurous photo of each tourist (Figure 36).



Figure 34: Author on the second swing bridge
Source: Picture taken by the guide (13 Sep 2016)

9. 9th platform leads to a 70m long zipline. When the group arrived on this platform, a guide said, "*This is the time to announce the news which is good as well as bad*". The tourists were so curious. The news was this is the last zipline! This news is good for the tourists who were scared about zipping but bad for those who love zipping. However, when tourists finish the tour up to this platform they have built up much confidence; they have got used

to it. Therefore, the guides teach some difficult postures for zipping like the upside down. They teach the different postures and increase the difficulty for zipping step by step in line with confidence building.

10. 10th platform is the last platform and it marks the end of the zipline tour after taking a group selfie.

Overall, the flow of guides' explanations is organized, effective and compatible with each step of the tour. Figure 37, depicts the steps of the explanations and their aim or some related experience. The two steps concerning the Robins are coloured in grey to indicate that these incidences do not follow sustainability rules. The birds' platform (4th platform) is also coloured in grey because to some extent they distract from sustainable principles by using birds noises to attract them as described extensively under the 4th platform. Explanations about the birds are good and worthwhile for educating the visitors but using birds' noises half way disturbs nature. All other steps (in white colour boxes) follow sustainability principles. The aims of each step and explanations correspond with the two major aims of their business; first it offers fun, education and adventure for visitor satisfaction. Second, it ensures, as a nature-friendly tourism product, to build the sustainability image of the business.

Then there is a small bush walk from this platform to the car park. The guides collect all the helmets, belts and other equipment and make tourists comfortable by releasing the heavy things. While traveling back to the office, the guides chat freely with tourists and answer whatever questions tourists ask. Once at the office, the girls in the front office ask "*How was the tour?*". They provide water if needed.

Tourists receive this card below in Figure 38, which serves two purposes. One is to give the web link to download the photos the following day and the second is, as a thank you card for participating in the tour and contributing towards the conservation program. Tourists can make donations to the conservation program and buy some souvenirs. Some foreign tourists get some advice from the front desk girls who help very politely about where to go for their next visit and about other tourist destinations to watch.

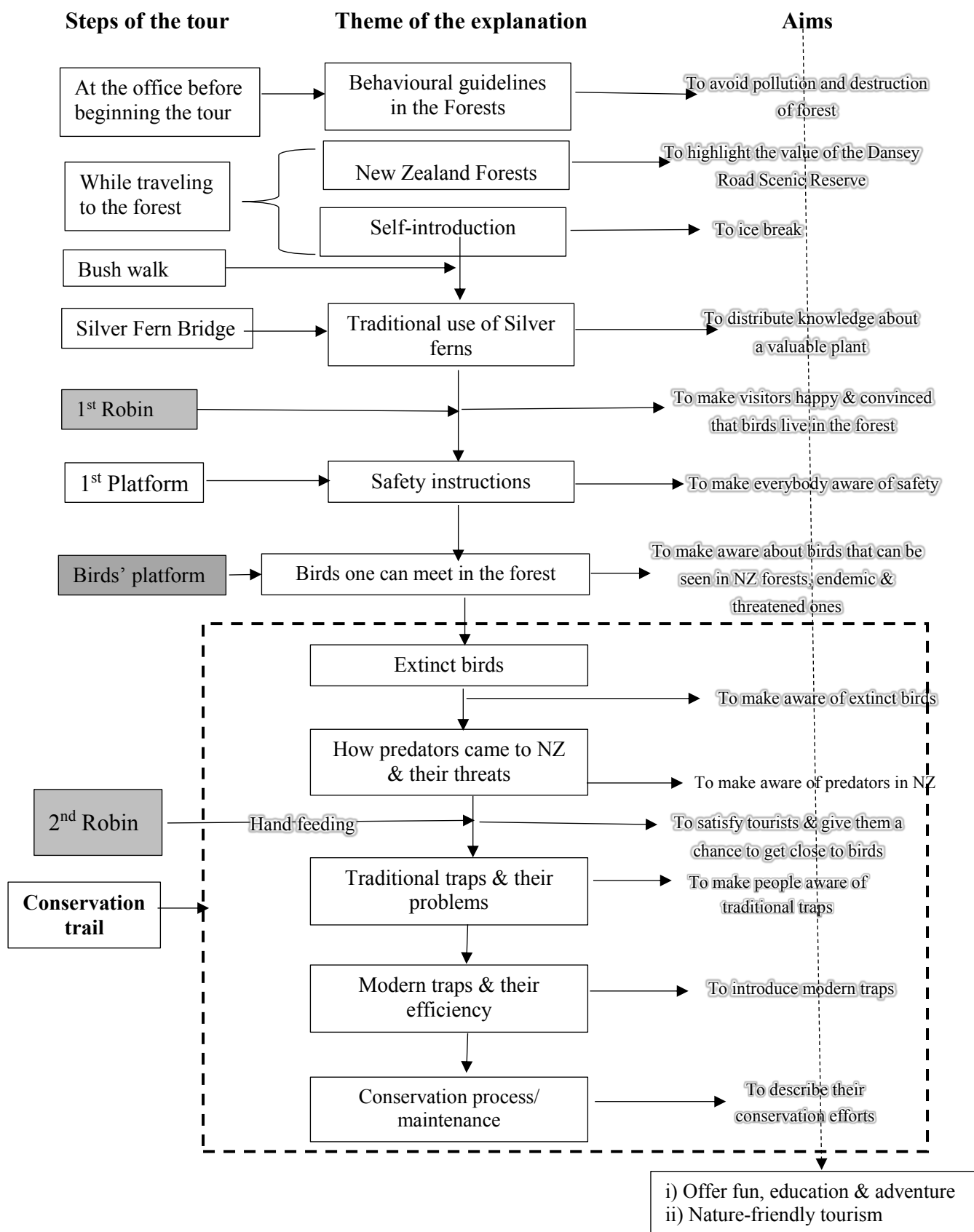


Figure 35: The flow of explanations
 Source: Created by author based on the data from field survey (2017)

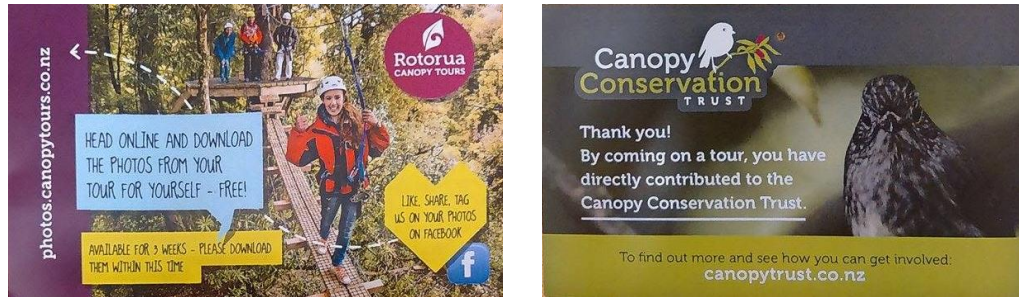


Figure 36: Both sides of the thank you card
 Source: Rotorua Canopy tours (2016), Used with permission

4.3.6 After the tour- Photos and Comments

The day after the tour, the RCTs send a thankful email and the web link to download high-resolution photos to all the participants of the zipline tour, approximately six photos of each tourist. These photos should be downloaded within two weeks. Then they are automatically discarded from the web to make space for new photos. Some tourists write their comments on Trip Advisor to share their impressions and experience of the zipline tour for the use of future participants.

4.4 RCTs: the conservation efforts

The conservation trail was added to the zipline tour after the RCTs started the conservation program and is an integral part of the tour even though observing birds has become somewhat insignificant. The trail starts after the 6th platform. Signs, photos and messages related to the birds' conservation are displayed along this trail. The guides explain about extinct birds, pests (predators), traps and the conservation program of the RCTs.

4.4.1 History

The conservation program began one year after the business was opened in October 2013. The founder, James, wanted to do something in the forest and when they found the pest problem in New Zealand forests, they thought to start a pest control program. According the James's expectation mentioned in section 4.3.1 (History of the RCTs), this forest was not a place with birds singing everywhere. "Back in 2012 the DRSR was a quiet place, that came alive at night; but not in a good way" (Rotorua Canopy Tours 2016a). They realized that this situation was created by thousands of pests. A test conducted to get a rough idea about how many pests live in the forest (by using chew track cards) illustrated the scary results. There was no

doubt why this forest was silent and they decided to do something to eradicate the pests.

When they started the business, a local trapper worked closely with them and set traps along their walking trails. They were joined by passion to do something effective for nature and pest control to increase bird breeding. The owners waited one year until they raised up to \$35,000 from tourists' donations, ticket contributions and sponsorships. DoC supported them by supplying expertise and knowledge when required.

4.4.2 The extinct birds

Since humans arrived in New Zealand, several things have happened: over the past 800 years most of the birds were eaten, their habitat destroyed to build farm lands or villages and pests were introduced. Before humans arrived, there were no mammals in New Zealand (Department of Conservation 2016a; Field survey 29 Sep 2016). For the last 200 years, New Zealand lost around 40% of its birds and the main reason was pests. According to the Canopy Conservation Trust (2016b) and the NZherald (2014), “26 million native birds are killed every single year in New Zealand by these introduced pests”. Figure 39 depicts the extinct birds in New Zealand which are displayed along the conservation trail of the canopy tour. The illustration was painted by the famous artist Geoffrey Cox who specialized in wildlife paintings.



Figure 37: The extinct birds painted by Geoffrey Cox
Source: Picture taken by the author (13 Sep 2016), Used with permission

4.4.3 Pests (Predators)

Possums: Possums were introduced to New Zealand around 1837 for the fur trade (Figure 40, I). Even though it makes little money, this species grew in numbers until it became considered as a pest. In 1980 there were roughly 80 million possums in New Zealand (Field survey 29 Sep 2016). They never eat vegetation but small creatures including little birds and birds' eggs.

Rats: It is believed that rats reached New Zealand with humans on their ships. Rats are good climbers as well as good swimmers (Figure 40, II). Therefore, they can survive in different environments. Now the rat has become a pest not just in the forests, but also in the farmlands and households.

Stoats: Stoats were introduced as a predator to control rabbits (Figure 40, III). Rabbits were used as a source of food and as a game animal for hunting purposes but the rabbit population grew and went out of control. Therefore, the stoat was introduced as a natural predator. This animal is very aggressive and helped to control rabbits but they found other meals like kiwis which cannot run fast like rabbits. Stoats are responsible for the rapid decline of the kiwi population. 80 years ago there were about 5 million kiwis but now only 60,000-70,000 are left (Department of Conservation 2016c; Field survey 29 Sep 2016).

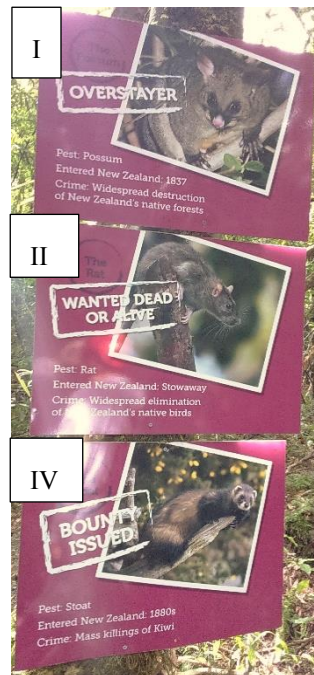


Figure 38: Predators of native birds or pests

Source: Picture taken by the author (13 Sep 2016), Used with permission

4.4.4 Traps

RCTs used traditional traps in the beginning of the conservation program in 2013. These traps were heavy and were difficult to transport through the forest. The most difficult part was maintaining the traps weekly because once these traps catch the predators, the traps need to be cleaned (the dead pest needs to be taken out), pest food must be replaced and the trap re-set. Therefore, these traps are called single kill traps. For phase I, RCTs installed 1100 manual traps including 'DoC-200' traps (Figure 41). Maintaining 1100 single kill traps was time consuming so they decided to move to effective modern traps. According to the conservation manager, the traditional manual traps are very accurate but the main problem was maintenance.



Figure 39: Traditional traps

Source: Picture taken by the author (13 Sep 2016), Used with permission

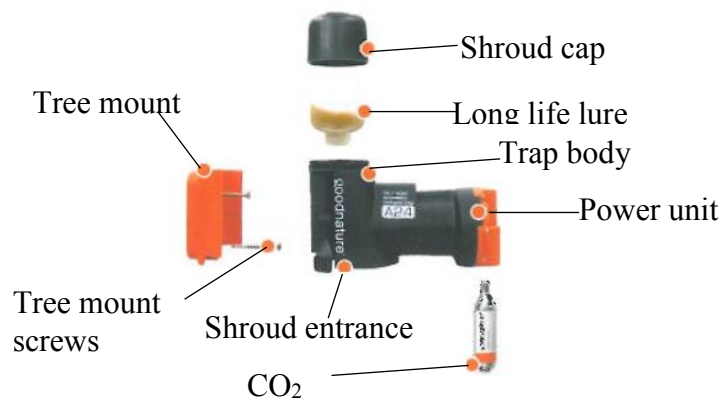
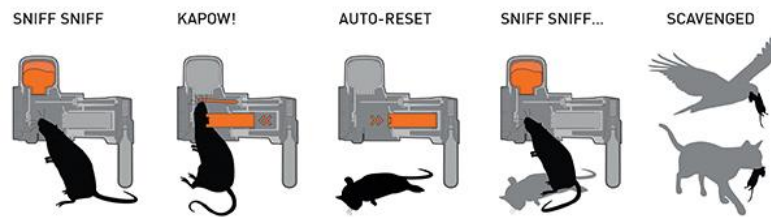


Figure 40: Parts of the Goodnature trap

Source: Goodnature (2016), Used with permission

Trap for rats or stoats:



Trap for Possums:

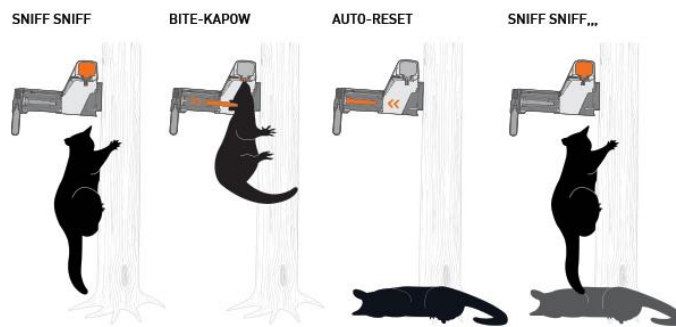


Figure 41: How the Goodnature traps work
Source: Goodnature (2016), Used with permission

These modern traps were invented by a New Zealander and were named ‘Goodnature traps’; they are known as nature friendly because they do not use poisons. The inventor introduced two types of traps which are powered by a CO₂ gas canister. The smaller one, is called A24 because it is ‘Automatic’ and can kill up to 24 rats or stoats. The other one is A12 and it can kill up to 12 possums. Once the trap has reached its maximum killing time the CO₂ canister needs to be changed (Figure 42). Rat traps are fixed near the ground but possum traps are fixed a few feet above the ground (Figure 43). There is a small sensor stick inside. When a rat or a possum put their heads into the shroud and sniff the lolly, the animal touches the sensor stick, and a metal bar attacks its head (Figure 43). The pest falls down on the ground and the metal bar resets automatically to catch the next pest. The trap producers guarantee the lure (lolly) has a long life.

One might think that when the other pest sees the dead pests, it might think “oh! It is dangerous!”. But according to the guide’s explanation, when rats or possums have eaten too much, they prefer to have a little nap before they move somewhere else. Thus, the following pest thinks that the dead pest had a good meal and is sleeping for a while and it encourages the followers to find the same meal and meet

the unfortunate attack. The same process is repeated until the trap has killed the maximum number of pests it can. Then someone has to refill the CO₂ canister to power it again. Some dead pests are scavenged by birds or cats but there is no harm to them as these traps are poison free (Figure 43). Figure 44 shows how the RCTs display the traps in their conservation trail. RCTs are the first commercial consumers of this Goodnature trap (Canopy Conservation Trust 2016a).

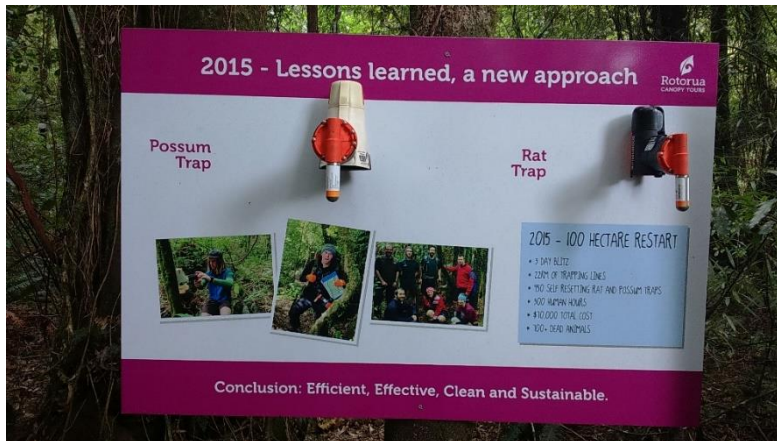


Figure 42: Modern traps

Source: Picture taken by the author (13 Sep 2016), Used with permission

4.4.5 The conservation program

The trapping program initiated in 2013 proceeded step by step: phase I is indicated in red on Figure 45. This phase covered 50 hectares around the zipline which is in dark red on the map. In this phase the trap lines were laid horizontally parallel to the Dansey Road but afterwards, the operators found that this pattern was not practical. In phase II, they initiated open rectangle shaped trapping lines. Those are easy to maintain as all the trapping lines start from the Dansey Road and end on the same road. Monitoring lines are shown in black on Figure 45. Now there are six monitoring lines and 19 trap lines which are named in alphabetic order up to ‘S’.

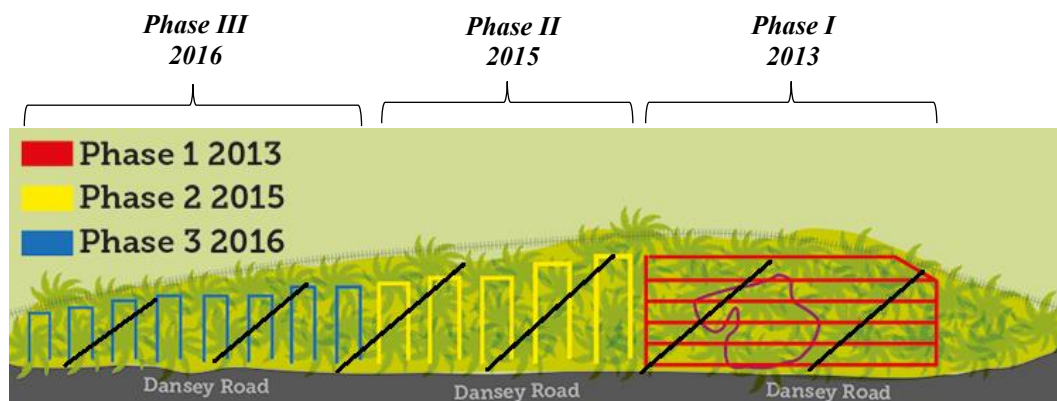


Figure 43: Conservation program: trap lines and monitoring lines

Source: Rotorua Canopy Tours (2016), Used with permission

Table 7 shows different details about the conservation program such as starting year, area covered, length of the trap lines, total human hours spent for laying the traps, type of traps used, number of traps in each phase and total cost for each phase. The last two columns provide details about how long they waited to get the first result and the number of dead pests they found at the first test.

Table 7: Conservation program information

Phase	Year	Area covered (hectare)	Length of the trap lines	Hours for laying	Types of traps	Number of traps	Cost (\$)	Time duration for first result	Progress (Number of dead pests)
I	Oct. 2013	50	10km	750	Traditional	1100	35,000	2 weeks	800
II	Oct. 2015	50	22km	300	Modern	450	70,000	3 days	700
III	Oct. 2016	80	7km	80	Modern	220	Not Available	2 days	105
Total	-	180	39km	1,130	Both	1,770	250,000	-	1605

Source: Created by author based on the data from field survey (2017)

4.5 Awards

The RCTs, though a young business, have already won the *Air New Zealand Supreme Tourism Award-2016* (Figure 46,I) at New Zealand Tourism Awards which is considered the highest tourism award in the New Zealand tourism industry. It is significant that they also gained two other awards, *Environmental Tourism Award* (Figure 46,II) and the *Visitor Experience Award* (Figure 46,III) at the same event attended by the Prime Minister John Key. It was a coincidence that this business became the *Business of the year 2016* (Figure 46,IV) by receiving the Supreme Award from the Westpac Rotorua Business Excellence Awards together with the *Attractions Business Award* (Figure 46,VII) and *Excellence in Sustainable Practice Award* (Figure 46,V).

The year 2016 is an obviously remarkable milestone for this business as they earned two supreme awards in both award ceremonies as well as the two environmental concern awards from both events. I cannot question the judgments of these environmental awards because I only have ethical approval for data collecting from tourists, tour operators and DoC officers. Therefore, I could not find out more details about how these award organizers examine conservation programs in the forest to find out their environmental sustainability. One can understand that the

environmental practices this business uses are comparatively better than those of other businesses. Even though RCTs is a young business, these awards indicate that they are fast achieving their goals.



- I. Air New Zealand Supreme Tourism Award, New Zealand Tourism Awards*
- II. Winner, Environmental Tourism Award, New Zealand Tourism Awards*
- III. Winner, Visitor experience Award, New Zealand Tourism Awards*
- IV. Supreme Award, Westpac Rotorua Business Excellence Awards*
- V. Winner, Excellence in Sustainable Practice Award, Westpac Rotorua Business Awards*
- VI. Supreme Winner: Business of the year, Westpac Rotorua Business Awards*
- VII. Attractions Business Award, Westpac Rotorua Business Awards*

Figure 44: Awards received by RCTs

Source: Picture taken by the author (13 Sep 2016), Used with permission

4.6 Conclusion

This chapter is based on the case study of a tourism business that uses a natural forest to make a profit from thrill seekers who enjoy nature. It also advertises itself as nature-friendly and working to conserve the nature it commodifies. The business seems more concerned with safety issues than sustainability ones because human injury generally leads to many difficulties. The owners however also seem genuinely interested in helping conserve the nature they commodify, maybe for their own interest but they also spend time and energy educating their consumers

about the need for more conservation. Their efforts seem minimal (putting down traps and educating a captive audience) and their facilities do create some disturbance in this pristine forest. Should they be condemned or can one attribute some sincere desire to their conservation efforts since the business is small?

Qualitative data analysis methods which were described in chapter three and qualitative data have been used to reveal the ground level scenario of this business which uses the discourse of sustainability to market itself as providing a sustainable tourism product. Building a second zipline would mean that they go for maximum profits and is thus against conservation since this second zipline would increase disturbance in the forest. Because it is located in and uses a nature reserve, it is important to analyse how the business and its consumers truly treat nature. This critical analysis is the topic of the next chapter.

CHAPTER 5

Questioning the (Nature) and Conservation Practices of RCTs

“It is such an amazing sensation whizzing down a wire dozens of meters in the air and surrounded by spectacular scenery”

Bradley (2013 93)

5.1 Introduction

‘Sustainable’ is a most attractive word these days in terms of promoting and marketing tourism attractions (Ross and Wall 1999). When a business uses this word, it tries to interpret and reflect the meaning of sustainability by following precise marketing strategies (Sampaio *et al.* 2012) so that everyone understands that they follow real sustainability, even if they do not. In actual fact stakeholders do not always know whether what they are practising fulfils sustainability principles or not. It might be due to unawareness of sustainability principles, lack of experience, carelessness, profit-mindedness and playing the role of an insider (Lovelock and Lovelock 2013; Mowforth and Munt 2016). Examining whether tourism businesses follow strong sustainability or weak sustainability is a vibrant and timely pursuit. It is the only way to find out the truth to some extent. This research is one effort to fulfil this necessity. This chapter contributes knowledge to sustainable tourism in New Zealand by taking RCTs as a case study.

Qualitative methodology and methods were useful to reveal the different human feelings, experiences, and ideas which assisted me to understand stakeholders’ attitudes and perceptions (Sarantakos 2013). Various discourses gained through questionnaires, interview transcriptions and field notes taken during field observation and sensations accumulated and were interpreted and analysed through critical discourse analysis. This analysis process showed me the interconnections between peoples’ attitudes and behaviours; how their attitudes and financial circumstances influence them to develop a strong or weak relationship with nature (Fairclough 2013). How these relationships impact on nature in good and bad ways;

finally, how and in what way these impacts address the sustainability of the New Zealand tourism industry.

This chapter examines how RCTs follow sustainability practices throughout their business as well as their conservation processes. To achieve this target, the role of the three stakeholders are analysed broadly. A SWOT analysis will identify the stakeholders' involvements or their fieldwork contribution for the conservation work, then explore their perspectives on conservation. RCTs' contribution to the community, educational/research support and environmental impacts are investigated extensively as well as the progress of their three major aims: fun, adventure and education. The conservation work and its progress are studied in-depth to discover the exact situation and marketing techniques (Waitt 2016). Their future, (how the business would look like within the next five years) is explained using the owners' and conservation managers' ideas.

5.2 Conservation efforts

Operators and tourists need to use nature for business, adventure and fun (Huijbens and Benediktsson 2013). When considering the commodification of nature, the operators directly use it while the tourists access and use nature through the tour operators. Operators need to highlight that they conserve nature to get publicity and identify themselves as nature-friendly and sustainable in order to get the combined advantage from conducting conservation plus nature-based adventure (Buckley 2010; Goodwin 2016). They can expand their tour with this conservation part and introduce it as a nature product (Fennell 2015).

5.2.1 Maintenance and monitoring

RCTs get their guides involved to maintain traps and all the other conservation activities. The operators want to train their guides for trapping not only for conservation purposes but also for guiding purposes. The conservation manager believes that when they have an experience about trap maintenance, they show their passion when they explain the operation to tourists (Ross 2004). The conservation manager said,

We not only need to train our staff for this but mostly those who are up there doing the trapping things today; when they go back to their tours tomorrow,

they can talk with passion about the operation. It is the hardest part, that's really important too. It is very difficult to talk about the passion if they are not really involved in it.

There is confusion about how often they conduct trap maintenance and monitoring.

I got contradictory answers from various respondents. For example:

- *The conservation manager: Monthly possum and cat traps. Once in six months rat traps.*
- *Tour guides (at conservation trail explanation): Every three months*
- *The owner: Once in six months*

According to the owner's explanation,

During the peak summer season the guides are busy and they don't have free time for trapping. Normally before the start of the summer tourist season and after the season, two times a year, so once in six months they probably do the maintenance.

October is the month they have chosen to install their trap lines in every year (Table 7). In general, one can identify that their plan is to expand the trap lines yearly while conducting monitoring and maintenance every six months.

i. Maintenance process:

Trapping lines are marked by using different colour cards in the forest (Figure 47). Trap maintenance is conducted to refill the trap canister and lure (lolly) of the Goodnature traps. Some traditional traps (DoC-200 manual traps) are still used for cats. Those traps need to be cleaned if a pest is captured, pest food put in and reset. When they install a new trap line, the operators need to measure the progress, then they collect and count the dead pests. Otherwise, they throw away the dead pests into the forest.



Figure 45: Trap lines marked by different colours
Source: Photos taken by the author (15 Dec 2016), Used with permission

The conservation manager said,

We used to donate the dead possums to Mamaku Primary School last year. The school used them for a fundraising program. They can do so when the pests are fresh but when we find the dead pests, some have started to decompose. In the end, they supply nutrients to the forest. Those animals grow by taking nutrients from the forest and in a way they are returning the favour.

That was the managers' justification of why they left the dead pests to decompose in the forest. However, no justifications are needed as there is no harm in leaving them in the forest because they use nature-friendly traps without poisons.



Figure 46: A guide is marking a starting point of a trap line
Source: Picture taken by the author (15 Dec 2016), Used with permission

The operators choose weekdays for trap maintenance because during the weekends they have more tours. They do not have a map for trapping lines but they use GPS locations. At the beginning of the maintenance process, one guide marks the starting points of the trapping lines along the Dansey Road using an orange colour ribbon which the other guide use to find the entrance into the forest (Figure 48).

ii. Monitoring process:

Monitoring lines are marked by using blue colour ribbons in the forest (Figure 49, I). Operators cut the parallel monitoring lines by maintaining same intervals which cross few trapping lines. Along these monitoring lines the operators set 'chew cards' with peanut butter and after two days they collect these cards (Figure 49, II). When rats eat the cards they make curve shapes while possums put their teeth marks on the cards.

The guides collect the cards and check the number of marks in order to get an idea about the number of pests in the forest and the progress of the traps. If they can maintain the traps and monitor the trap lines regularly they might be able to get a clear picture about their conservation program.



Figure 47: Monitoring line and a chew card

Source: Photos taken by the author (15 Dec 2016), Used with permission

DoC is also happy to check and analyse the data in order to understand the forest condition. The conservation program started three years ago but maintenance was not sustained. In that sense phase I failed. In 2014, they did nothing for conservation but in 2015 they found a new way to start again with modern traps. Therefore, the conservation program has actually only functioned since 2015, for a little more than one and a half years. On the other hand, the trap lines do not fully cover the whole area of DRSR. Therefore, other areas still need to be covered with traps; at the same time monitoring data need to be collected continuously in order to analyse and measure the progress of the trapping lines effectively (Valentine 1992).

5.3 DoC and the conservation program

This section examines the partnership between RTCs and DoC to determine the level of cooperation between the two groups. Working with DoC would seem to add more credibility to RTCs' conservation efforts (Jafari 2001).

5.3.1 DoC involvement

RTCs wanted to do something to improve the conditions of the forest and protect the bird life. However, at the beginning they did not have a clear idea about how to do it. Thus, they consulted DoC for the beginning of conservation phase I. What RTCs need from DoC is, obviously, the land like this native forest because it gives

much added value to their business, since, as discussed in section 2.4.2, it is a nature-based adventure enterprise. They already hold the honour of being the only native forest zipline tour in New Zealand. It is an advantage to attract adventure lovers as well as nature lovers to the business (Swarbrooke *et al.* 2011). RCTs' conservation manager highlighted that,

We do everything! We do all the monitoring and all the maintenance things before and after installing the traps. The whole works! DoC has nothing to do with the forest beyond coming up once in a while to see how it's going. But I used to ring them and say, "Hi, I am going to put some trapping lines in". So, they know that we are in the proper way, looking after the forest and everything that we do. That is important.

When I examined the conservation manager's idea about DoC's involvement closely, at the beginning of his talk, he highlighted that the whole workload was done by RCTs. But when he talked further, he realized that DoC is the owner of this land and it would be a disadvantage if he gave an impression that "*We do everything according to our own desire*". Thus, he emphasised at the end of his talk that "*DoC knows everything that we do and they know we are doing it properly*". If they take on all the workload of conservation, it is not bad to say it genuinely. However, they also have a responsibility and the potential to get DoC involved if they think it is worth it. The other thing I noticed was that the operators prefer to enjoy their freedom and keep authority over the conservation programme. They like to avoid DoC's influence on their conservation work. That way they have the freedom to do what they want and be credited for holding all the responsibilities of this conservation work alone (Maier 2011).

They also mention that RCTs work with DoC because it emphasises the public-private collaboration in tourism which is one indicator of sustainability. Local people know DoC is the government department taking care of conservation in New Zealand (Mowforth and Munt 2016). In that sense then someone might think DoC is responsible for taking care of the sustainability of this business (Goodwin 2011) or at least that the operator applies sustainability principles since it cooperates with DoC. This is one way this business and its owners can enhance their green image when they conduct conservation work in the forest (Maier 2011; Mowforth and Munt 2016; Ringham 2015; Shaw and Williams 2002). Additionally, they benefit

by adding one more item to their adventure tour: nature conservation. According to the DoC officer I interviewed,

There is no really threatened species there, so it is not a priority for us to go and measure and see what is happening. But it is a priority for the Canopy Tours because they are working there all the time.

It would not look good if tourists saw possums and rats rather than birds during their zipline ride. However, what is actually happening is that DoC has other priorities like the places where native species are threatened. So, they monitor the DoC trapping progress for predators in another forest lot (Field survey 15 Dec 2016). Therefore, it seems that the operators prefer to maintain a distant relationship regarding conservation matters while benefiting from the natural resources that DoC is willing to lease them. Thus one can recognize these operators' policy as some kind of green washing effort (Ringham 2015).

5.3.2 DoC's perspective on the conservation program

According to DoC's perspective, this conservation program has met a satisfactory level. RCTs need to maintain this standard and need to continue the trapping work until they cover the whole area of the forest. The DoC officer I interviewed said,

This is a successful and sustainable program. It is a great idea and it is win win! DoC can't do all the pest control work in every piece of land we have because we own 30% of government lands of the country. So, it is nice these tour operators do such a job voluntarily.

As the officer recognizes, pest control is expensive and such cost was confirmed by MPI's Biosecurity at the Auckland airport when I joined the field trip with my tourism class TOST201 of Waikato University (APNZ 2014; PestCo 2015; Field trip 28 Mar 2016). DoC has to battle with eradicating pests from New Zealand forests and they have dropped 1080 poison (Sodium Fluoroacetate) by aerial operations over large forest lots (Department of Conservation 2017). Even though DoC assures the public that this poison is biodegradable, DoC itself recommends a seven day caution period before eating river fish or other game animal around affected areas. Other researchers and environmental sensitive organizations highlight the danger of this poison drop for domestic animals as well as non-mammalians, even for some native birds (The Rongolian Star 2014). Therefore, some petitions are circulating to stop poisoning the natural environment (Eaton

2017). Figure 50 cartoons depict how media have criticized these aerial poisoning operations. Consequently, it seems that this type of pest eradication is not sufficient enough to endorse the New Zealand's clean green image (Bell 2008). These examples justify why the DoC officer appreciates the poison free voluntary pest reduction systems put in place by RCTs (Goodwin 2016; Valentine 1992).



Figure 48: Protests against 1080 drops are progressing
 Source: The Rongolian Star (2014), Used with permission

“The forest is in much better condition because they are using it. It is getting better in terms of flora and fauna” said the DoC officer but the question is how can one be assured that a forest is improving when humans use it? The DoC officer then replied that,

One of the other things that we found is fantastic! They actually go around taking photos. They captured one striped skink which is like a reptile (like a lizard) and it is known as a threatened species. It was found about 15 meters high. This is the first time ever recorded that it can climb that high. We wouldn't have known unless they had been there. So, they may not have threatened birds but other threatened species. Because of the rat traps, density of lizards and reptiles in that area might be increased.

In this case, the human-environment interaction (RCTs with DRSR) is positive (Stanford 2008). It is a good indication that the DRSR is home to this rare skink type and to have discovered their unidentified behaviour: that they can climb and live in the upper layers of the forest (Figure 51). This incident emphasises the importance of the canopy tourism structures for research purposes not only about the canopy layers but also about animal behaviours in the upper layers (Lowman *et al.* 2006; Seibel 2013). Especially in New Zealand, systematic education started after Caucasians reached the country 200 years ago. The first canopy tourism

facility opened in 2001. Thus it is not a surprise if one says there is a lot more to study about upper layers in New Zealand forests (Beebe 1917; Muul and Lim 1970). Therefore, I can conclude that these canopy facilities offer a platform for canopy researchers (see section 6.5), positive proof of their sustainability (Ramlan *et al.* 2012).

When I asked “*Do you believe that the traps are working well and has it affected the birds’ breeding?*”. The officer stated that,

We have some kind of informal and verbal evidence; when I first went there, there were hardly any birds..... there are some students who work during the summer at RCTs; when they came back the following summer after the new trapping lines installation, they said that the increasing number of birds was really noticeable. Especially Robins, now they are everywhere around the walkway.



Figure 49: The threatened Striped Skink
Source: Rotorua Canopy tours (2016), Used with permission

This is interesting evidence about the increasing number of birds, however, one should not forget that RCTs have trained Robins to be handfed, which might be the reason why they can be found around the walking trail. Robins are also a much more common species. When I examined DoC’s perspective, I found that they have a very positive attitude about this conservation program and it seems officers will close their eyes to work less than perfect in the hope that concessionaires will return to proper eradication measures (Holloway 2012; Lovelock and Lovelock 2013).

Moreover, now DoC has loosened their link with RCTs’ conservation program. In fact DoC does not maintain any document about it. They only have the agreement for the concession. When I asked the DoC officer, “*Do you know how many traps*

have been installed in the forest?”, He replied, *“I don’t know about it.....probably they covered about 130 hectares and there might be around 300-400 traps”*. DoC does not keep updates on what all their concession holders do in their forests (Spenceley 2002). They prioritize places which have high biodiversity or endemic species. DRSR is small in size and has a low number of endemic species. When I wanted some information about the flora and fauna in this forest, the DoC officer mentioned that there are no threatened species reported in DRSR except one snick. Even though DoC has a positive idea about the conservation efforts of RCTs, they are not directly engaged in it (Bramwell 2011).

5.4 Tourists’ perspectives about the conservation program

Tourists are not really aware of what is happening on the ground in the name of conservation for two reasons. The conservation programmes are to protect nature but are often advertised as providing education about nature and encouraging people to think more about the negative impacts of human on nature with the hopes of improving behaviour (section 2.5.2, v).

5.4.1. Tourists reactions

When I asked tourists, *“Did you notice anything about a conservation program during your tour?”* thirty one said *“Yes”* but two said *“No”* and seven have not responded. The conservation trail is one major part of the zipline tour and it breaks the monotony of adventure as it switches the tour into nature (section 4.3.5, 6th platform). These responses indicate that even though the operators try to make tourists aware of nature and conservation, some tourists do not really care about them. Those who responded negatively said that they did not contribute to the conservation program and very few said that they will contribute in the future. Therefore, it is clear that there is a proportion who do not care for and appreciate nature or the conservation efforts of the tour operators (section 2.6.4). It confirms Telfer and Sharpley (2009)’s conclusion that very few tourists behave responsibly. This is one gap scholars need to address when talking about sustainable tourism. What can we do in order to get these types of tourists’ attention to nature and conservation? What can be done in order to change their mentality?

First, tourists' major focus is on the adventure and fun part, not conservation but they learn something about conservation. Secondly, they have to believe the operators' description about their conservation efforts. Even though they are not ready to believe it, they do not have an opportunity to examine it well because the operators use a model of their conservation work on the conservation trail. The real program is carried out in the bush which tourists cannot access during the tour. They are attracted by the guides' passion and stories about conservation (Maier 2011). The tourists are not obligated to examine the efficiency of the conservation program but DoC is. What is expected from the tourists is responsible behaviour during the zipline tour to not harm nature (Harrison and Husbands 1996; Leslie 2012; Weeden 2014). If they are satisfied about the tour and appreciate the conservation program they may donate traps, money or labour according to their wish.

Some admired that the guides' explanations were good. One appreciated the guides' passion about conservation work while another complained about lack of bird life. All their comments resonate with my participatory observations. When one turns to the tourists who said that they learned something about conservation during their tour, 'traps' were the most eye catching point. However, others mentioned that they learned about 'pests' and they noticed 'photos, talks, signs and messages' along the conservation trail.

The major attraction for tourists was not nature or conservation but adventure. Some did not know even about the conservation program until they joined the tour. When guides explained about it, they tended to appreciate and contribute to it. Buckley (2010) and Adventure Travel Trade Association (2017) have proven that nature-based tourism always has the potential to benefit from adventure tourism in terms of nature conservation (Swarbrooke 1999). A tourist compared this conservation program with similar programs like the Motuihe Island forest restoration project or the grass growing program in Mt. Taraveru Alpine desert and other nature tourism attractions in New Zealand. She considered that RCTs' conservation program is well planned and organized. In fact the majority of tourists thought that "*This conservation program is good*".



Figure 50: Word cloud of Trip Advisor headings on RCTs
 Source: Created by author based on Trip Advisor comments using NVivo 11 (2017)



Figure 51: Word cloud of Trip Advisor comments on RCTs
 Source: Created by author based on Trip Advisor comments using NVivo 11 (2017)

Tourists have positive opinions about the conservation program after completion of the tour. However, the next step would be ‘what can operators do to study tourists’ psychology in order to further turn their attention to nature’, especially when they return home and the experience has been forgotten. Figures 52 and 53, based on my secondary data analysis, show such forgetfulness (Mowforth and Munt 2009). These word clouds were created by using NVivo 11 to visualize word frequency. To create these two word clouds I used the most recent 50 comments on RCTs from

Trip Advisor. I copied 50 headings of each comment separately and left the 50 comments' content in another word document. Figure 52 word cloud was created using the 50 headings to understand the overall idea of commentators, because their first impression comes out through the comment heading. The most highlighted point was 'fun' followed by expressive qualifiers of their fun with words like 'amazing, great and awesome'. This is just a quick picture of RCTs, as reported by its consumers.

I created Figure 53 word cloud to gain in-depth knowledge about what they think, what they noticed during the tour and how they shared their experience. The 'tour' was the most highlighted word when they talked about the 'great, experience, guides and fun'. It is clear that they would endorse this place for others to visit as the word 'recommend' is also highlighted (Murphy *et al.* 2007). In general, when considering either headings or content of the Trip Advisor comments, 'fun' related to the zipline tour is stressed more than nature or conservation. Marked in red circles are words which mention 'nature, environment, conservation, education and knowledge'. This word cloud gives an idea on how these commentators give priorities to these characteristics of the tour.

The figures confirm the limited interest of tourists who participated in canopy zipline tours in nature conservation. Fun was the foremost feeling. Nature is more present in the comments but fun is still more important. Tourists seek a satisfying experience, particularly when consuming adventure tourism: an adrenalin rush is more memorable (section 2.4). However more awareness about the surroundings seems to be aroused by this tour since forest conservation appears quite visibly in the comments on Trip Advisor if not in the headings. Headings are short so they tend to contain only the most memorable aspects of the experience.

5.4.2 Tourists' contribution to the conservation program

Overall, tourists' perceptions on the bird conservation program are positive and admiring even though a few of them did not care (Mowforth and Munt 2016). Tourists donate money to the conservation program while some wish to donate money or traps in the future (Figure 54). Some think that they have already contributed by buying tickets so they have no need to give additional contributions.

Even if tourists do not directly contribute money or traps all of them are indirectly contributing through their tickets.

Some tourists might think that they have already contributed to conservation through the tickets. The decision for donating is entirely voluntary and operators cannot force it. The tourists are free to decide and this decision depends on how sensitive they are about nature and their budget. Some tourists might be interested to donate, but not be in a financial position to do so, although the operators do provide a chance to donate small amounts into the tree shaped till. A small percentage of tourists agreed to participate in the conservation program. Even if the number is small, it is identified as a positive mark of tourists' passion for conservation (Goodwin 2011; Smith 1990).

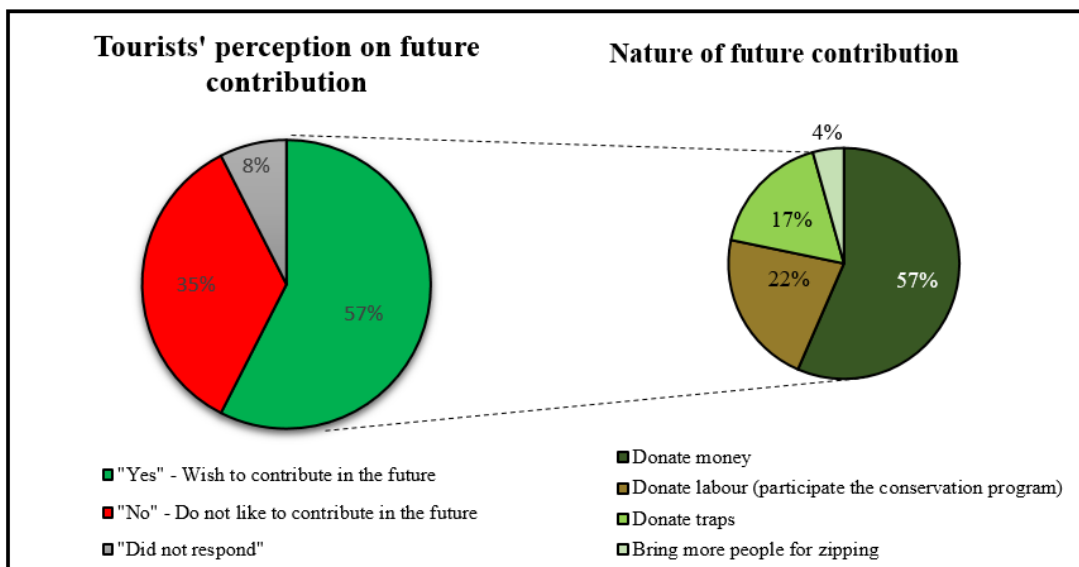


Figure 52: Tourists perception about future contribution for the conservation program
 Source: Created by author based on the data from field survey (2017)

It seems that some tourists, like kids, are interested to put money into a till whether they understand the value of contributing to nature conservation or not. They just have fun putting money into that attractive till. When I was around the office, I saw a boy with his parents waiting to join the next tour. When he noticed the till he said "Wow! This is cool, I should put some coins into it when we get back". I asked a lady, who has done the zipline tour four times, how she contributed to this conservation program? She replied, "By bringing more people here for zipping". What she meant was when she brought more people to the tour, their tickets contributed to the conservation program. Some hard core eco-tourists want to

participate in the conservation program as volunteers in the future (Fennell 2015; Weaver 2006). These kinds of tourists bring positive word of mouth about this place as nature friendly. It is an advantage for the business as well.

The operators need to think about what they can do to absorb this labour for the conservation program, because it would be one solution for their major issue of labour scarcity during the peak season for trap maintenance and monitoring (Weaver 1998). A practical and systematic schedule needs to be designed if operators want to involve tourists in their conservation process (Weaver 2006). Considering the interest in donations, four types of tourists can be categorized such as,

- i. Interested, financially stable, donate extra money or traps for conservation.*
- ii. Interested and satisfied with buying ticket.*
- iii. Interested but no extra money to donate.*
- iv. No interest and no donation*

The tourists in the first, second and third categories might be interested to donate labour to the conservation program.

DoC facilitates land distribution for tourism as the largest land owner in the country and it expects to earn some income for the government through tourism. On the other hand, DoC needs to protect nature (Farmaki 2015). DoC expects that the tour operators voluntarily support this ambition but they do not have enough time, labour and funds to spend on each and every concession holder to examine whether the operators do their job effectively. In this moment what they can do is provide some information or expert knowledge to operators on how to establish the business without harming sensitive environments and initiate conservation programs (Ross and Wall 1999; Wall and Mathieson 2006). DoC does not have any kind of interaction with tourists. The operators play a hub role to link all the stakeholders like DoC and tourists as well as components such as nature and conservation (Ross and Wall 1999). Therefore, they hold quite a big responsibility in terms of providing a satisfactory tourism product while ensuring the quality of the natural environment. Table 8. SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis shows the role of each group of stakeholders' participation in the conservation program.

Figure 55 is developed based on the responses received from the tourists, which gives a quick view of where conservation is placed in their priority list.

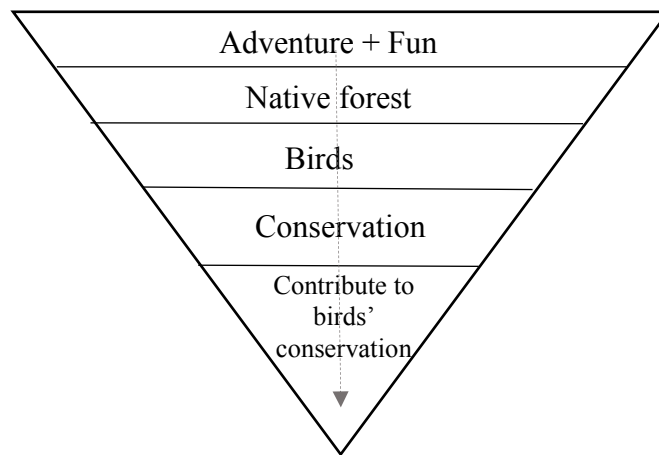


Figure 53: Tourists interests' priority filter

Source: Created by author based on the data from field survey (2017)

There is no doubt that the tourists give first priority to adventure and fun. However the tourists' comments, beyond the owners' idea: *"I still think that the zipline and adventure is the hook that people get in the business"*. The native forest also has an attractive pull. Therefore, it is the second major priority while they appreciate birds in this precious environment. Once they reach the conservation trail they learn more about bird conservation which influences some tourists to contribute additional money to this conservation program. At every step of this pyramid (Figure 55) there are drop outs (tourists). Not all the adventure and fun lovers conclude the tour by donating money to the conservation program.

5.5 Reflecting on the conservation program

Table 7 (page 117) was developed by using the data collected from the field, the information available on the RCTs' web site and the Conservation Trust web site. The data in Table 7 is not fully accurate because there are some contradictory situations found when comparing the field data and website data as well as when comparing the same data in different locations on their website. For example, some information about the conservation program is available on the welcome page and conservation time line but it does not match what is on the Conservation Trust web site. Thus, this section is concerned with these contradictory statements about the conservation program.

Table 8: SWOT analysis on role of stakeholders' participation for conservation program

Stakeholder	Strengths	Weaknesses	Opportunities	Threats
DoC	<ul style="list-style-type: none"> i. 30% land owner in the country ii. Earn money by renting the land for tourism 	Lack of time, labour and funds to find out the progress of every conservation program the concession holders conduct	<ul style="list-style-type: none"> i. Provide land for tourism ii. Provide expert knowledge 	<ul style="list-style-type: none"> i. Miss use of the land by tour operators ii. Tourists may impact the environment negatively
Tourists	<ul style="list-style-type: none"> i. Interested in conservation ii. Have a capacity to bring positive word of mouth about conservation 	There is a small percentage who do not care for conservation	Tend to provide traps, labour and money	Irresponsible behaviours
Operators	<ul style="list-style-type: none"> i. Play a hub role between DoC and Tourists ii. Have a concession to use the forest resource iii. Have an income from tourism and donations iv. Available labour depending on the time v. Passion they show about conservation 	<ul style="list-style-type: none"> i. Give first priority to the business ii. Lack of labour and time to conduct conservation iii. As a young company, they have future plans to expand the business, so priority is going towards those target 	<ul style="list-style-type: none"> i. Gaining the expert knowledge from DoC ii. Absorb the tourists' labour for conservation iii. Reorganize the conservation program to make it more efficient and productive 	Competition with other businesses to appear as a nature-friendly product

Source: Created by author based on the data from field survey (2017)

5.5.1 The total amount spent for the conservation program and the amount spent for phase III

The welcome page of the Canopy Conservation Trust website mentions that “we have spent over \$250,000 so far and created a 35km trapping network using world-leading technology to successfully remove thousands of introduced pests” (Canopy Conservation Trust 2017b). On the same web site, a background page says “RCTs has spent around \$150,000 on its conservation efforts so far” (Canopy Conservation Trust 2016a). Which amount is correct? If one considers the total amount of expenditure for conservation is \$250, 000, as they have not mentioned the expenses of phase III, we have to deduct phase I and II expenses from the total of \$250,000. Then phase III expenses come to \$145,000. This amount is unbelievable because for phase I and phase II they would have spent only \$105,000. The question is how come this single trap line costs this much? Interestingly, it is the shortest trap line (7km) because phase I is 10km and Phase II is 22km long.

In phase III, only 220 traps were installed while in phase II 450 traps were installed but the cost is two times less than in phase III. However, phase III expenses are not available on the websites. Hours spent for phase III on this table are expected to be hours of labour; the actual hours are not mentioned. Therefore, one has to find answers for these questions in the expenditure on conservation; one possibility is whether these web sites have not been properly updated. Another possibility is, whether the person who created this website provided accurate data. Do operators have actual data about the expenses? Are they playing with numbers to deceive customers? The tour operators are responsible for providing real data to their customers as they contribute to this conservation program.

5.5.2 Transparency of the conservation donations

One weakness I noticed about the conservation program is even though they mention that tourists contribute to this conservation through the tickets, they have not mentioned anywhere on their website or brochures what percentage tourists contribute. When I asked the owner, he responded “*It would be NZ\$3.70-4 something*”. They could display somewhere on their conservation trail, what proportion comes from various sources every year, as shown below in Figure 56. Seibel (2013 and 2005) believes that financial transparency and making tourists

aware of their contribution for the conservation is important. Even though the operators are not displaying the tourists' contribution, the owners have not hesitated to say how much goes to conservation, which proves that they can publish this on the website or display it on the conservation trail as their next step.

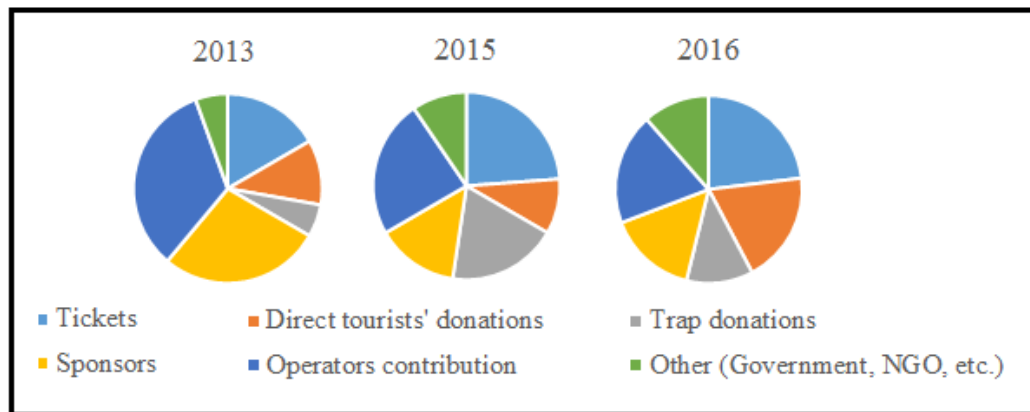


Figure 54: Example to display the proportion contributed by various sources to the conservation program

Source: Created by author based on field survey experiences (2017)

5.5.3 Total area they have covered with traps

The total area covered by the trap lines is not clear. The welcome page of The Canopy Conservation Trust assures that it is “committed to creating a pest-free environment covering approximately 220ha of the DRSR” (Canopy Conservation Trust 2017a). On the same website when I go through the time-line of the conservation program, the web page under the heading of ‘Phase III - The Results’ says, “including the new Phase 3 [III] traps, 180ha of the DRSR is now under pest control” (Canopy Conservation Trust 2017b). Under the ‘Quick Facts about RCTs’, it is written that “180ha of the forest are under total predator control” (Rotorua Canopy Tours 2017b). Table 7 presents the trap line lengths provided by the conservation manager, which confirms that total trap coverage is 180ha not 220ha.

5.5.4 Total length of the trap lines

The total length of trap lines in phase III, is said to be 22km and yet, the welcome page says their total trap line is 35km long. Is 22km the length of Good nature trap lines? According to the time-line details, the phase II line is just 22km long. When combined with the length of phase III, it should be 29km. Thus, this 22km cannot be the total length of Goodnature trap lines. If we follow the time line, the total

length is 39km. It does not make sense why the welcome page says it is just 35km especially for promoting their environmental enhancement? They should say, “our trapping line network is about 40km long, not 35km” if they have installed 39km of trapping lines. A conservation program works only if it is well thought out and based on accurate data.

5.5.5 Total number of traps and who maintains the traditional traps

The total number of Goodnature traps is doubtful because the website mentioned 650 traps but according to the conservation manager it is 670 traps. The website mentioned under the results of phase III, “we have a total of 650 traps located along 22km of trapping lines” (Canopy Conservation Trust 2017a). Another of their website declared: “in 2015 we decided Goodnature automated traps were the way to go and we replaced all of the old manual traps apart from the DOC200s” (Rotorua Canopy Tours 2016a). They mentioned that they have left some manual traps in phase I, but how many manual traps there are right now is not clear. Hence, the total number of traps should be less than 1,770. They used 450 Goodnature traps in phase II (50 hectares) because they also replaced manual traps in phase I (50 hectares). Thus, in phase II they actually worked to cover 100 hectares with phase I.

However, they still have some traditional traps. If they do trap maintenance once in three months or six months what happens to those traditional traps that should be maintained once a week? In traditional traps, when a pest is trapped it starts to decompose until the maintenance team comes; it can cause harm by staining the metal equipment of the trap and also makes it hard to clean. The most important point is if the trap is inactive for months until the dead pest is removed as those traps can kill only one pest at a time. Therefore these traps may be inactive from three to up to six months.

5.5.6 Security cameras

The operators revealed that they have security cameras (Figure 57). They mention that they use them to observe animals, tourists and traps which indicates that they make some effort to monitor pest number, provide security of the traps and monitor tourists’ behaviours. When I asked the guide while participating in the trap maintenance, “*How many security cameras do you have?*”, the guide replied, “*Two*”

or three”. When I mentioned that I did not see any, the guide replied “Mmmmm.....they might move them to different locations from time to time....you better ask the conservation manager”. The guide was not aware where the cameras were in that moment and the conservation manager did not answer this question either.



Figure 55: Notice about cameras

Source: Picture taken by the author (13 Sep 2016), Used with permission

After interviewing the conservation manager, I sent an email to obtain some detailed information about the conservation program. They requested me to do so because they could not memorise every detail when I interviewed them. I asked this question in my email “*How many cameras are used for monitoring the traps?*” but I did not get a reply to this question. This leads me to believe there are no operating cameras and that although the owners were well intentioned specially to document the success of eliminating pests but perhaps, the cost and time to maintain cameras are too much but the sign has stayed on to reassure visitors (Maier 2011; Ringham 2015).

5.5.7 Where are the dead pests?

When I participated in conservation maintenance with the guides, they took me through the monitoring lines to collect the chew cards. Sometimes, I helped them on maintenance such as changing the gas canister and lollies (Figure 58). I could observe more than 35 traps but I was surprised not to see even one single dead pest under the Goodnature traps. Was the dead pest cleared by some animals as in Figure 44 or have the pests become smarter and understand that the traps are dangerous? The guides however described how the pests come along following the others. One

guide who is involved in the maintenance reported that he found two dead rats and one possum who had started to decompose. However, during my participatory observations I did not find any dead pest.



Figure 56: Author participation for trap maintenance

Source: Picture taken by the guide (15 Dec 2016)

The absence of dead pests may signify that the traps are not working or that they worked too well. Did pests leave the trapping areas? Have they understood that the traps are dangerous and have learned to live away from the trapping sites because this DRSR is an open forest. Thus, animals can go to other neighbouring forests or farmlands. It might create new pest problems to those forests or farmlands but the DRSR would be pest free. It means that traps work too well. Even though the traps do not capture the pests, they have left the area. It means that the aim of the traps is successful outside of its primary function. However, this is a guess and operators need to pay attention to this because Dilks, O'Donnell, Elliott and Phillipson (2010) highlighted the importance of dead pests to understand the spatial and temporal patterns of pests' behaviours. If operators have details of dead pests such as young or adult, type of pest (rat, stoat, cat or possum), time and location they were found, they can analyse and identify special places where they need to install more traps e.g. a place near a water source.

Another form of monitoring whether pests are still common or have been eradicated is illustrated in Figure 59 and the description below explains the relationship between results and conclusion of each stage.

Stage 1: Beginning

If Results: Dead pest numbers are high and animal bite numbers are high (In the beginning stage of pest control, this kind of result can occur.)

Then Conclusion: Traps really work well but still there are lots of pests in the forest to control.

What should be done: Regular trap maintenance is necessary.

Guide's story: True, pests follow the dead pest to find a good meal. (Specially, when it is the beginning stage, pests can be caught easily because they need some time to understand how traps are dangerous).

Stage 2: Fail

If Results: Dead pests are fewer and animal bites are high (After a considerable time period, this kind of result can occur. Specially, in the RCTs' case, when they failed to maintain phase 1, they might have gotten this kind of result.)

Then Conclusion: Either traps are not working/ not maintained enough or pests become smart to protect themselves from the traps but there still remain lots of pests in the forest to control.

What should be done: Regular trap maintenance is necessary or another option to eradicate pests must be found if they learn that the traps are dangerous.

Guide's story: False, pests do not follow the dead pest to find a good meal. At some time of the trap line installation, the pests might understand the danger of the traps.

Stage 3: Progressing

If Results: Dead pest numbers are high and animal bite numbers are fewer. However, this result seems a bit abnormal because if dead pest numbers are high, normally animal bites should be high. One might ask, when the last dead pest lot was caught, did others leave the trapping area.

Then Conclusion: Traps work really well. When the traps are regularly maintained this kind of result can occur. Specially, in the RCTs' case, they installed Goodnature traps in phase 2 in 2015, which may now have this kind of result.

What should be done: They still need to continue the conservation program.

Guide's story: Not sure to guess the pests' reaction if the pests have already left the area.

Stage 4: Success

If Results: Dead pests are fewer and animal bites are fewer. This is the goal to be achieved by the conservation program to enhance the quality of the forest. (When the RCTs cover the whole forest with trapping lines, then they may reach this target.)

Then Conclusion: The forest is pest free. Most of the pests are either captured by the traps or have left the forest.

What should be done: The operators can start another program such as introducing kiwis or community-based tourism with local Māori while continuing the conservation program because there is a possibility that pests will come back if traps are removed.

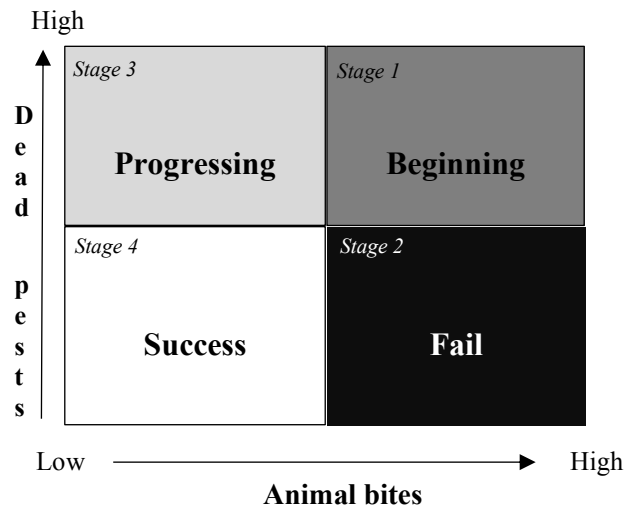


Figure 57: Relationship between dead pests and animal bites
 Source: Created by author based on field survey experiences (2017)

Overall to reach success, the operators should dedicate themselves to regular trap maintenance. Further, trap monitoring and data gathering by chew cards is needed. If they collect data over a long time (2-3 years continuously), it will help understand how far they have succeeded in conservation. Meanwhile, they can monitor the number of birds viewed or proceed with a five minute birds' count. Then the operators can identify the correlation between 'dead pests/animal bites/bird viewing' and come up with some notion of progress or possible solutions to increase the efficiency of the program. Steady maintenance and monitoring processes are needed and it is definitely a huge amount of work for the tour operators besides running their business. They understand the current progress of their conservation program by looking at Figure 59.

I was curious to follow these questions about the number of traps, length of the trap lines, total area covered with trap lines, financial transparency of the conservation program, security cameras, number of dead pests, efficiency and productivity of the maintenance and monitoring processes. Each and every section of the conservation program contains contradictions. It is clear that DoC and tourists misperceive the

conservation program since they believe it is awesome following operators' stories. The conservation program at this point seems a bit haphazard; it seems that the operators act on the spur of the moment (which might be when funds become available or when guides can be freed for the job). So, one wonders how effective the programme really is.

The above discussion showed that the programme might not be efficient at all. However, they are still making an effort in spite of the difficulties they encountered. One cannot really speak of 'green washing' of their enterprise because their effort has been genuine (Ringham 2015). It may have been beyond the ability of a single small business. DoC has not supported them either. Tourists are made aware of the cost of conservation even if only briefly and even if not all respond positively. Today's society is not yet supportive of sustainable practices (Lovelock and Lovelock 2013). It is difficult to be fully involved in the practice of responsible tourism when the majority of society still does not support such an action because economic leadership still believes in neoliberal profit maximization (Mowforth and Munt 2016; Shaw and Williams 2002).

5.6 Environmental impacts

I could identify no considerable environmental impacts during observation, like littering, vandalism or off road trekking because the tourists always were under the observation of two guides (Seibel 2005). Before they leave the head office the guides give environmental concern guidelines to the group. The tourists are not allowed to bring any food or plastic water bottles; guides bring water if tourists need it and tourists can have water after they come back to the head office. However, some noise tourists make during the tour (cheer, scream) can disturb the birds (Seibel 2010).

Further, while I was waiting on the first platform to take the first zipline ride we could hear the sound of the previous tour which started 20 minutes before our group. It was not a scream like the human voice but the noise that metal equipment parts can make when touching each other while people are zipping. During the summer RCTs work from 7.30am to 7.30pm. This noise goes on for twelve hours, seven days a week, therefore lack of bird life is obvious along the zipline track. The birds

available along the walkways are only Robins but they have also been trained to be hand fed. Thus, some shy birds are hard to see during the tour. As one tourist complained, 'lack of bird life' can be expected with this situation.

Even if the majority of the tourists comment that “*No improvement is necessary*” for this tour to be more responsible and nature-friendly, some mindful tourists comment that,

If we can walk on the ground to enable us to see more animals and trees would be nice because we can feel and enjoy the nature more deeply. We can do so because New Zealand forests are free from poison snakes or dangerous animals.

This reveals that on one hand some tourists are not satisfied with just going above the forest but prefer to have a walk through the bush. The unavailability of this opportunity is to protect this environment according to the DoC perspective. The DoC officer said,

This tour is taking place above the ground, so I think the footprint is quite minor, impact is not spread out. The pathways are really small. I mean that it is not worse than lots and lots of tracks put on the ground that people walk around.

Hence, keeping limited contact with the ground up to current level is better as this tour offers a canopy tourism experience to their customers.

Probably prefers to see feeding stations for birds (like Tiritiri, Matangi) rather than a bird trained to feed on hand which was cool but not in every place. The conservation aspect is a very positive factor. I strongly endorse and appreciate that because it was fun justified.

The second tourist's comment is important as it is against hand feeding the birds. Hand feeding is inappropriate in such a natural setting. According to Jones (2011), feeding birds with sugar water may also cause issues like spreading bird diseases and nutrition imbalance. Sugar water may not suit all types of birds but only specific birds e.g. hummingbirds.

Another noticeable point was when one guide described birds on the birds' platform, the other guide made some birds noises. Reason for this include bringing birds out from the bush, giving more sense to the tourists while learning about birds, tourists can hear their background noise. At this stage, tourists engage with learning about birds, so they might not notice what the other guide does. Therefore, some

tourists might misunderstand that birds are hiding in the bush but they are shy or scared to come out.

However, this practice is not recommended as Kumara (2016) examined that cheating birds using the voice as a lure may lead to confusing their breeding patterns. Noise pollution, feeding birds and using birds' noise are taken as negative environmental impacts of RCTs (Maier 2011). Less contact with the ground, narrow pathways, fewer walk trails, no off-road trekking, no littering or vandalism, as well as efforts they make for environmental education and conservation can be considered as positive environmental impacts (Lowman 2009; Ramlan *et al.* 2012; Stork 2001; Weinberg *et al.* 2002). The DoC officer added:

We anticipate if their business fails or if they end it that when these clamps are removed from the trees, a few years later no one can recognize that there was such a business there.

It confirms that canopy tourism impacts the environment minimally.

Finding a rare striped skink is another positive mark of environmental conservation. DRSR is a small forest but economic benefits are made, based on this natural environment. One positive aspect is when such a small forest is used for ecotourism, other large forests with high biodiversity can be preserved without disturbance (Goodwin 2016). How nature is used and enhanced, how impacted it is does depend on the strategic decision of DoC or the government (Farmaki 2015).

5.7 Modifying human behaviours towards nature conservation

It can be clearly identified that RCTs have taken steps to modify human behaviours (Gilbert, Peterson and Lime cited in Wall and Mathieson 2006; Mowforth & Munt 2009). First, they have taken action to channel visitors and their vehicles. All the tourists' vehicles need to park in the head office car park and the owners then use their own van to take tourists to the forest. Further, guides are responsible for monitoring the tourists' flow and it is a one-way tour route. They especially limit the number of tourists up to 10 which aims to offer a personal tour experience, high tourist satisfaction and greater safety. However, it simultaneously avoids a large number of tourists to flow into the forest at one time. They have a time rotation to handle each group to avoid meeting up another group ahead. Tourists have no

chance to go to the deep forest as they must remain in the tour track (Ross and Wall 1999). The owners have increased the ticket price by NZ\$10 over last year but it does not aim to control the flow into the forest. Even though they increased the price they have not mentioned that they increased the proportion that contributes to conservation. It is not possible to rotate areas used because canopy facilities are fixed in a specific area (Wall and Mathieson 2006). Consequently, the operators try to modify human behaviours within their capacity to do so.

RCTs conduct a conservation program in the DRSR to reduce pest numbers and increase birds' breeding. They have installed a number of traps to catch pests like rats, stoats and possums who are responsible for eating bird's eggs and baby birds. It would seem that the conservation program is a major part of the business when examining Figure 37 (page 110) as half of that figure shows the actions of the RCTs' conservation program. This program is an integral part of the zipline tour, as it does not just offer adventure. It thus gives an impression to everybody that they are nature-friendly, which justifies commodifying the environment for entertainment and profit (Harrison and Husbands 1996). The business has allocated one employee to manage the conservation program; and the person was a guide when the business was started.

5.8 Community benefits and other comments

In the same year the RCTs started their business, Martin (2012), headlined "world-class venture set to create 20 jobs" in a newspaper article in the *Dailypost* about this zipline tour. Publishing this newspaper article aimed to promote this tour as well as seek motivated people to become tour guides. Creating new jobs (especially for the local community) is one important principle of sustainable tourism (Fennell 2015; Mowforth and Munt 2016; Wall and Mathieson 2006). Even though it is not a community-based tourism project with the participation of locals like Ziptrek Ecotours in Queenstown, this business has started to provide some community benefits in different ways. One is employing some local people living nearby as represented in Table 9. Its owner commented that,

I think social benefits like paying staff and providing jobs is much more important. Young people come here and work 2-3 years and say "I raised my bank account" and I say "It's really cool!"

In the quote above he mentions social benefits; it is a positive remark to prove that he noticed its value (Harris 2003). In fact although eleven employees out of twenty permanent staff's hometown is Rotorua, nine find it worthwhile to travel from different locations in New Zealand or to have changed their location after they got this job.

Table 9: Employees' profile at RCTs

	Name	Position	Current Residence	Home town	How long have been working at RCTs
1	James Fitzgerald	Owner	Auckland	Auckland	Since day one
2	Andrew Blackford	Owner	Queenstown	Queenstown	Since day one
3	Nicki Dent	Sales & Marketing Manager	Rotorua	England	3 years
4	Pip Cox	Sales & Communications Manager	Pukehina	Christchurch	2 years
5	Ana Smith	Pip's assistant/ Front office	Rotorua	Wellington	1 year
6	Moerangi Vercoe	Front office	Rotorua	Rotorua	6 months
7	Georgia Hogg	Front office	Rotorua	Rotorua	1 year
8	Alex Barr	Operations Manager	Rotorua	Rotorua	Since day one
9	Paul	Duty Manager & Guide	Rotorua	South Africa	1 year
10	Jen Cook	Duty Manager & Guide	Rotorua	Queenstown	6 months
11	Jesse Carlsen	Duty Manager	Rotorua	Rotorua	3 years
12	Cameron Hancox	Senior Guide	Rotorua	Rotorua	3 years
13	Spencer Kirk	Lead Guide	Rotorua	Rotorua	1 year
14	Gary Coker	Conservation Manager	Rotorua	Rotorua	Since day one
15	Kris Garmonsway	Guide	Rotorua	Rotorua	2 years
16	Shane O'driscall	Senior Guide	Rotorua	Rotorua	Since day one
17	Scott Davis	Senior Guide	Rotorua	Rotorua	Since day one
18	Nicola Purdon	Guide	Rotorua	Dannyverk	1 year
19	Rebecca Kingsford	Guide	Rotorua	Tirau	2 years
20	Jesse Groves	Guide	Rotorua	Rotorua	6 months

Source: Created by author based on the data from field survey, Used with permission (2017)

Another significant factor I noticed was they started the business with only four guides (Rotorua Canopy Tours 2016d). Interestingly, all these four employees are still serving this business. Furthermore, they had all been promoted within a short period. One was promoted as operations manager, another one is now serving as the conservation manager and two others were promoted to senior guides. This

example gives a clue about how the business treats their workers, employees' job satisfaction and offers growth opportunities to move up in the company. According to guides, the owner James is an open minded person. He gives a chance to young workers to make some decisions and allow some innovative ideas to proceed (Sampaio *et al.* 2012).

The owner explained his perspective on conservation on community benefits,

At the beginning of the conservation program we expected nothing from the customers, we just cumulated the bank account but then took a step to join customer donations because we could not afford the cost of conservation alone. It depends whether the business is weak or successful. Conservation is a nice thing but our problem is to provide the best product. Conservation is a nice luxury I guess. Conservation is nice when it can be affordable.

This is the real story behind many nature-based tourism businesses like RCTs because they run the business to maximize profits (Mowforth and Munt 2016; Sharpley 2000). They have to compete with other businesses, pay the staff, maintain their quality and standards, and they have some future plans to expand the business. Money is the only thing they need to earn as much as they can to reach their targets (Lovelock and Lovelock 2013). It is clear then why conservation work is not continuously progressing as expected.

5.9 Educational or research support

Donating dead possums to Mamaku Primary school is one local community charity work. Conducting some workshops for local people and kids on pest control can be considered as providing some community benefit and also can be identified as an educational program (Ramlan *et al.* 2012; Seibel 2005). Distributing knowledge and experience of pest control is one kind of educational support provided by the RCTs. They have conducted a workshop for school kids to make them aware of New Zealand forests, birds and the value of conservation. It influences local kids to love nature and protect it from a young age. Many schools choose RCTs for their educational tours. Even though they are not much concerned about research as one sustainable principle (Fennell 2015; Mowforth and Munt 2016), the owners allowed me to conduct my master's research about their business, which is the first time someone has been interested in doing research on their business. If they wanted to hide anything about their business they would not have allowed me to research. It

indicates that they appreciate feedbacks collected from a third party. The owner said,

We do feedback surveys but the difference about that feedback and this feedback is, say if we send 500, we get only 50. But you get 100% feedback. Customers may openly talk with you about us.

This idea proves that he has a practical knowledge of feedbacks and has understood the validity of the feedbacks conducted by a third party which probably reduces bias.

5.10 Success of three major goals: fun, adventure and education

The trip advisors' comments prove beyond a doubt that RCTs are successful in providing adventure and fun but not every tourist can be satisfied. I observed one group, for example, when it came back to the office after completion of their tour and its members did not have cheerful emotions on their faces. The reception girls asked me not to involve them in my questionnaire survey as they were a bit late but I was already aware of the tour time schedule and that the group had arrived exactly at the scheduled time. I also noticed that this group had been guided by new and very young guides. After the people disappeared the two guides and the reception girls negotiated something secretly (they did not do that in the front office, because I was there at that time so they went outside). I understood that something unexpected had happened, which affected the tourists' satisfaction. Even though adventure and fun are always anticipated, some unfortunate circumstances might arise like safety issues, failure to build up a good interaction between tourists and guides or among tourists in the group, bad weather and tourists' unrealistic expectations about the zipline tour or bird watching (Hill 1995). Such circumstances are clearly rare when going through Trip Advisor's comments (see Figure 52 and 53).

5.11 Marketing

RCTs follow various methods and strategies of marketing like intermediary marketing (including agents, whole sellers, distributors and retailers), magazines, brochures and other tour operators. According to the owner's idea the major marketing role is played by their business website: <http://canopytours.co.nz/>. The

most trust worthy method for tourists is word of mouth (Murphy *et al.* 2007). The owner mentioned that a considerable number of tourists have been attracted through friends or family recommendation. The questionnaire survey does provide evidence that the most powerful attracting method is word of mouth. Sixteen tourists out of forty said “*Word of mouth was the method that they first heard about this place*”. Out of these sixteen tourists, 10 tourists knew from their friends while the last six were interested to visit this place through family recommendation. Only eleven said they knew about this place through the official website (Table 10).

Table 10: Methods of marketing

Marketing methods	Number of tourists
1. Word of mouth	
- Friends 10	16
- Family members 06	
2. Official website	11
3. Brochure	04
4. Trip advisor	04
5. Guides	02
6. Travel agents	02
7. i-SITE Redwoods	01
Total	40

Source: Created by author based on the data from field survey (2017)

As many tourists followed the brochure as did trip advisor comments according to the survey data. Two tourists said that they knew of this tour from the guides. These guides are not from RCTs but other tour companies. Redwood (see Figure 18) is another place in Rotorua which has facilities for canopy tours (only canopy walkways). But one tourist knew about RCTs from the Redwood i-SITE (information site). Therefore, keeping information like brochures in the same type of tourist attractions is one way to attract more tourists with similar interests. However, competition arises between companies which provide the same type of tourist products. If all operators share and display brochures in their information centres, then everyone can benefit. Mutual understanding is needed to ensure the long term function of sharing customers.

TNZ introduced 'New Zealand Roadshows' to update operators about the industry, tourism plans, and trends as well as to build up networking among tour operators. Tour operators can register for this event and it takes place around New Zealand from time to time. This event makes a platform to share tour operators' points of view. According to RCTs' sales and marketing manager, "the roadshow is a great opportunity to network, talk about the things happening within our industry and discuss how we can work closely together" (TNZ 2016). This comment on Roadshows gives a clue about the possibility to establish a collaborative marketing mechanism among tour operators (Goodwin 2016).

I was interested to know what message these tourists who participated in my questionnaire survey would bring to their friends. When I asked "*Would you like to recommend this tour to your friends?*", all replied "Yes". But the tourists who visited this place more than once requested discounts for their repeat visits by saying "*Definitely we will recommend but we need a discount to come with them*". They would like to recommend this place without doubt but they further need to come again with their friends or family members. They wondered since they promote this place to new customers, why operators do not offer even a small discount. These repeat visitors expect operators' admiration or respect. Their desire can be justified by considering the findings of this research as it proves that 'word of mouth' works as a motivator as well as the dominant marketing strategy (Murphy *et al.* 2007).

This business can offer a discount for repeat visitors during their off season (winter) to attract more tourists. But on the other hand the cost for the conservation, maintenance of the zipline instruments and payments of guides cannot be deducted if the operator gives out too many discounts. Otherwise they may have to reduce the quality (e.g. providing just one guide) or offer a short tour for these repeat visitors to adjust their budget. However, the problem again would arise about what will happen when these repeat visitors need to participate in the tour with the new visitors who might be their friends or family members. The new visitors would then be eligible to participate in the original tour but the repeat visitors would be offered the customised tour to suit the operators' budget. It may create a contradictory

situation. Therefore, the owner's idea can be justified when he said that, "*We need to provide a quality product rather than offer discounts*".

In 2015, the Director General of DoC and in 2016, the Conservation Minister visited and did the tour. They mentioned that they had arranged special tours for them. They published photos of themselves with the Director General and minister for marketing purposes of the Canopy tours. The operators of the RCTs do not hesitate to use certain opportunities to market themselves. A small discount could be a smart financial move, even if all costs are not covered by the user. More consumers spread the cost. However, owners also need to know how many total visitors can be accepted by the zipline system (Mowforth and Munt 2016).

5.12 Responsible marketing

The notice shown in Figure 60 is displayed on their conservation trail to illustrate the progress of the conservation trail. Here they have used a photo of a kiwi bird but the problem is there is no kiwi in this forest. Do they want to mislead the tourists about their progress? They also need to update their websites with accurate information about the conservation work such as the number of traps, covered area of trapping lines, the length of trap lines and amount spent for each phase (Fennell 2015). On the conservation trust website, there is a timeline for the conservation progress. On this timeline, they have written details of Phase III as if it is still in the planning stage but now Phase III is finished. The problem is, they have already uploaded the Phase III results but not yet removed the description of the planning for Phase III.

They call 'Mamaku forest' where they conduct canopy tourism but its actual name is Dansey Road Scenic Reserve. There are two reasons why they use this name, one is the real name is obviously lengthy and the village near the forest is called 'Mamaku'. However, tourists can be confused because I was also confused at first to find the location of the forest on the Google Map. There is a large forest range named 'Kaimai Mamaku' located in the north-eastern part of the North Island of New Zealand. This is the most famous forest when someone searches for 'Mamaku' forest but it indicates more than one hour drive to reach this forest from Rotorua.

However, the tour operators' mention on their official website says "it is just 10 minutes' van drive".



Figure 58: Progress of the conservation program as displayed on the conservation trail
 Source: Picture taken by the author (13 Sep 2016), Used with permission

This information was contradictory so I had to email the operators to verify what the real forest they mentioned is. This name 'Mamaku forest' was created by the RCTs but there is no such forest. The name that appears on the map and the usage name by DoC is 'Dansey Scenic Reserve' (see Figure 21). I am curious whether they purposely did this to overlap with the 'Kaimai Mamaku' forest because it is very large and popular to create a big image about this native forest. However, I would like to suggest that even though the name 'Dansey Road Scenic Reserve' is quite long, it should be used to avoid confusion. Otherwise, they can shorten this to 'Dansey Reserve'.

The operators use trip advisors comments and rankings to promote their business. It is not bad as every business does it but they purposely use the photographs of Director General of DoC and Conservation Minister which were taken while they were doing the canopy tour for marketing purposes. This incidence can be considered a show of political relationships for their marketing purposes (Jafari 2001). When I asked about the Qualmark environmental accreditation from the owner he said, "We don't see any value in having Qualmark but if we apply, we can get it easily". But TNZ always sees the advantage of this Qualmark accreditation

(TNZ 2017b). As I understood, the operators prefer to collect awards by participating in competitions as it brings more publicity and credit to the business (Bradley 2016; Tourism Industry Aotearoa 2016).

5.13 Future of the RCTs

The future seems bright but strategic thinking always helps prolong the life of the business.

5.13.1 Future of the canopy tour

The RCTs grow day by day as a tourism business by learning through their experiences. The owners are innovative and fully involved in their business. They sought a way to develop the business. That is why they have visited canopy ziplines around the world to learn how these types of business are run prior to start their own enterprise. They thus implemented the method of learning by experience. They keep in touch with market trends also which was clear when I got to know about their future plans. The owner said that,

There will be another route or ride experience that we will create, which will be different from the current one, probably longer and higher.

This new plan is more similar to ‘tree adventure activities’ because the owner mentioned that this second step will include different courses. The new tour will also be conducted in the DRSR. Thus one can guess that the number of tourist arrivals at least will double after the second tour is installed. May be it will increase even more than that as the new tour will be more adventurous and consist of more activities. The construction and equipment they use would be different. The environmental impacts and the tourists’ experience would be different from the tour they now have. However, this does not mean that they should stop their extension. They can achieve it by finding a more environmental friendly way with the support of DoC (Goodwin 2011; Spenceley 2002).

They are progressing very fast, which shows when I examine their annual increment of number of tourists or employees. Within four years, they could move to the purposely built head office. Even their conservation efforts show some kind of progressive trend though they got stuck at some point because they had a hard time handling the traditional traps. However, they showed their enthusiasm by

continuing the conservation program with modern traps. If this business maintains the standards they now have, RCTs will have a bright future, without negatively impacting the public domain they have commoditized for their own profit.

5.13.2 Future of the conservation program

The ultimate target of this conservation program is to cover the whole DRSR with trap lines until it becomes a pest free forest. This is the vision of the conservation trust (Canopy Conservation Trust 2016c). Their assumption is that when the number of pests will have been reduced, bird numbers will increase again. It will also make the forest more accessible for education purposes. They would like to see kiwis in this forest. But before reaching that step they need to ensure that birds are safe in this forest. Noises from the equipment and the users will increase, potentially scaring birds away even if there are no more pests.

The DoC officer suggested that he knows there is a local Māori village in the Northern part of the forest (Harris 2003). When RCTs will have covered the whole land for pest control, They might be able to work with local Māori people to start a program to make tourists aware of local Māori practices for nature conservation (Harris 2003; Sampaio *et al.* 2012). The operators may be interested to talk to them to start some kind of community based tourism activities, another way to implement principles of sustainability in the area (Sampaio *et al.* 2012).

5.14 Conclusion

Sustainability is a broad vision set to be achieved by various tourism products but it is hard to measure because of its complexity (Wall and Mathieson 2006). What one can do is examine the level of sustainability by studying whether the product follows the principles of sustainability (Mowforth and Munt 2009; Williams and Lew 2015). This analysis chapter discusses various discourses by providing examples from the case study RCTs to identify how they try to practice sustainability principles, how those can be implemented and what constraints were faced.

This chapter discusses nature-based tourism in New Zealand using one case study of canopy tourism. I could identify strengths and weaknesses of sustainable tourism

based on canopy products in New Zealand. Further, they have many opportunities as a developed country which are not common in the developing world like good governance, political stability, benefit of public land, and access to free specialized knowledge for conservation (Farmaki 2015). A small scale business might be exposed to vulnerable situations like seasonal fluctuation in the tourism industry. However, RCTs have strengthened with this positive attitude toward conservation within a short period of time.

The owners have been creative from the beginning as they researched the trend around the world and studied the potentials in New Zealand. When they started this business, canopy tourism was a comparatively new concept to the New Zealand tourism industry. They now have a clear vision of what their product should look like. It is an adventure product which provides an opportunity to be close to New Zealand nature while they tried to contribute something back to protect nature (Newsome 2013; Seibel 2010). The product is matched with the county's reputation for nature themed adventure and New Zealand's clean and green image (Bell 2008). Their conservation idea matched with DoC's concession requirements and they were lucky to receive permission to use this land near the Rotorua CBD. The advantage doubled when they could brand it as 'NZ's only native forest zipline tour'. Finally, it is a mix of adventure, native forest and bird conservation which makes them unique and popular.

This chapter has discussed a four year old business but if one wants to study this business in ten/ fifteen years later s/he may be able to tell a different story. They have just begun their journey.

CHAPTER 6

Conclusion

6.1 Passion building and knowledge contribution

As the only daughter between two sons in the family, my mother never ever could raise me as a girl. When I came back home after school, I spent most of my time on the trees tops in our big home garden (except coconut trees because they have no branches). Enjoying the tree tops was one of my favourite childhood hobbies until I accidentally fell down and could not move the left arm for two weeks.

When I came to New Zealand a year ago I actually wanted to research wildlife tourism but there are no wild animals in New Zealand forests except pests. Then I became interested to do something about nature tourism but I did not have an exact idea about what. The second week after my arrival, I went to Rotorua and visited Waioatapu thermal park. I collected many brochures from the information centre and went through them one by one. Once I noticed the brochures on canopy tours, I did even not want to think about other topics. I believe the interest in this topic came through my childhood passion. There is a safe way to enjoy tree tops, combining with tourism and nature conservation which made for a perfect topic to research and live with this topic throughout one whole year (day and night, during the weekends and vacations without losing my energy or intention).

This endless interest encouraged me to read more about this topic and once I realized there is no academic publication on New Zealand canopy tourism, I determined to do something worthwhile for the future researchers who would be interested in New Zealand canopy tourism. The location map (Figure 18) and the database (Table 4) on New Zealand canopy tourism facilities were the result of that work. This is the knowledge contribution of this research to the canopy tourism literature of this country. Further, this master's thesis lays the initial foundation for future canopy tourism research in New Zealand.

This research project was not limited to just a thesis. I could present two research papers at two conferences. One was on *Seniors and nature-based adventure tourism*

at Faculty of Arts and Social Sciences (FASS Grad) Interdisciplinary Postgraduate conference, University of Waikato, New Zealand in October 2016. The other one was on *Tourists' perceptions on birds' conservation and their impacts on responsible nature-based tourism* at the 27th Council for Australasian Tourism and Hospitality Education (CAUTHE) at University of Otago, New Zealand in February 2017. Final out comes of this thesis were presented at the American Geographers' Association (AAG) annual meeting in Boston, April 2017.

Writing these papers while data gathering was an advantage for my main research work. It showed me different aspects of the data collected so far and what I needed to collect further. Some literature review sections and analysis parts were also useful for the main thesis. The theoretical study guided me to look at human behaviour modifications, stakeholders' perceptions and to find out various sustainable practices of the RCTs during the field data collection. I also understood the usefulness of the case study method and the values of qualitative research methodology to evaluate and understand the level of sustainability in a tourism business. This study involved various stakeholders' from whom data was gathered individually. When these various discourses were analysed critically, I could discover the real level of sustainability the company could afford/ achieved.

6.2 Concluding remarks

This case study enabled me to understand the relationship between tourism, nature and conservation. In fact in this particular case I found people very interested in conserving nature because the owners of the business provide a form of nature-based tourism. Even though the majority of tourists are interested in the adventure part of it they also appreciate that it happens in nature. Conserving nature might make DRSR more welcoming and more pleasant to have this adventure in, although for some people it seems not to matter. Operators and tourists want to use nature that's for sure. How they use nature has been the question.

So, tourism may have some link to conservation but it is quite a tenuous link and operators need to do it even if it is not enough profit. When tourists return home, they easily forget about conservation. Tourists are interested but they have to have an intensive to desire to donate because they have to know that there are programs

in conservation. As a matter of fact many tourists do not want to give anything. So, conservation sometimes happens and sometimes not. In this particular case the operators need to conserve the surrounding nature but the majority of the tourists, unless they have some kind of intention may not too much care about conservation. They are happy to use nature for their adventure so they make small donations right there. We do not know how many will contribute in the future.

Conditions specific to the area are one important thing in order to get rid of pests as it is an open forest. DoC appreciates the efforts but there are no dead pests. This creates questions as to the efficiency of the conservation program (what the operators are doing). It is not sure that it is working because it is an open forest and so, the animals might have learnt how to manoeuvre through the forest without getting caught by traps. If it does chase animals away it is a gain but no one knows what is actually happening in the forest or its surroundings.

One important evidence discovered from this research is the bond between a local businessman and the government expectations of tourism sustainability. Being a local, this owner has a genuine passion for conserving nature, that is clear and he also enables local development by providing job opportunities. Such dedication sometimes cannot be expected from a tourism business run by a large scale multinational company. What would such a company expect by protecting the local environment since their aim is to maximize profits. However, this local owner has the intention to work for his country, people and nature. Limited support and funds from other stakeholders might make their journey difficult, because of the tenuous link between tour operators, DoC, tourists, nature and conservation. However, the positive side is that as a local, he might not leave the country if some sudden disaster happens. The jobs of the locals with him may be safe whereas when such incidence occurs the reaction of multinational companies cannot be predicted

6.3 Suggestions

I would like to share some suggestions with the RCTs for the betterment of their business, tourists and nature. First, they can plan to systematize their conservation program by considering the transparency of the tourists' contribution, updating accurate data on their two web sites, regulating the maintenance and monitoring

process (collect details of animal bite, dead pest and bird sighting records accurately). Meanwhile, they can provide many nuanced options for tourists to contribute to this conservation program e.g. contributing a quarter or half the price of traps. Then a few tourists or one group can donate one trap.

Further, it is nice if tourists can check the progress of the trap they donated e.g. when tourist donate a trap if s/he can check how many pests were caught up to now via the web site would be nice. On the other hand, it is beneficial to collect data accurately about each trap and dead pests to document the progress of the conservation program. It is also an encouragement to the donors to do such future donations while they are traveling.

Operators could make a documentary of the real trap maintenance process to visualize how guides work hard in the deep forest for trap maintenance and monitoring. If it is then played at the head office for tourists to watch while they are waiting to join their tour, it might be a more effective way to increase donations than the descriptions along the conservation trail where they show the model trap line. As tourists also proposed, if the operators can think about what they can do to explain more about trees and other features of New Zealand native forests it would be more informative in the sense of environmental education, e.g. stories of the striped skink.

If they can provide walkway facilities for wheel chair and pram users apart from the more adventurous section of the tour, it would help to raise their standard and they can brand it then as wheel chair and pram friendly canopy tour. On the other hand it may offer a chance for disabled people to enjoy a tree top experience as they might not enjoy another one for their entire life. The operators can plan for it when they build their second zipline tour. Strategic thinking by the owners might counteract some of the negative consequences of increasing tourist numbers. One strategy might be to increase off season visitors. For example operators could offer a discount for students, senior citizens and repeat visitors during the off season.

6.4 Limitations of the research

Acquiring enough knowledge of English to read and truly understand the literature about tourism and sustainability and then expressing my understanding and my

ideas on the topic was my greatest challenge. I still struggle in both reading and writing but so much less than when I started twelve months ago.

This research was conducted under few other limitations. First I focused on just one example of canopy tourism in New Zealand because of time and budget limitation. I chose one case study, out of twelve canopy tourism facilities (Table 4) located in the North Island. How I selected the case study is explained in section 3.4.1.

Second, in the initial stage I planned to conduct semi structured interviews with tourists after completion of the zipline tour but the university ethics committee proposed that I use a questionnaire survey considering the time limitation factor as the tourists might want to rush to another attraction just after finishing the tour. That assumption was very true when I went to RCTs. I was able to distribute 40 qualitative questionnaires to tourists.

Third, another limitation appeared while conducting participatory observations in the field. I could not observe all the trap lines and count all the traps one by one because even operators conduct trap maintenance as a group. One person cannot visit the whole forest lot covered by the trap lines within one day. Therefore, I could count few traps and monitoring lines without disturbing the operators' maintenance process. These are the limitations I had to consider to handle some practical issues in this project.

6.5 Future research directions

This is, I believe the first academic scholarly research project about New Zealand canopy tourism. So, further research could be conducted to find whether all of these businesses are responsible and in what ways they can contribute to sustainable tourism and to maintaining New Zealand's clean and green image. When researching about canopy facilities one needs to consider, site specific indicators to investigate the side benefits and so on.

As this thesis reveals that there is a close relationship between sustainability principles and canopy tourism, one can research whether canopy tourism really offers a path forward in transforming tourism into an industry that supports all the principles of sustainability. Significantly, all canopy tourism facilities in New

Zealand have been built for leisure and tourism purposes. Some of these facilities can potentially be used for research purposes in the field of New Zealand forest canopy and related biological research. How effectively these facilities could be used for canopy research would be one research topic.

There is an interesting story behind every canopy structure around New Zealand that can be researched. It might reveal whether all founders of such businesses might (or be encouraged to) practice conservation of the nature they commodify. It might also indicate the appeal and the future potential of this form of tourism. I could find some stories but many are unrevealed yet. Some owners came from other countries e.g. Adrenalin Forest (France), Ziptrek Ecotours (Canada). Redwood walkway was built according to the imagination of a German tourist who fell in love with this New Zealand Redwood forest. West Coast Tree Top Walkway was founded by two friends, one is an engineer and one is an architect who won a forest competition to design an ecotourism facility south of Hobart, Tasmania, Australia. A year later they started to build this walkway on the West Coast, New Zealand. RCTs was also founded by two university friends as mentioned at the beginning of this thesis.

The value of these stories is not limited to academic audiences because it is worth learning about human inspiration, morale, true friendships, to managing through some hardships, facing risk and being successful. The hidden story that flows throughout this case study gives a life lesson about human determination: how a young guy became a successful businessman within a short period. The secret of his success was understanding the present trend of tourism, choosing a correct location, finding a suitable environment, enjoying the support of DoC and the hand of true friendship. This story is a good example for every local entrepreneur. This is James's advice for how to ignore negativity,

“People are only too happy to tell you what’s wrong with your business or your idea - not what’s right with it. Focus on the things that are right about it and it will happen” (Moore 2013).

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APPENDICES

Appendix 1: Ethical Approval for the Research

Linguistics Programme

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THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

Dinesha Senarathna
Anne-Marie d'Hautesserre
Geography

1 July 2016

Dear Dinesha,

Re: FS2016-24 Responsible nature tourism: Rotorua Canopy tours in the Dansey Road Scenic Reserve in New Zealand, a critical review.

Thank you for submitting your revised application to the FASS Human Research Ethics Committee. We have reviewed the final electronic version of your application and the Committee is now pleased to offer formal approval for your research activities, including the following:

Semi-structured interviews with Rotorua Canopy Tour Operators
Semi-structured interviews with relevant DOC officials
Questionnaires for tourists who participate in the Rotorua Canopy Tour
Plain and Participant Observation of the Rotorua Canopy Tour

We encourage you to contact the committee should issues arise during your data collection, or should you wish to add further research activities or make changes to your project as it unfolds. We wish you all the best with your research. Thank-you for engaging with the process of Ethical Review.

Regards,

Julie Barbour, Chair

Faculty of Arts and Social Sciences Human Research Ethics Committee.

Appendix 2 (a): Questionnaire Information Sheet for Tourists

Department of Geography,
Tourism & Environmental Planning,
Faculty of Arts & Social Sciences
The University of Waikato, Hamilton, New Zealand

Dinesha Rasanjalie Senarathna
Masters Candidate
Office: + 64 7 838 4466
Email: drss1@students.waikato.ac.nz



THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

Research title: Responsible nature-based tourism: Rotorua Canopy tours in the Dansey Road Scenic Reserve in New Zealand, a critical review.

Thank you for taking time to be a part of this research. I am Dinesha Senarathna, currently working on a master's degree in the Department of Geography, Tourism and Environmental Planning at the University of Waikato. My research supervisor is Dr. Anne-Marie d'Hautesserre.

The research

This research is a case study which explores Rotorua Canopy tours as an activity in the nature-based tourism sector to determine whether it offers a sustainable form of tourism (Dymond 1997). The research site in the "Dansey Road Scenic Reserve" was selected because it is known as the only native forest zipline canopy tour in New Zealand and brands itself as nature-friendly. This research focuses on how its owners conduct their activities and how they encourage tourists to behave responsibly when on tour. It will also examine how the conservation program, which is organised in collaboration with the Department of Conservation, addresses responsible tourism.

Your involvement

As you are a tourist who came to enjoy this canopy site, I would very much appreciate your invaluable contribution and participation in this research. This questionnaire survey will only take 5-10 minutes to complete.

Confidentiality

Information gathered for this research (answered questionnaires or field notes) will remain confidential and stored in a secure place and your participation will be anonymous unless you give written permission to quote you.

Research results

Findings of this research will be printed as a Master's Thesis according to university guidelines. Findings of this research will also be published as journal articles and conference papers. You can request a summary of research findings.

If you have any questions on this research project, please do not hesitate to contact me.

Dinesha Rasanjalie Senarathna
(Researcher)
Email: drss1@students.waikato.ac.nz

Dr. Anne-Marie d'Hautesserre
(Supervisor)
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Appendix 2 (b): Questionnaire for Tourists

Department of Geography,
Tourism & Environmental Planning,
Faculty of Arts & Social Sciences
The University of Waikato, Hamilton, New Zealand

Dinesha Rasanjalie Senarathna
Masters Candidate
Office: + 64 7 838 4466
Email: drssl@students.waikato.ac.nz



Research Title: Responsible nature-based tourism: Rotorua Canopy tours in the Dansey Road Scenic Reserve in New Zealand, a critical review.

Sense of the place and awareness of conservation program

- How many times have you visited this place?.....
- How did you find out about this place?.....
- Why did you choose to visit this place?.....
- Were you aware of the conservation program conducted by the Rotorua Canopy Tours before arriving at this place? Yes/No
If yes, was it the reason you chose to visit this place? Yes/ No
If not, did you notice anything related to conservation program during the tour? Yes/No. If yes, what did you notice?.....
- Were you made aware of this conservation program by tour operators during the tour? Yes/No
- Did you participate in the conservation program during or after your tour? Yes/No
- Would you like to contribute to this conservation program in the future? Yes/No
- If you have already decided to contribute, what kind of contribution would you like to make? (Money, trap donation/ participation in the conservation program?)

Attitudes on the canopy tour experience

- What was your experience like during this tour?
i) Very good ii) Good iii) Bad iv) Very bad
- According to your experience was it fun? Yes/No. Was it adventurous? Yes/No. Was it educational? Yes/No
- Do you think that the canopy tour is nature-friendly? Yes/No
- Do you think that the Rotorua Canopy Tour is a responsible tourism experience? Yes/No
- How would you improve this tour to be more responsible and nature-friendly?.....

Overall satisfaction

- Are you satisfied with this tour and do you think it is worth the cost?
i) Extremely satisfied ii) Satisfied iii) Not satisfied iv) Extremely dissatisfied
- Would you recommend this tour to your friends? Yes/No

Basic information

- What is your age category? (Below 15/ Between 15-35, Between 35-65, Above 65)
- What is your occupation?.....
- What country are you from?..... or
- Which part are you from in New Zealand?

Appendix 3(a): Interview Information Sheet for Tour Operators

Department of Geography,
Tourism & Environmental Planning,
Faculty of Arts & Social Sciences
The University of Waikato, Hamilton, New Zealand

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Research title: Responsible nature-based tourism: Rotorua Canopy tours in the Dansey Road Scenic Reserve in New Zealand, a critical review.

Thank you for taking time to be a part of this research. I am Dinesha Senarathna, currently I am following my master's degree at the Department of Geography, Tourism and Environmental Planning at the University of Waikato. My research supervisor is Dr. Anne-Marie d'Hauteserre.

The research

This research is a case study which explores Rotorua Canopy tours as an activity in the nature-based tourism sector to determine whether it offers a sustainable form of tourism (Dymond 1997). The research site in the "Dansey Road Scenic Reserve" was selected because it is known as the only native forest zipline canopy tour in New Zealand and brands itself as nature-friendly. This research focuses on how its owners conduct their activities and how they encourage tourists to behave responsibly when on tour. It will also examine how the conservation program, which is organised in collaboration with the Department of Conservation, addresses responsible tourism.

Your involvement

As you are the operators of Rotorua Canopy Tours, I would very much appreciate your invaluable contribution and participation in this research. This interview will only take approximately one hour and it will be audio recorded if you agree.

Confidentiality

Information gathered for this research (interview audio recordings, field notes or photos) will remain confidential and stored in a secure place and your participation will be anonymous unless you give written permission to quote you.

Participant's rights

If you agree to participate in this research project, you have these rights:

- To request to add, change, or erase the information you provided.
- To ask to turn off the audio recording device anytime.
- To refuse to answer any question or avoid to talk on any topic or completely withdraw from the study within one month after the end of the field data gathering.
- To ask any question regarding the research at any time.

Research results

Findings of this research will be printed as a Master's Thesis according to university guidelines. Findings of this research will also be published as journal articles and conference papers. You can request a summary of research findings.

If you have any questions on this research project, please do not hesitate to contact me.

Dinesha Rasanjalie Senarathna (Researcher)
Email: drss1@students.waikato.ac.nz

Dr. Anne-Marie d'Hauteserre (Supervisor)
Email: adhautes@waikato.ac.nz

Appendix 3(b): Interview Consent Form for Tour Operators

Department of Geography,
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UNIVERSITY OF WAIKATO
FACULTY OF ARTS & SOCIAL SCIENCES

Research title: Responsible nature-based tourism: Rotorua Canopy tours in the Dansey Road Scenic Reserve in New Zealand, a critical review.

Name of person interviewed: _____

I have received a copy of the Information Sheet describing the research project. Any questions that I have, relating to the research, have been answered to my satisfaction. I understand that I can ask further questions about the research at any time during my participation, and that I can withdraw my participation at any time up to one month after the interview.

My interview will be audio-recorded. During the interview, I understand that I do not have to answer questions unless I am happy to talk about the topic. I can stop the interview at any time, and I can ask to have the recording device turned off at any time.

When I sign this consent form, I will retain ownership of my interview, but I give consent for the researcher to use the interview for the purposes of the research outlined in the Information Sheet.

Please complete the following checklist. Tick [✓] the appropriate box for each point.	YES	NO
<i>[I wish to view the transcript of the interview.]</i>	<input type="checkbox"/>	<input type="checkbox"/>
<i>[I wish to receive a summary of the findings.]</i>	<input type="checkbox"/>	<input type="checkbox"/>

Participant : _____ Researcher : Dinesha Rasanjalie Senarathna

Signature : _____ Signature : _____

Date : _____ Date : _____

Contact Details : _____ Email : drss1@students.waikato.ac.nz

Appendix 3(c): Interview Schedule for Rotorua Canopy Tour Operators

Department of Geography,
Tourism & Environmental Planning,
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The University of Waikato, Hamilton, New Zealand

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Research Title: Responsible nature-based tourism: Rotorua Canopy tours in the Dansey Road Scenic Reserve in New Zealand, a critical review.

Background information:

- When and how did you start the canopy tours?
- Who is the authorizing institution of this Dansey Road Scenic Reserve? (a. DoC? b. Local authority? c. both DoC and Local authority? d. private land?)
- Do you have a relationship with the Te Arawa Waka/ Ngāti Whakaue?
- Can you describe this relationship?
- What is the operating process of canopy tour?
- How do you maintain the site?
- What kind of human resources do you have and how do you apply them?
- What are the other natural and human made resources you use for this tour?
- What are the methods you follow to promote or attract tourists to this place? (Which is the most efficient method? a. webpage? b. word of mouth?)

Types of tourists and their attitudes

- How many tourists join your tours annually? (How many of them are locals? Foreigners?)
- What types of tourists join this tour? (What nationality? What age group? Gender? Occupation? Researchers? Students?)
- Are you aware of what motivates your customers? (Nature tourism/ Adventure tourism? Fun? Education? Team building?)
- How do you ensure the experience is fun, adventurous and educational for tourists?
- What do you think are the tourists' attitudes about fun, adventure and education you are offering?
- What do you think are the tourists' special interests in your tour? (ziplines? Conservation program? Native bird watching?)

Conservation program and DoC participation

- When did you start the conservation program?
- How do you conduct the conservation program?
- What are the aims of this conservation program in addition to conserving native birds? (Attract more tourists?)
- How do you involve DoC for this conservation program?

Tourists, local authority and local community participation in Conservation program

- How do you encourage the tourists to become more aware and involved in this conservation program?
- In what ways are the local authorities involved in the collaborative processes of the conservation program?
- Do you involve local communities in the conservation program? If so how do you do it?

Future development targets of Rotorua Canopy Tour Operators

What are your future aims for the canopy tour? How do you plan to enhance or develop the tour site/ conservation program?

Appendix 4(a): Interview Information Sheet for the DoC Officer

Department of Geography,
Tourism & Environmental Planning,
Faculty of Arts & Social Sciences
The University of Waikato, Hamilton, New Zealand

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THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

Research title: Responsible nature-based tourism: Rotorua Canopy tours in the Dansey Road Scenic Reserve in New Zealand, a critical review.

Thank you for taking time and being a part of this research. I am Dinesha Senarathna, currently I am following my master's degree at the Department of Geography, Tourism and Environmental Planning at the University of Waikato. My research supervisor is Dr. Anne-Marie d'Hautesserre.

The research

This research uses a case study, Rotorua Canopy tours, as an activity in the nature-based tourism sector to determine whether it offers a sustainable form of tourism (Dymond 1997). The research site in the "Dansey Road Scenic Reserve" was selected because it is known as the only native forest zipline canopy tour in New Zealand and brands itself as nature-friendly. This research focuses on how its owners conduct their activities and how they direct tourists to behave responsibly when on tour. The study will scrutinize how they discourse about the activities they have set up and their environmental consequences. It will also examine how the conservation program run by the Department of Conservation that they collaborate with addresses responsible tourism.

Your involvement

As you are an officer of DoC, I very much appreciate your invaluable contribution and participation for this research. This interview will only take approximately one hour and it will be audio recorded if you agree.

Confidentiality

Information gathered for this research (interview audio recordings or field notes) will remain confidential and stored in a secure place and your participation will be anonymous unless you give written permission to quote you.

Participant's rights

If you agree to participate in this research project, you have these rights:

- To request to add, change, or erase the information you provided.
- To ask to turn off the audio recording device anytime.
- To refuse to answer any question or avoid to talk on any topic or completely withdraw from the study within one month after the end of the field data gathering.
- To ask any question regarding the research at any time.

Research results

Findings of this research will be printed as a Master's Thesis according to university guidelines. Findings of this research will also be published as journal articles and conference papers. You can request a summary of research findings.

If you have any questions on this research project, please do not hesitate to contact me.

Dinesha Rasanjalie Senarathna (Researcher)
Email: drss1@students.waikato.ac.nz

Dr. Anne-Marie d'Hautesserre (Supervisor)
Email: adhautes@waikato.ac.nz

Appendix 4(b): Interview Consent Form for the DoC Officer

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Faculty of Arts & Social Sciences
The University of Waikato, Hamilton, New Zealand

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THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

UNIVERSITY OF WAIKATO FACULTY OF ARTS & SOCIAL SCIENCES

Research title: Responsible nature-based tourism: Rotorua Canopy tours in the Dansey Road Scenic Reserve in New Zealand, a critical review.

Name of person interviewed:

I have received a copy of the Information Sheet describing the research project. Any questions that I have, relating to the research, have been answered to my satisfaction. I understand that I can ask further questions about the research at any time during my participation, and that I can withdraw my participation at any time up to one month after the interview.

My interview will be audio-recorded. During the interview, I understand that I do not have to answer questions unless I am happy to talk about the topic. I can stop the interview at any time, and I can ask to have the recording device turned off at any time. When I sign this consent form, I will retain ownership of my interview, but I give consent for the researcher to use the interview for the purposes of the research outlined in the Information Sheet.

Please complete the following checklist. Tick [✓] the appropriate box for each point.	YES	NO
<i>[I wish to view the transcript of the interview.]</i>		
<i>[I wish to receive a summary of the findings.]</i>		

Participant : _____ Researcher : Dinesha Rasanjalie Senarathna

Signature : _____ Signature : _____

Date : _____ Date : _____

Contact Email : _____ Contact Email: drss1@students.waikato.ac.nz
Details : Mobile : _____ Details : _____

Appendix 4(c): Interview Schedule for the DoC Officer

Department of Geography,
Tourism & Environmental Planning,
Faculty of Arts & Social Sciences
The University of Waikato, Hamilton, New Zealand

Dinesha Rasanjalie Senarathna
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Research Title: Responsible nature-based tourism: Rotorua Canopy tours in the Dansey Road Scenic Reserve in New Zealand, a critical review.

- Is this Dansey Road Scenic Reserve governed by DoC? (If yes, did the operators get permission from DoC to build up zipping lines and conduct canopy tours?)
- Is this the only native forest zipline canopy tour in NZ? How come?
- What is DoC's perspective on conducting tourism activities in this forest? (Is it negative or positive?) Why?
- How long has DoC been involved in the bird conservation program? Who started it? Or was it a joint venture? Do you believe the traps put out actually provide some kind of protection for the birds? How?
- How is DoC contributing to this conservation program?
- Is this program successful according to DoC? How so?
- What should Rotorua Canopy Tours do to further improve this conservation program? And to make their tour more nature-friendly?
- Can you tell me anything about local Māori interest in the conservation site?

Appendix 5(a): Plain Observation and Participatory Observation Information Sheet for Tour Operators

Department of Geography,
Tourism & Environmental Planning,
Faculty of Arts & Social Sciences
The University of Waikato, Hamilton, New Zealand

Dinesha Rasanjalie Senarathna
Masters Candidate
Office: + 64 7 838 4466
Email: drss1@students.waikato.ac.nz



THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

Research title: Responsible nature-based tourism: Rotorua Canopy tours in the Dansey Road Scenic Reserve in New Zealand, a critical review.

Thank you for taking time and being a part of this research. I am Dinesha Senarathna, currently I am following my master's degree at the Department of Geography, Tourism and Environmental Planning in the University of Waikato. My research supervisor is Dr. Anne-Marie d'Hautesserre.

The research

This research uses a case study, Rotorua Canopy tours, as an activity in the nature-based tourism sector to determine whether it offers a sustainable form of tourism (Dymond 1997). The research site in the "Dansey Road Scenic Reserve" was selected because it is known as the only native forest zipline canopy tour in New Zealand and brands itself as nature-friendly. This research focuses on how, you, its owners conduct your activities and how you direct tourists to behave responsibly when on tour. The study will also examine how the conservation program run by the Department of Conservation that you collaborate with addresses responsible tourism.

Your involvement

As you are the tour operators of Rotorua Canopy Tours, I very much appreciate your invaluable contribution and participation in this research. I am now asking for your permission to observe how your tour operates.

First I would like to do some participatory observation. That will take nearly three hours or more as the entire tour takes around three hours to complete. You can conduct your tour as usual as I do not expect anything specially. I will observe you and tourists as a normal guest, without disturbing the tour or its participants. If any of the tourists question me, I will let them know I am doing research towards a Masters on nature-based tourism.

I would also like to have permission to come and observe on another day, again for a few hours, but without participating in one of your tours (just by strolling around the site and in areas you will permit me to observe) to see how your organisation functions and to pick up details I might have missed the first time. I would also like to see your bird conservation programme.

I would also ask for permission to hand a questionnaire to your tourists after they have taken your tour, if they feel they have the time and the energy: the questionnaire will take less than 10 minutes unless the tourists wish to fill it for a little while. I will not interview any tourist during the tour (for my participatory observation) as I do not wish to interfere with their enjoyment of the tour or with its operation

Appendix 5(a): Plain Observation and Participatory Observation Information Sheet for Tour Operators (cont.)

Department of Geography,
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The University of Waikato, Hamilton, New Zealand

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I will take some photos, with your permission, while looking at your conservation programme. Faces on the photographs will be blurred unless the person has given written permission to use the portrait. Details on the photographs, that would endanger the anonymity of your tour, will be photo shopped so it will not reveal what specific tour is depicted (unless you have given written permission to use your name).

Confidentiality

Information gathered for this research (interview audio recordings, field notes or photos) will remain confidential and stored in a secure place and your participation will be anonymous unless you give written permission to quote you.

Participant's rights

If you agree to participate in this research project, you have these rights:

- To request to add, change, or erase the photos or information about you.
- To ask to turn off camera any time.
- To completely withdraw your photos or information about you from the study within one month after the end of the field data gathering.
- To ask any question regarding the research at any time.

Research results

Findings of this research will be printed as a Master's Thesis according to university guidelines. Findings of this research will also be published as journal articles and conference papers. I will send you a copy of the thesis / summary at the conclusion of my research project.

If you have any questions on this research project, please do not hesitate to contact me or my supervisor.

Dinesha Rasanjalie Senarathna (Researcher)
Email: drssl@students.waikato.ac.nz

Dr. Anne-Marie d'Hautesserre (Supervisor)
Email: adhautes@waikato.ac.nz

Appendix 5(b): Plain Observation and Participatory Observation Consent Form for Tour Operators

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THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

UNIVERSITY OF WAIKATO FACULTY OF ARTS & SOCIAL SCIENCES

Research title: Responsible nature-based tourism: Rotorua Canopy tours in the Dansey Road Scenic Reserve in New Zealand, a critical review.

Name of person observed: _____

I have received a copy of the Information Sheet describing the research project. Any questions that I have, relating to the research, have been answered to my satisfaction. I understand that I can ask further questions about the research at any time during my participation, and that I can withdraw my participation at any time up to one month after the observation.

During this observation period, I understand that I am able to avoid being observing at any time.

When I sign this consent form, I will retain ownership of observed notes, but I give consent for the researcher to use observed details for the purposes of the research outlined in the Information Sheet.

Please complete the following checklist. Tick [✓] the appropriate box for each point.	YES	NO
<i>[I wish to receive a summary of the findings.]</i>		

Participant :

Researcher :

Dinesha

Rasanjalie

Senarathna

Signature :

Signature :

Date :

Date :

Contact

Email :

Contact

Email:

Details :

Mobile :

Details :

drss1@students.waikato.ac.nz

Appendix 5(c): Plain Observation and Participatory Observation Schedule for Tour Operators

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Research title: Responsible nature-based tourism: Rotorua Canopy tours in the Dansey Road Scenic Reserve in New Zealand, a critical review.

Tourists:

- How many tourists per tour?
- How do they gain fun?
- What kind of adventurous activities tourists engage in?
- How do they gain education about the environment?
- Facial expressions and sudden reactions like cheering when they see a native bird or flying down the zipping line.
- How they interact with the natural environment? (touching, smelling, verbal expression)
- Whether their behaviours negatively or positively impact on the environment?
- How they interact with tour operators?
- Do they participate in conservation programs during the canopy tour?
- How do they get involved in the conservation program?

Tour operators:

- How do they interact and deal with tourists?
- What methods they follow to offer fun, adventure and education for tourists?
- How do they make tourists aware of negative impacts on the natural environment and to avoid them?
- How do they conduct the conservation programs with the collaboration of tourists and DoC people?

Surroundings:

- Natural forest, flora and fauna.
- How do they organize their tours (How many tour guides participate for each tour/How does it start, continue and end).
- What are the resources they use for tour? (natural and human-made)
- How have they planned their canopy tours using wooden bridges, walkways, zipping lines and adventurous activities?

Photographs

- Activities on the tour
- Constructions of the canopy site (canopy walkways and zip lines).
- How to conduct the conservation program (their notices/ traps built for the conservation program).

Appendix 6: A Brief Description of my research Project



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The University of Waikato, Hamilton, New
Zealand

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Responsible nature-based tourism: Rotorua Canopy tours in the Dansey Road Scenic Reserve in New Zealand, a critical review.

I am Dinesha Senarathna; currently I am following my master's degree at the Department of Geography, Tourism and Environmental Planning in the University of Waikato. My research supervisor is Dr. Anne-Marie d'Hauteserre.

This research uses a case study, Rotorua Canopy tours, as an activity in the nature-based tourism sector to determine whether it offers a sustainable form of tourism. The research site in the "Dansey Road Scenic Reserve" was selected because it is known as the only native forest zipline canopy tour in New Zealand and brands itself as nature-friendly. This research focuses on how the owners conduct their activities and how they direct tourists to behave responsibly when on tour. The study will also examine how the conservation program run by the Department of Conservation that Canopy Tours collaborate with addresses responsible tourism.

Appendix 7: RTCs' Online Questionnaire for Tourists

1. Full Name:
2. Email Address to send free photos tomorrow:
3. What age range are you?

0-15	16-29	30-44
45-59	60-74	75+

4. Where are you from?

NZ North	Locate the region	
NZ South	Locate the region	
Countries name List		

5. Male / Female
6. Where did you hear about us?

Repeat guest	Internet
Brochure	Travel guide
Travel agent	TV or Newspaper
Word of mouth	Trip adviser
Facebook	Accommodation
i-Site	Other (Please tell us where you heard about us)

7. Please tell us which type of group you are part of?

Tour group	Work groups
Couple	Individual / Traveling alone
Family	Multiple generation families (including grand parents)
Multiple families	
Group of friends	School/ Education group

8. What is the main reason for your visit?

Holiday/Vacation	Special occasion /Birthday anniversary
Short trip/Weekend away	Always wanted to visit Canopy tours
Day trip	In town for an event
Backpacking	Work trip
Visiting friend and relatives	Travel/Tourism industry
School/Education trip	Other

Okay, now for some serious stuff.

1. Please enter the full name of someone who is not on the tour with you we can contact in case of emergency?
2. What are their contact details?
3. What is your relationship with them?
4. Would your physical condition allow you to walk 1000 meters through step terrain?
Yes/No

Risk Disclosure Statement

Please select the check boxes to acknowledge you have read and understood the risk associated with parking in this activity.

- I understood that there are risk involved in the Canopy Tour I will undertaking. The activity occurs in a natural environment where unpredictable and uncontrollable events could occur that could possibly cause death or serious harm.
- I am aware that Rotorua Canopy Tours operates strict procedures and policies as part of its safety management plan of which I must comply with in order to keep myself and other tour participants safe.
- I agree to follow all instructions given by my trained guides.
- I acknowledge that Rotorua Canopy Tours will take all responsible and practical steps to ensure myself while participating in this activity. However I accept full responsibility for my own actions or inactions, and any personal belongings I may have. I understand that this tour is non-refundable if I choose not to complete it.
- Photos will be taken of you on tour today. I am happy for these to be posted to the internet by Rotorua Canopy Tours so I can download them after my tour. Very occasionally Rotorua Canopy Tours may post amazing customer photos to social media sites. I am comfortable with this if it is me.

Signature

Date

.....

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