The environmental beliefs, values and programmes of New Zealand outdoor tertiary education teachers

Petra Elizabeth Pritchard

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ABSTRACT

Throughout the world, there is increasing concern about the effects of climate change and the impact of a growing human population on the earth’s natural resources. In order to understand how these concerns are impacting on people working in the natural environment, this research explores the environmental beliefs and values of outdoor educators. It also focuses on how educators implement these beliefs and values in their teaching practices, and how their understanding of an ‘environmental crisis’ impacts on their outdoor teaching and programmes.

The research reviews environmental and outdoor literature. It explores what an environmental crisis might mean, some influential environmental philosophies, the international development of environmental education, New Zealand’s tertiary environmental education and the role of the environment in outdoor education. A qualitative research methodology was employed that involved interviewing six New Zealand outdoor educators. These interviews are transcribed into individual case studies. The final chapter is a discussion of the study’s findings. It explores the commonalities and differences between the participants’ views and the literature, as well as the various environmental theoretical and practical issues.

The research endeavours to listen to and learn from the shared experiences of outdoor educators with particular consideration given to their environmental philosophies. It highlights the effects of an increased awareness of environmental issues on teaching and practices, suggesting that there may be an increase in consciousness for implementing environmental considerations within outdoor programmes. In addition, the research suggests that the traditional personal development and pursuit orientated focus of outdoor education may be at a crossroad, as people become more concerned about local, national and worldwide environmental changes.
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CHAPTER 1: INTRODUCTION TO THE RESEARCH

1.0 Background to the research

Outdoor education encourages people to explore natural places, seek adventures and experience various outdoor pursuits. Arguably, when people see the natural world with a sense of wonder and as a place worth preserving, they are more likely to act in support of environmental management and care (Atkinson, 1990). Then perhaps, the way outdoor educators teach about and for the environment can positively influence their students' environmental sensibility, awareness and respect of the outdoors.

The involvement of people in the outdoors is a recognised part of New Zealand’s culture from the perspective of the indigenous people, our farming heritage and increasing numbers of participants in outdoor adventure and ecotourism activities (Boyes, 2004). Literature suggests that outdoor education is an important and productive component of the economy, because it provides working lifestyles and enriches the leisure time and quality of life for many people (Boyes, 2004). There are numerous foci that an outdoor education programme can incorporate in teaching and practice, for example:

- Outdoor pursuits, adventure therapy, environmental education, leadership training, deep ecology, experiential education, and life-skills type programmes. Involved within these strands may be aspects such as communication, teamwork, inter-personal and intra-personal development, holistic relationships with the self, others and the environment, solitude, spirituality, creativity, aesthetic and kinaesthetic appreciation of movement through nature, adventure, challenge, recreation, group facilitation, conflict resolution, decision-making, leadership, judgment, problem-solving, critical thinking and action, technical skills, rescue skills, teaching skills, and peak adventure (Williams, 2002, pp. 88-89).

This is not an exhaustive list of what outdoor education programmes may include, but provides some insight into the multiple teaching and learning outcomes that can be incorporated into an outdoor education programme. This study focuses on environmental beliefs and values, how they are implemented and how the current environmental crisis may impact practice in its myriad of forms.

There are various environmental concerns impacting on the earth such as climate change, the dependence of industries on natural resources, worldwide population
growth, ecological changes, and increasing animal extinctions (see Flannery, 2005; Gore, 1992, 2006; Hart, 2003; Lovelock, 2006). Literature suggests the collective impact on ecosystems is closely linked to our cultural patterns, beliefs, and values, and can impact on the way people respond to these concerns (Plumwood, 2002). Other literature suggests that the responsibility for dealing with an environmental crisis is often left to subsequent generations, because governmental policies don’t always deal with the long term problems (Hodgkinson & Innes, 2001). Whatever the causal factors may be it is clear that environmental education needs to become much further incorporated within outdoor education programmes (see Boyes, Ockwell, & Ockwell, 2006; Cooper, 1991, 1994, 1997; Lugg, 2004; Martin, 1999, 2004; Preston, 2004; Raffan, 1993; Thomas, 2005).

There is a growing recognition that environmental problems cannot be understood without reference to social, economic and political values, and that managing the environmental crisis may depend upon the changes people make in environmental values and lifestyle choices (Fien, 1993). Indeed for outdoor education to remain a relevant educational pursuit in this place and culture, it must be prepared to examine practices in relation to contemporary, social, and environmental issues (Lugg, 2004). Outdoor educators and programmers need to carefully plan and be open to critiques of their practices if they are to effectively incorporate new focuses (Boyes et al., 2006). The outdoor literature suggests various ways to encourage students’ environmental awareness, and these are explored in the literature review.

At present there is strong evidence to suggest that outdoor education programmes have a strong focus on personal development of the individual, and to a lesser extent the social group. Moves should be made towards incorporating environmental issues and awareness, as well as social and political injustices (Martin, 1999, 2004). Alternatively, some writers suggest using eco-psychology theories within outdoor programmes might be a way to encourage students to explore their understanding of human-nature connections, either through the experience of bonding within environments or examining their own individual spiritual connections within nature (Henderson, 1999).
1.1 The researcher and research focus

As the researcher, my personal experience as an outdoor educator has provided me with an awareness and appreciation of the theoretical and practical aspects associated with facilitating outdoor education programmes. My background and passion for exploring and being in the outdoors has influenced the development of this research inquiry.

Several years ago, I completed an Outdoor Leadership Diploma and then taught outdoor education programmes for various secondary high schools. The curriculum aims and objectives were predominantly focused on personal development and social learning outcomes. This left a minor teaching component for students to learn minimal environmental impact practices. I taught the students basic outdoor skills (such as tramping, x-country skiing, white-water rafting, white-water kayaking and rock-climbing) and after five to ten day outdoor programmes week after week, in semi-wild environments, I became concerned about the overall environmental messages, behaviours and practices I was facilitating.

After being contracted to run various school outdoor education programmes for almost five years, I grew concerned about my lack of theoretical knowledge and practical understanding on how to adequately facilitate environmental education within my programmes. Consequently, this saw me back at university to complete a Postgraduate Diploma in Outdoor Education. In the last couple of years I have been working for various tertiary institutions but this time my role has been focused more on teaching students to critically think whilst in the outdoors rather than teaching outdoor pursuits or personal development.

My personal teaching experiences have seeded the development of this research. As an outdoor educator I was interested in other teachers’ environmental philosophies and how they taught their programmes. The intention of this research was to learn from their experiences and provide examples of environmental teaching and practices within outdoor programmes. Given the political climate of environmental awareness in the media these days, I wanted to know how the perceived environmental crisis had impacted on their programmes. As the environment changes and our ideals for
teaching and practising in the outdoors shift, I concluded my inquiry by asking how these teachers would improve the achievement of environmental learning objectives within their programmes.

This experience gave me an awareness of the theoretical and practical aspects of facilitating outdoor education programmes and the multi-disciplinary skills required to teach in such dynamic environments. This understanding enabled me to find some common ground with the participants involved in the study and it has also informed the design, implementation and the process of the research inquiry.

This research aims bring to focus a few New Zealand outdoor educators’ environmental beliefs, values, teachings and practices, as well as their current understandings of the environmental crisis and its impact on their teaching and programmes. I recognise that the very nature of these research questions could have influenced the type of outdoor educator willing to participate in this research, and that my own experience as an outdoor educator has influenced how I conducted the interviews in the case studies. However, the intention of this study was to learn from others’ experiences, and perhaps acknowledging these influences contributes to the quality of the data collected.

1.2 Relevance of the research inquiry

There have been numerous studies that have examined outdoor education teaching and practices, environmental education practices, and environmental education practices through outdoor education programmes (see Boyes et al., 2006; Ewert, Place, & Sibthorp, 2005; Fien, Yencken, & Sykes, 2002; Hart, 2003; Keown, 2002; Steel, 1996; Zink & Boyes, 2006). However, these studies fail to address the implementation of beliefs and values, especially in the current context of an environmental crisis.

Other studies have examined the environmental values and beliefs of students, and found that the environment was important to them. For example, Ewert et al., (2005) found people who had early outdoor adventurous life experiences, often had improved environmental attitudes and beliefs. Another study by Jurin & Fortner (2002) explored
the level of importance students placed on the environment, and found that the students’ environmental behaviours were often based on token gestures. Even though various studies raised questions about teachers’ environmental beliefs and values they were not specific to outdoor teachers and did not examine how their understanding of the environmental crisis, impacted on their teaching and programmes.

Cutler-Welsh’s (2006) New Zealand based research measured Polytechnic outdoor recreation students’ environmental friendly practices within urban environments, but did not examine the perspectives of the educators. The findings suggested that students’ behaviours were moderate towards protecting and caring for the environment, due to time, money, living situations and lack of opportunities. These moderately supported findings were also reflected in the students’ environmental values. Among other things, this study recommended that it was important that outdoor programmes encouraged students to have an awareness of their behaviours and connections for both the urban and natural environments (Cutler-Welsh, 2006).

Using a similar methodology, other studies in New Zealand and Australia by Keown (2002) and Fien et al., (2002), also examined the beliefs and values of school students in outdoor programmes. They specifically studied the students’ social environmental awareness, familiarity with environmental concepts, what the level of environment concern was, and what the most important environmental issue was in their country and internationally. Interestingly, both of these studies found that students’ knowledge and attitude about the environment lacked the knowledge to understand what the key environmental problems were. To improve students’ knowledge and their environmental attitudes, behaviours and practices, this research suggested teachers needed to improve the focus of environmental education within their programmes. These findings prompted the present research inquiry to explore these areas from the perspectives of the outdoor educators. It was recognised that they are in a role that is influential, with considerable potential to make a difference.

The importance of listening to and learning from teachers’ experiences was also based on other research. For example, a study by Hart (2003) explored North American teachers’ environmental educational perspectives from a myriad of disciplines within secondary schools. The study provided narrative accounts about how teachers
implemented environmental education and encouraged students to develop human-nature relationships. The value of listening and recording the experiences of teachers is that it informs practice based learning and knowledge, which could be adapted and utilised in other programmes accordingly. Another important example was the study by Zink & Boyes (2006) who researched the beliefs and values of New Zealand outdoor educators, the barriers that they faced and the resources they felt would support them in their teaching. These studies emphasised the value of listening and learning from teachers’ experiences, as well as the value of presenting a narrative account for reflective learning.

The role the environment plays in outdoor education can vary from programme to programme depending on the programme focus. Thomas (2005) looked at the challenges outdoor educators faced when incorporating adventure activities that attempted to foster environmental awareness, understanding and action. His study explored various ways to resolve the tension between adventure activities and the need to assist students to learn about particular regions, communities and their environmental history (Thomas, 2005). The research found that teachers needed to capitalise on teachable moments, manage the technical nature of adventure activities, plan and facilitate environmental learning, and carefully consider the impact of programme length/duration.

Overall, there is strong evidence to suggest the intended focus of the proposed research is a valuable direction to follow, with potential to make changes to the understanding and practice of outdoor education.

1.3 Overview of the research

In order to understand some of the environmental issues, this study in Chapter Two explores the predicted effects of greenhouse gases, global warming and climate change as discussed in the broader literature. This section also looks at people who have been influential historically, as their beliefs and values have illustrated different ways of seeing and experiencing nature (Devall & Sessions, 1985). These authors, Aldo Leopold (1939, 1970), Rachel Carson (1962) and Edward Abbey (1968), were thought to have contributed philosophically to the 1970’s environmental movement, which escalated and improved public awareness at both an individual and national
level (Devall & Sessions, 1985). During this era, the first Earth Day was organised and now has become an annual international gathering, that involves millions of people worldwide. This has brought public awareness and social action especially related to the decline in environmental conditions (Harper, 2004). The New Zealand perspective provided in this section, looks at the traditional Māori environmental philosophy which suggests all living things share a common ancestry and are interrelated, in which a caring relation between humans and other creatures is imperative (Patterson, 1999).

To provide the study’s review of historical background information, the international development of environmental education and how New Zealand has integrated environmental education into the tertiary sector is discussed. This leads to a broader discussion of environmental education and sustainability. Then the outdoor literature about the role of the environment in outdoor education is examined.

In Chapter Three the research methodology and design is outlined, that discusses methodology; summarises the case study intentions; introduces the participants involved in the study; and states the research procedures and interview questions. It also reviews the data analysis procedures and outlines the ethical considerations for undertaking this research. Six New Zealand outdoor educators were interviewed and their direct quotations are used as much as possible to create individual case studies.

The case studies investigate each participant’s environmental education practices; their understanding of the environmental crisis, how this has impacted on their teaching and programmes; and then it explores what they thought the ideal outdoor environmental education programme would be.

The final chapter is a discussion of the findings using a cross case approach to examine the outdoor educators’ environmental beliefs and values; common theoretical issues; and the impact of the environmental crisis on the participants. The study explores both the practical and theoretical implications for outdoor education teachers, as well as making some suggestions for further research.
CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

The earth has been described as a huge system that evolved to be self-regulating, thus adjustable for whatever the current environment is and also adaptable to whatever forms of life it carries (Lovelock, 2006). The earth is thought of as the Goldilocks planet which is not too hot and not too cold, but just right for human habitation (Gore, 2006). However, there is increasing scientific evidence that suggests greenhouse gases are being trapped in the earth’s atmosphere, placing pressure on Earth’s climate system ultimately leading to dangerous climate change (IPCC, 2007).

Some people believe that the most dangerous threat to the global environment may not be the strategic threats themselves, but rather people’s perception of them (Gore, 1992). The United Nations World Commission on Environment and Development (WCED) (1987) stated that a common belief is that human activities and their effects were neatly compartmentalised within individual nations’ sectors (energy, agriculture, and trade) and within their own broad areas of concern (environmental, economic, and social). However, more and more people are beginning to recognise that these impacts are a part of a global environmental concern (WCED, 1987). As a result of increased awareness about environmental concerns worldwide, it seems likely that people’s environmental beliefs and values will be challenged and perhaps changed.

The New Zealand Ministry for the Environment (MFE) (1995b, p. 2) described the environment as providing “the basic essentials for life itself, and the natural resources on which our economy is based”. For a person who believes and values these environmental concerns, it makes far better sense to reshape human needs to fit a finite planet than to attempt to reshape the planet to fit a growing population’s infinite wants (Orr, 1994). For example, scientist David Suzuki (2003) believed there needs to be a change in how humans currently undervalue the sustainability issues for maintaining the environment (clean air, water, soil, energy, glass, metal and food), instead of favouring human and economic growth. Other literature suggests that putting a value only to the extent to which humans can or do use the environment demonstrates a mindset that says that the world is here for our use and that natural resources are only a resource if they are usable to humans (Hartmann, 2004).
In order to provide background information for the study, the following sections explore specific areas of focus. The first section explores literature that explains what some of the global environmental concerns are and what scientists believe is thought to be contributing to an environmental crisis. Then the review examines the literature that has been historically influential in developing an environmental movement and influencing the public’s environmental beliefs and values. It also reviews significant international documents that contributed to the aims and objects of environmental education. Then it explores significant New Zealand documents that support environmental education within tertiary education. The final section reviews literature that suggests ways in which environmental education can be adopted into outdoor educational teaching and practices.

### 2.1 Environmental concerns

In the twenty first century, New Zealand often trades on a ‘clean and green’ image, with much of the primary production and tourism sectors, relying on this image for competitive advantage (PCE, 2004). However, in the past this international pristine image was temporarily tarnished when a New Scientist article claimed New Zealand was a poisoned paradise that had toxic waste seeping into soil and water (Szabo, 1993). Now, it seems the international community is coming under increasing pressure to discuss the issues and concerns associated with a growing human populations and a changing climate. For instance, on a global scale, each New Zealander’s ecological footprint is much bigger than the footprints of most other developed countries and this is considered environmentally unsustainable (PCE, 2004).

There has been a lot of scientific debate about the causes of climate change and the recent warming of the earth. Some suggest the earth is going through a 1,500 year climate cycle, which is a sun-driven cycle that governs most of the earth’s almost constant climate fluctuations (Singer & Avery, 2007). The sun varies in brightness, bringing cooler or warmer periods. People believe there are a number of spots on the sun that have been increasing and decreasing in a regular 11-year cycle, causing storminess on the sun’s surface (Weart, 2008). Another belief is the timing of the astronomical cycles roughly matching the timing of the ice ages, which is based on the gravitational pulls of the sun, moon, and planets that subtly affect the earth’s
motions (Weart, 2008). However the weight of scientific opinion contests this and few revert to the view that the earth’s climate is regulating at a stable natural balance, immune to human intervention (Weart, 2008) The following literature aims to provide an understanding of what some of the environmental issues may be.

In response to international environmental concerns, the WCED reported in *Our Common Future* that there is not just one single environmental concern that is contributing to climate change. Rather it is a collection of issues such as; global warming, energy supply, growing populations, ecological extinctions, unsustainable natural resource management and development (WCED, 1987). In New Zealand the MFE (1998) believed that human activities were contributing to some pressures within the regional (such as increasing greenhouse gas emissions) and the global environment (such as the depletion of the ozone layer).

The main greenhouse gas that the New Zealand Government (2007) believed may be contributing to the warming of the earth’s atmosphere was carbon dioxide (CO$_2$), which is a by-product of oil and coal burnt to power factories and our motor vehicles. Other greenhouse gases of concern mentioned were; methane (CH$_4$) which is created by anaerobic microbial digestion in cattle, sheep and landfills, nitrous oxide (N$_2$O) which is also released from anaerobic microbial digestion and is found in some agricultural fertiliser, hydro fluorocarbons (HFCs) where are commonly used in refrigerators, sulphur hexafluoride (SF$_6$) which is used in the electricity industry, and perfluorocarbons (PFCs) which can be found in aluminium production.

Literature suggests that as these greenhouse gases get trapped and increase in the earth’s atmosphere, the extra heat leads to global warming, which in turn places pressure on the earth’s climate system and can lead to climate change (Flannery, 2005). It seems increasingly there is more media coverage that suggests there are already environmental changes happening around the world, such as; melting glaciers, heatwaves, hurricanes, tornadoes, flooding, drought, thawing permafrost, bleached coral reefs, animal extinction, changing climate patterns, disturbance in ecology, dead zones within ocean, blooming algae, topical and unfamiliar diseases, and the melting of Artic and Antarctic ice sheets (Gore, 2006).
More recently, the United Nations (UN) formed a subsidiary body of scientists known as the Intergovernmental Panel for Climate Change (IPCC), to provide the international community with information about worldwide environmental concerns (New Zealand Government, 2007). In the IPCC’s fourth assessment report (2007, p. 9) it stated that “a global assessment of data since 1970 has shown it is likely that anthropogenic warming has had a discernable influence on many physical and biological systems”. The IPCC report said there was observational evidence from all countries and most oceans, that suggested many natural systems were being affected by regional climate changes, such as temperature increases. Furthermore, it suggested that the impacts could alter frequencies and intensities of extreme weather, climate and sea-level events (such as partial deglaciation of the Greenland and the West Antarctic ice sheet), and could occur over a period of centuries to millennia.

The report also suggests the impacts of future climate change will be mixed across regions, with a predicted mean temperature increase of around 1-3°C above 1990 levels. If the average temperature increase were to exceed 1.5-2.5°C there would be predominantly negative consequences for biodiversity and ecosystems, as well as for goods and services such as water and food supply (IPCC, 2007).

2.1.1 Biodiversity and ecosystems

The effects of warming temperatures could cause dramatic challenges within the natural world, such as species’ extinction signalling the dismantling of ecosystems and irreparable genetic loss (Flannery, 2005). Some studies have found that climate change could mean a disruption in the food chain, placing stress on those vulnerable to unpredictable seasons, creating challenges for some species’ life cycles, in terms of disjointed food supply and feeding patterns, which can set off a chain reaction for multiple species (Flannery, 2005; Gore, 2006). The IPCC (2007) report also suggested that the unprecedented combination of climate change, associated disturbances (for example, flooding, drought, wildfire, insects, ocean acidification), and other global changes (for example, land use change, pollutions, over-exploitation of resources) is likely to cause further extinctions to various ecosystems worldwide.
For example, in 1976, the golden toad was the first species to be recorded as a victim of global warming, because of its propensity to wander in the daylight hours. Due to having permeable skin, it was vulnerable to the dehydration brought on by the run of mist-less days, believed to be caused by climate change within the Central American rainforest mountain region (Flannery, 2005). Similar to many reptiles and amphibians worldwide, New Zealand’s oldest living reptile, the Tuatara, is thought to be vulnerable to increasing temperatures. It takes two years from mating to hatching their eggs, which need to remain cool to become female. Subsequently the slightest degree of warming would result in their eggs only producing male lineage (Flannery, 2005).

Globally, aquatic ecosystems are also thought to be vulnerable to global warming. For instance, in some fresh lakes if the surface increases in temperature it alters the stratification and because they are dependent on nutrients and oxygen to mix together for plankton to grow, this stratification could cause a collapse in the lake’s life and dependant ecosystems (Flannery, 2005). Beneath sea ice is also where plankton lives, it is where krill feed and they are a source of food for penguins, seals and great whales, and further melting will disrupt this food chain (Flannery, 2005). Dwindling sea ice also might mean melting dens of polar bears in the Arctic, which can cause major stress for their survival (Flannery, 2005). Warming water temperatures can also affect the coral reefs worldwide, causing white bleaching of colourful coral forest, which can in turn cause a downwards spiral effect on the massive ecology of marine life that relies on it (Flannery, 2005; Gore, 2006). Some research suggests that unsustainable depletion of natural resources could have multiple effects not only on the health of the local and/or regional ecology, but also on people (Elliott, 2004).

2.1.2 Future outlook

The IPCC (2007) report predicted that by 2030, New Zealand might experience a reduction in precipitation and an increase in evaporation, as well as problems securing water in Northland and some eastern regions. In agriculture and forestry sectors, the report projected a decline in some eastern areas due to drought and fire. It suggested that there may be initial benefits seen in industry on the western and southern areas, and those close to major rivers may have longer growing seasons. But in the long term, it is projected that these areas will experience less frost and increased rainfall.
coastal development from Northland to Bay of Plenty is also projected to be at risk from rising sea level, frequency of storms and some coastal flooding by 2050. Nevertheless, the IPCC (2007) report suggested that New Zealand could adapt to all these environmental changes, because it has a well-developed economy, as well as the scientific and technical capabilities to adapt accordingly.

Globally, in the past the international community has responded to environmental issues, therefore it is possible to respond again. For example, in 1987 the Montreal Protocol, saw the international community move to stop the release of chlorofluorocarbons (CFCs) to reduce the decline in the earth’s ozone layer (Flannery, 2005). Whilst more recently in Japan 1998, 133 industrialised countries including New Zealand, signed the Kyoto Agreement, which aimed to bring emissions down to a point below 1970s levels.

Among other things the Kyoto Agreement aimed to address and reduce the amount of anthropogenic emissions in the atmosphere, promote, develop and increase the use of new and renewable forms of energy, as well as carbon dioxide sequestration technologies (UN, 1998). It also encouraged sustainable reforms in relevant sectors aimed at promoting policies and measures which would limit or reduce emissions of greenhouse gases controlled by the Montreal Protocol in the transport sector (UN, 1998).

In summary, an environmental crisis is wide reaching, affecting many aspects of life on earth. There is a lot more discussion within the scientific community about the extent of human impact on the environment causing significant change. Nevertheless the sampled literature provides an insight into what in general people believe an environmental crisis could mean.

2.2 What is an environmental belief and value?

The following section explores what an environmental belief and value could be. Environmentalists generally advocate for environmental issues, such as the sustainable management of clean air, water, soil, and a diversity of all creatures worldwide (Suzuki, 2003). Environmentalism involves people who care for the planet...
and all its inhabitants (Chapman, 2003). It supports a worldview that believes in the intrinsic value of nature (Devall & Sessions, 1985). Perhaps at the heart of an environmental philosophy is the idea that humans should respect the natural world, and an environmentalist would believe that the natural world should be respected for its own sake, not only for its value to human life (Patterson, 2000).

In order to understand why some people believe it is important to care for the environment, the following section reviews literature by environmental authors that has historically influenced people’s environmental beliefs and values. Leopold, Carson and Abbey were considered influential in bringing environmental concerns into the general public awareness during the mid 1960s and 1970s, and as a result contributed to an environmental movement (Devall & Sessions, 1985). This chapter also reviews the environmental beliefs and values of Māori, the indigenous people of New Zealand, their connection and kinship with the land. The authors and Māori environmental beliefs and values are indicated by their appreciation for the health of natural world, the environmental harmony, as well as its integrity and sustainability.

The following beliefs and values are based on Leopold’s land ethic and the value he placed on maintaining the balance of the biotic community. Carson’s beliefs and values were concerned with the indiscriminate use of chemicals within nature, and questioned the unknown side effects that could be detrimental, such as creating a silent spring. In addition, Abbey’s beliefs and values involved becoming immersed within a wild and at times overwhelming environment, in order to experience a kindred connection with the natural world.

2.2.1 A land ethic

American conservationalist Aldo Leopold was considered an influential environmentalist. His philosophy was influential on early environmentalism and his land ethic was the basis of the burgeoning new philosophical field of environmental ethics in the 1970s (Devall & Sessions, 1985). Leopold believed in and valued the importance of maintaining nature’s balance and healthy biotic1 structure, otherwise referred to as the pyramid of life (Figure 1) (Leopold, 1939).

1 Biotic is concerned with the pyramid of life (Leopold, 1939)
At the base of the pyramid the plants absorbed energy from the sun, this energy flowing through a multi-layered circuit which depicts the interconnection and reliance on each healthy circuitry flow (Leopold, 1939). He believed that this harmony was challenged when nature could not replenish itself due to unsustainable practices (Leopold, 1939). In later literature Leopold (1970) said that he believed each species, including humans, was linked within the food chain, which was so complex, its functioning depending on the co-operation and competition of all these diverse links. He also explained that food chain as a slowly augmented revolving fund of life, where the living channels conduct energy upward whilst death and decay returned to the soil.

He consolidated these environmental beliefs and values into a land ethic, which rested on the individual’s understanding that they were within a community of interdependent parts that included water, plants and animals - collectively the natural environment (Leopold, 1970). He thought whilst a land ethic would not prevent the alteration, management, and use of these natural resources, it did affirm that nature had a right to continue to exist in a natural state. Essentially, Leopold (1970, p. 240) believed “a thing is right when it tends to preserve the integrity, stability, and beauty
of the biotic community. It is wrong when it tends otherwise”. Therefore, he hoped people would stop thinking about the sustainable use of land as solely an economic problem, instead question each situation ethically (Leopold, 1970).

In New Zealand, there is an *Environmental Care Code* (see Appendix 8), which some could argue could be a land ethic. However, it is perhaps not as philosophical or holistic in its viewpoint. The care code recommends that people recreating in the outdoors consider the following: protect plants and animals; remove rubbish; bury toilet paper; keep streams and lakes clean; take care with fires; camp carefully; keep to the track; and consider others (DOC, 2007).

### 2.2.2 Environmental integrity

In 1962, Rachel Carson wrote a controversial book called *Silent Spring*, which described the side effects of indiscriminate use of chemicals within agriculture. Consequently the book caused a public out-cry against the use of some chemical pesticides (Agarwala, 2006). It became a best seller and was thought to have been influential for the environmental movement, having reached a broad audience (Devall & Sessions, 1985). Al Gore (1992, p. 3) said that *Silent Spring* brought him an awareness of “this nearly invisible poison, which had been first welcomed as a blessing, but became for me a symbol of how carelessly our civilisation could do harm to the world, almost without realising its own power”.

Carson’s writing urged people to consider the chain effect of poisoning one organism, arguing the consequences of the action would appear somewhere else within the food chain. For example if an elm was sprayed the poison on the leaf would continue to travel through the earthworm to the robin and so on (Carson, 1962). She argued humans did not have the right to disrupt, control or reorganise nature, in order to suit their needs or purpose. She suggested that taking uninformed risks was irresponsible and destructive, and would only support humans’ short-term needs, and would have long lasting impacts on the integrity of environment (Carson, 1962).

Carson’s focus on the long-term impacts rather than on the short-term gains indicates an environmental belief and value that could be shared by people working and recreating within the outdoor environment. For example, this could mean that when
people are outdoors they could choose to minimise personal impacts during pursuits, carry out all rubbish, avoid pollution or scaring nature and protect the area’s flora and fauna.

2.2.3 Human-nature connections

In 1968 Edward Abbey’s *Desert Solitaire* explored how humans could learn to protect wild ecosystems and examine human-nature connections in the wild desert environment of Moab, Utah. His environmental beliefs and values were thought to have inspired a new generation of environmental activists, such as the founders of the *Earth First* movement in 1980 (Devall & Sessions, 1985). Abbey wrote of a deep environmental belief, that respected and valued the symbiotic community he found within nature. Abbey described the interconnection and union that he felt whilst exploring this seemingly primeval natural world, as well as observing the interdependence of nature’s food chain and its structural integrity. For example, he befriended a gopher snake, which symbolically became his totemic deity, because it kept rattlesnakes at bay and ate off the surplus mouse population. He described this unique human-nature friendship as “sympathy, mutual aid, symbiosis, and continuity” (Abbey, 1968, p. 24).

Abbey believed all living things on earth were kindred, and therefore humans and nature could co-exist. However, he acknowledged that when and where nature served a purpose for him, it did so for selfish reasons of its own. Abbey suggested, finding that balance required respect, harmony, and awareness of human dependence on nature, which required only maintaining one’s essentials for survival. He suggested many people had become disconnected from nature, because they could not relate to, and/or had a fear of the unknown. He believed the primeval desert could evoke the unconscious fear, which compels some people to tame, alter or even destroy what they cannot understand and hence reduce the wild into human dimensions. He suggested the natural world can frighten people, not through danger or hostility, but by its implacable indifference (Abbey, 1968).

Abbey wrote about shedding his anthropocentric judgements in order to connect with the natural world raw beauty and powerfulness, in a spiritual, physical and
philosophical way. Other literature has described this change happening when someone can imagine themselves as a species interconnected with the environment, and then there can be a transformation towards understanding the human-nature connections (Seed, 1985). Outdoor educators work closely with the environment and you could expect to find beliefs and values that show close connections with nature, possibly reflecting the beliefs of Abbey.

2.2.4 A Māori perspective

In New Zealand, early people to settle were Māori arriving from Pacific islands some 1,000 years ago. The standard sources for Māori ethics are the traditional narratives, songs and proverbs, that depict all things in the environment as sharing a common ancestry, which exhibit certain virtues and responsibility for each other (Patterson, 1992). The Māori environmental beliefs and values suggest “all creatures are interrelated, in which the welfare of one is the welfare of all, in which a caring and nurturing relation between humans and other creatures is both imperative and straightforwardly natural” (Patterson, 1999, p. 44). This respect is based on the idea of kinship, spiritual connection and a mauri or life force (Patterson, 2000). This “life force joins all beings - humans, gods, plants and animals, mountains, rivers and seas - into one interdependent whole, each part depending for its wellbeing upon the health of each other part and of the whole itself” (Patterson, 2000, p. 63). Furthermore, in a Māori worldview, the environment is all-living, consisting of persons (such as Ranginui, Papatuanuku Tumatauenga, Tanemahuta, etc), each having its own mauri and therefore requiring a respect for life (Patterson, 1992).

Māori believe that the mauri of all creatures is interconnected, (making it hard for humans to isolate their own interest from other creatures interests), and all creatures are regarded as kin - connected through the whakapapa (genealogical tables) which traces all beings back to Ranginui (the Sky farther) and Papa-tuanuku (the earth mother) (Patterson, 2000). It is believed that all inanimate and animate things in the universe have their own whakapapa, and are ultimately linked via the gods to Rangi and Papa (Figure 2 illustrates the environment as family based on the offspring of Rangi and Papa). Therefore there is no distinction or break in the whakapapa between
supernatural and natural, they are both part of a unified whole (Roberts, Norman, Nganeko, Wihongi, & Kirkwood, 1995).

Māori “are guardians of the land and its inhabitants and must behave accordingly, taking only what is needed and using it only appropriately” (Patterson, 1992, p. 90). Māori ancestors are believed to have spiritual ties with the land, for example, the first human ancestor Tanemahuta, had children and their cousins became the trees and birds (Patterson, 2000). In effect Māori ancestors are the land in bones and spirit, intrinsically connecting them to the environment. Therefore the mauri of any land must be treated with respect, in particular at the tribal marae\(^2\) for that is where the tribe have their turangawaewae, which means a place to stand (Patterson, 1992). In addition the concept of Turangawaewae is when:

The land becomes an outward and visible sign of something that is deeply spiritual. It is a source of nourishment to the inner man rather than to his physical needs. His identity belongs there, his sense of self-awareness begins there, his sense of mana and importance belongs there (Bennett (1979) cited in Patterson, 1992, pp. 89-90).

Turangawaewae is a central theme in Māori values that involves particular respect, a respect depicted in a Māori proverb “Ma te whenua ka whai oranga ai” (Land alone gives man his sustenance) (Patterson, 1992, p. 90). This human-nature connection with the environment is strengthened through personal and tribal mana, the “source of

\(^2\) The marae is where formal greetings and discussions take place. It is the courtyard or the open area in front of the meeting house (wharenui - the main building on a marae where guests are accommodated) (Moorfield, 2005).
both personal and collective strength, pride and identity” (Winitana, 1990, p. 107). Māori describe themselves as tangata whenua, meaning people (tangata) of the land (whenua) - whenua also refers to the placenta, which subsequently connects people to Papa-tuanuku (Patterson, 1999).

As a Māori proverb suggests, the human-nature connection is “a personal relationship between humans and the earth, rather than an impersonal one… The blood (toto) of humans (tangata) comes from food (kai); our welfare (oranga) comes from land (whenua)” (Patterson, 1999, p. 44). This environmental philosophy is about being aware of how everything interconnects and lives in the natural world. More specially, a Māori environmental philosophy “is on the one hand a philosophy of unity, while on the other makes adequate allowance for diversity and reasonable human activities” (Patterson, 2000, p. 75).

The historical and ethical aspects of Māori narrative are connected through the ethical importance that is placed on Māori ancestral precedent (Patterson, 1992). For example, a narrative about a man Rata who needed a canoe but felled a tree without seeking permission of the forest god Tan-mahuta, depicts the place of humans in the natural world. The narrative suggested that the environment was not simply a collection of resources to be used, rather a community of related beings, all of them linked to human beings by ties of kinship, all of them important in themselves, all of them needing protection and respect (Patterson, 1992). It was important that Rata first sought permission to take a tree from the forest god Tane-mahuta by reciting an incantation or traditional karakia, to identify his understanding and respect for the environment.

Māori environmental beliefs and values can play an important part in New Zealand’s outdoor education environmental philosophy. As suggested at a New Zealand National outdoor education conference, outdoor educators have an opportunity to express Māori stories of creation, of moving mountains, and of adventure, which could help young Māori and others towards a more positive perception of Māoritanga (Māori people), as well as enlightening New Zealanders to the sensitivity and empathy Māori feel for the environment (Mataira, 1982).
In the outdoor literature it is stated that the traditional Māori concept of whenua, and the oneness of people, land and living things emphasised in Māori myth and legend, has helped form the basis of current environmental values and belief systems concerning land and natural places in New Zealand (Boyes, 2000). For instance, it is believed that Māori cultural traditions are integrated into outdoor education experiences, and can improve students’ awareness of New Zealand’s multicultural society as a whole (Abbott, 1990). In particular, “Māori strong links with the land, their bush survival techniques, their awareness of edible plants and animals, and their folklore, are all valuable in developing an environmental and physical ethic for use in the outdoors” (Abbott, 1990, p. 307). It seems clear that learning about Māori traditional customs and practices in outdoor education would be not only relevant, but it also could be a useful method for enhancing environmental awareness and beliefs in the outdoor experience.

In summary, the environmental beliefs and values of these influential authors and the beliefs of Māori have contributed in some way to environmentalism. Leopold’s land ethic was based on the integrity, stability and beauty of nature’s pyramid of life. Carson’s writings questioned the indiscriminate use of poisons for short-term gain because of the potential long-term impacts. Abbey’s writing revealed his belief in and value for unique friendships based on the sympathy, mutual aid, symbiosis, and continuity that he found in the natural world. The environmental philosophies of Māori are reflected in myths, legends, song, poetry and dance. It is clear that there are many opportunities for outdoor educators to incorporate different viewpoints and feelings about the environment to enrich their teaching and programmes.

2.3 International development of environmental education

The literature suggests educating people about the environment is not a new concept (Palmer, 1998). Just like the environmental belief that life is interconnected, the literature suggests that “all education is environmental education” (Orr, 1994, p. 12). For example, when teaching outdoor education, it is perhaps important to understand the impact and the fundamentals of the ecology that people are recreating in. This section reviews the historical development of environmental education through the most significant documents that have come out from United Nations conferences: the
Belgrade Charter, Brundtland Report, the Tbilisi Declaration, Caring For The Earth, and the Earth Summit, because they are seen as having had paramount importance in addressing international environmental issues (Agarwala, 2006).

2.3.1 The framework for environmental education

In Stockholm 1972, an international conference was held “to help construct a framework and map the direction of a cooperative programme to further environmental education internationally”, known as Recommendation 96 (UNESCO & UNEP, 1976, p. 7). A few years later in Belgrade 1975, an International Environmental Education Workshop unanimously supported a new document called The Belgrade Charter: A global framework for environmental education. The development of the Belgrade Charter involved a 10-day deliberation between 120 participants from 65 nations, such as governments and policymakers (UNESCO & UNEP, 1976). It was described as an historic moment that produced an historic document (UNESCO & UNEP, 1976). This collaboration sought for:

An ethic which espouses attitudes and behaviour for individuals and societies which are consonant with humanity’s place with the biosphere; which recognises and sensitively responds to the complex and ever-changing relationships between humanity, nature and people (UNESCO & UNEP, 1976, p. 1).

The Belgrade workshop published Trends in environmental education, which recorded the concepts about effective environmental education programmes and outlined the following interest areas: Concepts, goals, methodologies and materials; Formal environmental education; Informal environmental education; and Policies for environmental education (which are elaborations of the Belgrade Charter’s goals, objectives and principles) (UNESCO, 1977). In the same year, there was another much larger international environmental conference organised, which saw some modifications made to the Belgrade Charter.

2.3.2 Environmental goals, aims and guiding principles

In 1977, the world’s first Intergovernmental conference on environmental education, involving 265 delegates, 65 representatives and observers was held in Tbilisi, Georgia, USSR (UNESCO & UNEP, 1978). Unanimously they voted that environmental education played an important role in the preservation and
improvement of the environment, and that it contributed to the sound and balanced
development of the world’s communities (UNESCO & UNEP, 1978). Furthermore
the *Tbilisi Declaration* noted that “the fact that natural environment and human-made
environment are profoundly interdependent, environmental education helps to reveal
that enduring continuity which links the acts of today to the consequences for
tomorrow” (UNESCO & UNEP, 1978, p. 2). The *Tbilisi Declaration* outlined
environmental educational goals (Table 1), aims (Table 2) and guiding principles
(Table 3), which were considered both a milestone and a starting point for
environmental education (UNESCO & UNEP, 1978). These goals, aims and guiding
principles could be implemented into any education sectors for all age groups, and at
either a local, national and international level.

**Table 1:** The environmental educational goals (UNESCO & UNEP, 1978).

<table>
<thead>
<tr>
<th>Goals</th>
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<tbody>
<tr>
<td>To foster clear awareness of, and concern about, economic, social, political, and ecological interdependence in urban and rural areas.</td>
</tr>
<tr>
<td>To provide every person with opportunities to acquire the knowledge, values, attitudes, commitment, and skills needed to protect and improve the environment.</td>
</tr>
<tr>
<td>To create new patterns of behaviour of individuals, groups, and society as a whole towards the environment.</td>
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**Table 2:** The environmental education aims (UNESCO & UNEP, 1978).

<table>
<thead>
<tr>
<th>Aims</th>
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<tbody>
<tr>
<td>Awareness</td>
<td>To help social groups and individuals acquire an awareness and sensitivity to the total environment and its allied problems.</td>
</tr>
<tr>
<td>Knowledge</td>
<td>To help social groups and individuals gain a variety of experience in, and acquire a basic understanding of, the environment and its associated problems.</td>
</tr>
<tr>
<td>Attitudes</td>
<td>To help social groups and individuals acquire a set of values and feelings of concern for the environment and the motivation for actively participating in environmental improvement and protection.</td>
</tr>
<tr>
<td>Skills</td>
<td>To help social groups and individuals acquire the skills for identifying and solving environmental problems.</td>
</tr>
<tr>
<td>Participation</td>
<td>To provide social groups and individuals with an opportunity to be actively involved at all levels in working towards resolutions of environmental problems.</td>
</tr>
</tbody>
</table>
Table 3: The environmental education guiding principles (UNESCO & UNEP, 1978).

<table>
<thead>
<tr>
<th>Guiding Principles</th>
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<tbody>
<tr>
<td>Focus on current and potential environmental situations while taking into account the historical perspective.</td>
</tr>
<tr>
<td>Enable learners to have a role in planning their learning experiences and accepting their consequences.</td>
</tr>
<tr>
<td>Relate environmental sensitivity, knowledge, problem-solving skills and values clarification to every age, but with special emphasis on environmental sensitivity to the learner’s own community in early years.</td>
</tr>
<tr>
<td>Help learners discover the symptoms and real causes of environmental problems.</td>
</tr>
<tr>
<td>Emphasise the complexity of environmental problems and thus the need to develop critical thinking and problem-solving skills.</td>
</tr>
<tr>
<td>Utilise diverse learning environments and a broad array of educational approaches to teaching/learning about and from the environment with due stress on practical activities and first-hand experience.</td>
</tr>
</tbody>
</table>

The Tbilisi Declaration suggested that environmental education should educate holistically and prepare students for understanding life, worldwide environmental concerns, and should incorporate new concepts, methods, and techniques into all programmes (UNESCO, 1980). The Tbilisi Declaration believed that environmental education was an integral part of the education process, and focus should reside mainly on learning action orientated initiatives that could guide by both immediate and future environmental concerns (UNESCO & UNEP, 1980).

2.3.3 The concept of sustainability

Environmental discussions continued and some of the historical documents for encouraging further integration of environmental education were noted in Our Common Future: A strategy for sustainable living document and at the Earth Summit conference. A document also known as the Brundtland Report, was written by an independent body made up of thousands of people from various sectors worldwide (WCED, 1987). This document believed that most people lacked the knowledge to improve current environmental practices and protect natural resources, therefore suggested that education should provide comprehensive knowledge within social and natural sciences, as well as humanity courses, to provide insight on the interaction between natural and human resources, between development and environment.
The report argued that the environment and human development were inseparable, and that the attitudes of teachers and their training could improve students’ understanding of the environment (WCED, 1987).

A few years later in 1991, the concept of sustainability was explored, in a document known as Caring For The Earth: Strategy for sustainable living. This document said sustainability was a characteristic of a process that can be maintained indefinitely, while still allowing humans to live within the carrying capacity of the earth’s ecosystem (IUCN, UNEP & WWFN, 1991). Sustainable living became a strategy for the World Conservation, who aimed to bring awareness to the environmental conditions for people and ecology, worldwide. It emphasised two requirements; one was to secure a commitment to sustainable living that was translated into widespread practice, the other was to integrate conservation action and development within the earth’s capacity (IUCN et al., 1991).

The Caring For The Earth also outlined the universal need for sustainable education and improving environmental knowledge. For example, it stated that worldwide, people needed to be encouraged to adopt sustainable lifestyles and that educating people was an important part of bringing these changes about (IUCN et al., 1991). This document also suggested that environmental education needed to become a part of the educational constitution, and be recognised as a valuable component within all levels of education. For example, it stated that currently most formal education did not provide people with enough knowledge and skills for them to develop sufficient incentives to live sustainably (IUCN et al., 1991). Furthermore, the document suggested that merging environmental and social education at all levels with the education sector could assist people’s understanding of the natural world and appreciation of cultural diversity (IUCN et al., 1991). This document suggested it is important to understand not only teachers’ environmental beliefs and values, but also how teachers are linking environmental education within their teaching and programmes.
2.3.4 Education for sustainability characteristics and key principles

Education for sustainability had its initial beginnings in environmental education, it “includes many of the founding principles of environmental education but it is broader in scope” and more recently has become the contemporary way to communicate relevant environmental and sustainable issues (PCE, 2004, p. 39). In the 1990s there was a noticeable increase in use of the language of sustainability in New Zealand, as it began to be noticeable in the discourse of many educators who placed a much stronger emphasis on trying to integrate environmental, social, cultural and economic concerns (PCE, 2004). Currently there is ongoing debate about the best language for communicating the role of education in environmental and sustainability issues, posing questions such as: “Is ‘environmental education’ past its use-by-date? Should it simply come under the umbrella of ‘education for sustainability’?” (PCE, 2004, p. 38).

Education is embedded with values and assumptions and as a process can help shape the way people think, feel and act. However, it often supports existing social practices and societal ideologies (PCE, 2004). Both environmental and sustainable education can encourage people and institutions to reflect on their underlying assumptions and practices (PCE, 2004). However, most of the issues associated with environmental and sustainable education are often seen as out on the fringes, and as a consequence people who speak out about related issues are sometimes labelled ‘greenies’ and thus dismissed (PCE, 2004).

There are some subtle differences between environmental and sustainable education. Education for sustainability “has more of a human focus and recognises that fundamental human rights and social justice are just as essential to sustainable development as environmental sustainability” (PCE, 2004, p. 39). Education for sustainability is not just a focus on environmental issues, it is also about acting now and looking forward to doing things differently. Instead of just cleaning up the symptoms of underlying problems, it encourages people to question how they perceive and interact with their environment (their worldviews) as it cannot be separated from the society and the culture they live in (PCE, 2004). Education for sustainability also tends to take a more explicit socially critical perspective, and
requires people to care about their fellow human beings and the rest of the world they live in (PCE, 2004).

As for environmental education, it has often been driven by the social concerns about environmental change, developing people’s knowledge about the environment, establishing an ethic of caring towards the rest of the natural world and engaging with many different interests in society to further environmental concerns (PCE, 2004). However, some literature suggests that environmental education and education for sustainability essentially aim to achieve the same principles, for example: “Both environmental education and education for sustainability aim to enable learners to question unsustainable practices. They also aim to empower people to make changes in their own lives and in the institutions around them” (PCE, 2004, p. 39). The following tables (Table 4 and Table 5) identify some of the characteristics and key principles of education for sustainability.

Table 4: Characteristics of education for sustainability (PCE, 2004).

<table>
<thead>
<tr>
<th>Characteristics of education for sustainability (PCE, 2004).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education for sustainability can look at ways to develop systems that promote less resource use and encourage creative solutions for reusing and recycling materials before they are safely integrated back into the environment.</td>
</tr>
<tr>
<td>It examines how people and groups in society can learn to live in sustainable ways.</td>
</tr>
<tr>
<td>It aims to empower people of all ages and different backgrounds to contribute to a better future.</td>
</tr>
<tr>
<td>It encourages people to think for themselves, ask lots of questions, reflect, challenge underlying assumptions, as well as those of other people, institutions and in society.</td>
</tr>
<tr>
<td>It looks at individual and systemic changes that are needed to resolve unsustainable practices.</td>
</tr>
<tr>
<td>It requires people and organisations to see that changes for the better can be made, and that there will need to be a transformation (a redesign of many systems and established ways of doing things) to achieve a good quality of life for people far into the future.</td>
</tr>
</tbody>
</table>

Table 5: Key principles of education for sustainability (PCE, 2004).

<table>
<thead>
<tr>
<th>A strong values base</th>
</tr>
</thead>
<tbody>
<tr>
<td>“It seeks to extend boundaries of concern beyond an individual’s sense of self (their way of seeing and interacting with the rest of the world). It encourages people to connect with, and care for, others and the environment they live in” (PCE, 2004, p. 43).</td>
</tr>
</tbody>
</table>

Table continued on next page
Critical thinking and reflective learning | It “encourages people to ask lots of questions, to challenge underlying assumptions, and to think for themselves about sustainability issues” (PCE, 2004, p. 44).

Future-focused | “People should not just be able to critique unsustainable practices. They need to be encouraged to contribute to positive outcomes… It is therefore essential to maintain a long-term perspective” (PCE, 2004, p. 44).

Participation | “Changes that support sustainability are more likely to be implemented if people have a clear understanding and commitment to them” (PCE, 2004, p. 44).

Learning for life | Learning takes place in many different contexts, not just in the formal education system, but also through their families, peers, workplaces, the media, and many different social networks. “Many other influences in society also help to shape the ways people think, feel and act” (PCE, 2004, p. 47).

Learning across boundaries | “Because sustainability issues are very broad in scope, learning also needs to occur across established boundaries. For example, in the formal education system, especially at a secondary and tertiary level, learning has historically been disciplined into many different fields of knowledge”… It “requires integrated thinking. It requires people and institutions to share knowledge, recognise the limits of their own expertise, and to work together on many different issues” (PCE, 2004, p. 48).

Transformative | “People should not just be educated ‘about’ sustainability. They need to be empowered to take actions that contribute to sustainable outcomes”… Therefore it “needs to focus on both individual and systemic changes to resolve unsustainable practices. This will require a redesign of many systems that currently exist in societies… It aims to transform institutions in society that are promoting unsustainable practices, or holding back sustainable alternatives, so that people can work towards a better future” (PCE, 2004, p. 48).

### 2.3.5 Environment and development

In June 1992, the first *Earth Summit* happened and it further emphasised the recommendations noted in the *Tbilisi Declaration* and the *Our Common Future* report. There were around 10,000 delegates from 150 countries, in association with the official gathering of 116 national political leaders, whilst at the same time around 15,000 individual citizens, NGOs representatives, and activists participated in a parallel Global Forum (Palmer, 1998). The *Earth Summit* created important environmental documents that contributed to: *Framework Convention on Climate Change*, the *Convention on Biological Diversity*, *Agenda 21*, the *Rio Declaration*, and the *Forest Principles* (Grubb, Koch, Munson, Sullivan, & Thomson, 1993).
The Agenda 21 document was important for environmental education because it formed the general guiding document for pursuing sustainable development and also initiated significant institutional changes (Grubb et al., 1993). For instance, it stated that the government should aim to integrate issues of environment and development as an essential learning component within both formal and non-formal education, that education could be strongly oriented from the ground level up and include participatory and community based approaches (Grubb et al., 1993). For example, a delegate from the conference believed environmental education aimed to educate people about the essentials to maintain a sustainable environment, without degrading, diminishing or destroying it. It should also aim to empower people to take responsibility for the care and management of the resources in their local area, encouraging them to work with rather than against nature (Mann, 1992).

In summary, the Tbilisi Declaration’s recommendations are considered the blueprint for those developing environmental education programmes worldwide (Palmer, 1998). The documents discussed provide an outline of what the goals, aims, and guiding principles of environmental education could be. As well as the PCE report (2004) suggests what the characteristics and key principles of education for sustainability are. These documents collectively provide some suggestions on why it would be valuable to incorporate environmental education into both formal and informal education sectors.

2.4 Tertiary environmental education in New Zealand

The following documents lead on from the previous documents’ timeline, but now look more specifically at environmental documents that support the incorporation of environmental education within the New Zealand tertiary education sector. This section firstly explores a report written in 1995 that suggest strategies for the year 2010, then looks at the Learning To Care For Our Environment document because it provides an interpretation of New Zealand’s environmental education aims and objectives. It then reviews the Parliamentary Commissioner for the Environment (PCE) report See Change: Learning and education for sustainability, which identifies how environmental education is currently placed within New Zealand’s tertiary education sector.
2.4.1 A national approach and guidelines for environmental education

The Ministry for the Environment (MFE) (1995a, 1995b) put together an *Environmental 2010 Strategy* and identified key points (Table 6) for future consideration. Within these documents it stated that New Zealanders valued the natural environment for recreational, aesthetic, cultural and spiritual reasons; people recognised that impoverishment of the environment anywhere was a threat everywhere, and acknowledged the need for stricter environmental quality standards. It also acknowledged that opportunities for enjoying the outdoors, through leisure and recreation, needed to be provided for people. Overall the report indicates that the environment is an important part of the national policies and within the document it briefly outlines: environmental values; principles for integrating environment; society and economy; how the Ministry views the environment today; environmental goals; responsibility for action; environmental management agenda and risks; priority setting; and planning and reviewing the process.

Table 6: Environmental 2010 Strategy’s key points (MFE, 1995a).

| The life-supporting capacity of air, water, soil and ecosystems is safeguarded. |
| Biological diversity and spectacular scenery are conserved. |
| The basis is provided for sustainable development that meets the needs of present and future generations. |
| People are able to meet their needs, especially for employment, food, clothing, shelter, and education. |
| It is safe and healthy. |
| Natural, renewable resources are not consumed faster than they can regenerate. |
| The natural treasures or taonga of Māori are protected, and the cultural practices of Māori associated with the environment are provided for. |
| Leisure and recreation opportunities are provided for those who enjoy the outdoors. |

The vision it outlined for the New Zealand environment by 2010 was: “A clean, healthy and unique environment, sustaining nature and people’s needs and aspirations” (MFE, 1995a, p. 9). As a part of achieving this vision, the Ministry also
outlined a holistic vision for the environment that aims to recognise the interdependence and interaction of people, and the natural and physical environment (MFE, 1995a). This vision also included a six-part environmental management agenda, which promotes education for the environment that encourages environmentally responsible behaviour throughout the community (MFE, 1995a).

The Ministry stated that the Environment 2010 Strategy was ongoing, but aimed to provide action proposals for a national approach and guidelines for environmental education. In tertiary education, the education provided should offer study programmes and research opportunities that will improve understanding of sustainable management of the environment (MFE, 1995a). Within this document it stated that it will develop policies consistent with international environmental conventions, agreements, obligations and treaties and that this required long-term planning as well as regulatory process reviews (MFE, 1995a). It seems that there is a future intention for developing environmental education within the education sectors and that it is supported by national policies.

2.4.2 A multi-disciplinary approach to learning

In 1998, the Ministry for the Environment (MFE) wrote a document known as Learning To Care For Our Environment, which outlined the nature and scope of environmental education; the government’s interest in environmental education; their strategic priorities for environment education; actions; the role and activities of other organisations; and monitoring the implementation of the strategy. In this document the Ministry stated that environmental education should be moving toward the goal of sustainability, which was critically dependant on education and public awareness, as well as fundamentally changing people’s attitudes and behaviours (MFE, 1998).

The Learning To Care For Our Environment document stated that environmental education required: “a multi-disciplinary approach to learning that develops the knowledge, awareness, attitudes, values and skills that will enable individuals and the community to contribute towards maintaining and improving the quality of the environment” (MFE, 1998, p. 9). It also suggested that the common elements of environmental education were; (1) to influence environmental values, attitudes and
behaviours, (2) having an emphasis on linkages between the biophysical environment, social, economic and political activities, (3) contributing to the protection and management of the environment, and (4) learning a range of activities encompassed by environmental education which included formal and non-formal education (MFE, 1998).

This document also stated that institutions within the formal education sector, Colleges of Education, the Universities, Whare waananga and Polytechnics, were encouraged to implement environmental education (see Appendix 1: Environmental education providers and contributors). It noted that delivering environmental education was involved in, for and about learning, for example; education in the environment, (uses outdoor activities for learning and skill development), education for the environment (where an activity is directed at influencing environmental concerns), and education about the environment (provides information about the environmental phenomena) (MFE, 1998). Furthermore the Learning To Care For Our Environment document said that: “Colleges of education, universities and polytechnics play an important role in the formal environmental education sector” (MFE, 1998, p. 27).

It explained that in order for environmental education to be effective and successful, individual sectors needed to become more responsible for developing their own programmes and strategies. This document suggested that students were more likely to develop relevant environmental knowledge, attitudes, skills and behaviours, when environmental education activities were action-oriented and focused on their own community.

It acknowledged that tertiary institutions already implement environmental education in formal education, however, it is suggested that Colleges of Education and Universities needed to provide training for teachers involved with environmental education in the core curriculum. The document also stated that tertiary institutions could provide environmental papers integrated with other courses and that a number already have multi-disciplinary environmental degree and diploma programmes (MFE, 1998).
This document also suggested that within formal education “environmental education makes a specific and useful contribution to people’s knowledge about the biophysical, social, economic and political dimensions of environmental management” (MFE, 1998, p. 13). It also stated that environmental education has some “inherent characteristics that can make it the instrument of first choice or a useful complement to other instruments. For example, it is non-prescriptive, promotes understanding, provides choice and does not, in itself, require legislation” (MFE, 1998, p. 14).

Overall this document suggested that it was important to implement environmental education over a broad spectrum of industries and educational sectors.

2.4.3 Tertiary environmental education and education for sustainability

In 1999 the Ministry of Education (MOE) identified what they considered the key aims, concepts and dimensions for environmental education (identified in Table 7 on page 34) could be, which seems to be an adaptation of the Tbilisi Declaration. A few years later in 2004, the Parliamentary Commissioner for the Environment (PCE) completed a report that looked at impact of environmental learning across society and outlined education for sustainability. According to the PCE report (2004) *See Change: Learning and education for sustainability*, found that “sustainability issues are gaining momentum, but they are still on the fringes of most tertiary organisations and their departments” (PCE, 2004, p. 75). Even though “there are many courses that have an environmental component, connections are seldom made across disciplines of knowledge to integrate thinking on sustainability” (PCE, 2004, p. 86).

The PCE report found when the government reformed the tertiary education sector, environmental sustainability was not seem as a priority, although it was identified as a key national goal. The report also suggested that the “government appears to be more focused on building a ‘knowledge society’ with a culture based around values such as risk-taking and pride in business” (PCE, 2004, p. 87). The report also found that compared to Australia and the international community, very little research was being done on education for sustainability in New Zealand’s tertiary education sector.

The MOE in 2002 stated that the tertiary education system was a key strategic asset that was vital in building a strong alignment between the Government’s broader vision for New Zealand’s economic and social development and the environmentally
sustainable sector (cited in PCE, 2004). The Ministry also stated that among six other national objectives of the overall direction and priorities for the New Zealand tertiary education system, that all New Zealanders need to help develop an awareness of the environment and the impacts economic and social activities have on it (cited in PCE, 2004).

Table 7: Environmental education aims, concepts, and dimensions (MOE, 1999).

<table>
<thead>
<tr>
<th>Aims</th>
<th>Concepts</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students to develop awareness and sensitivity to the environment and related issues.</td>
<td>Interdependence.</td>
<td>Education in the environment.</td>
</tr>
<tr>
<td>Students to develop knowledge and understanding of the environment and the impact of people on it.</td>
<td>Sustainability.</td>
<td>Education for the environment.</td>
</tr>
<tr>
<td>Students to develop attitudes and values that reflect feelings of concern for the environment.</td>
<td>Biodiversity.</td>
<td>Education about the environment.</td>
</tr>
<tr>
<td>Students to develop skills involved in identifying, investigating, and problem solving associated with environmental issues.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students to develop a sense of responsibility through participation and action as individuals, or members of groups, whanau, or iwi, in addressing environmental issues.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The MOE (2004) has also said that by its very nature, environmental education can make a powerful contribution to the renovation of the educational process, and that the Tbilisi Declaration encouraged individuals to be action-orientated and incorporate environmental initiatives that promote a sense of responsibility and commitment to the future. However, the impact on policy and practice in the formal education sectors has generally been underwhelming, which perhaps signalled an ongoing and persistent tension for the environmental education movement (MOE, 2004).

Even though there have been promising strategies suggested in various government documents (as previously suggested), unfortunately, within New Zealand’s tertiary education sector, there has been limited research done on education for sustainability (PCE, 2004). However, a report by Bolstad, Rachel, Cowie, Bronwen and Eames (2003), suggested some challenges (Table 8) that still remained for environmental education within New Zealand (cited in PCE, 2004).
Table 8: Challenges for environmental education (cited in PCE, 2004).

<table>
<thead>
<tr>
<th>Challenge</th>
</tr>
</thead>
<tbody>
<tr>
<td>The non-mandatory status of environmental education;</td>
</tr>
<tr>
<td>The challenge of integrating environmental education into other learning areas;</td>
</tr>
<tr>
<td>The need for whole school support and involvement;</td>
</tr>
<tr>
<td>The need for in-school leadership (from the principal and/or an environmental coordinator);</td>
</tr>
<tr>
<td>The need for further professional development for themselves or for their colleagues;</td>
</tr>
<tr>
<td>The need for resourcing, in the form of environmental education units and the equipment needed to take action ‘for’ the environment;</td>
</tr>
<tr>
<td>The need for funding for teacher release so they have time to plan, prepare and share ideas, make contact with support people, and be involved in action ‘for’ the environment.</td>
</tr>
</tbody>
</table>

The above challenges may also apply to those wanting to teach environmental education in the tertiary sector. The Organisation for Economic Cooperation and Development (OCED) stated that unfortunately Universities have successfully separated knowledge into various branches of learning, and have been slow to address social problems, such as environmental/sustainable education (OCED (1995) cited in PCE, 2004).

Whilst in New Zealand’s tertiary sectors sustainability issues are perhaps slowly gaining momentum, literature suggests that it still remains on the fringes of most tertiary organisations, comparatively to the international institutions who are linking environmental as well as sustainable learning and innovations into their curriculum (PCE, 2004). Even though government documents suggest the tertiary education sector has an important role in New Zealand’s culture and society, it seems it is still common for graduates to leave university without learning about environmental and/or sustainable issues (PCE, 2004). Literature also suggests that because environmental education has never been compulsory within the curriculum, and has often been perceived as an ‘add-on’, many teachers are being trained without developing any understanding of environmental education or education for sustainability (PCE, 2004).
This literature seems to suggest that if students want to learn more about environment and sustainability, they have limited environmental topic papers, programmes and/or courses to choose from at present, instead of environmental awareness, knowledge, and issues being generally integrated into tertiary education. Therefore, the concern is that “if tertiary graduates do not have a core understanding of sustainability then the pathway to a sustainable future will remain a side road for far longer than necessary” (PCE, 2004, p. 79).

In summary, at the tertiary level, educators and graduates can contribute to New Zealand’s environment, culture and society through disciplines such as research, developing technology, and improving social and economic development. However, at present it seems that implementing environmental and sustainable learning has not been aligned with tertiary programmes nationwide.

2.5 What is the role of the environment in outdoor education?

Initially New Zealand’s outdoor education programmes developed when education broadened its interests in health education, nature study and physical education (Lynch, 2006). Then historically, progressive liberalism became the platform upon which many child-centred educational initiatives were built, such as outdoor education (Lynch, 2006). Due to this change in curriculum focus towards healthy living and open air learning, New Zealand recorded its first outdoor camp in 1939 at an Auckland School (Lynch, 2003). Since the 1950s, outdoor education became more recognised as part of New Zealand schooling and by 1999, outdoor education was adopted into the formal school curriculum as part of health and physical education (Lynch, 2002, 2003).

Outdoor education can be offered at pre-school, primary, secondary and tertiary level, either as curricular enrichment, extra-curricular activities, a programme component, or as a stand-alone programme. The following section reviews literature based in an outdoor context and explores how the environment has been integrated into outdoor teaching and programmes. It explores the historical development of outdoor education; the recommended Environmental Care Code (see Appendix 8 for DOC document); the impact of modern conveniences on students’ outdoor experience;
what critical outdoor education means; how students make connections with the environment; developing outdoor environmental awareness; and transformative learning.

### 2.5.1 Environmental Care Code

New Zealand Department of Conservation (DOC) has an *Environmental Care Code* developed for people entering the outdoors via national parks and conservation land. It is a voluntary care code, and an environmental ethic, aimed at protecting and maintaining the New Zealand’s natural places for future generations (see Table 9 for summary). The extent to which this *Environmental Care Code* is known and followed would arguably vary from person to person, as well as outdoor programme to programme. For example, some outdoor literature suggested that because of the increased popularity of the American environmental care code *Leave No Trace* camping ethic (see Appendix 7 for document outline), and the use of modern technology, many outdoor experiences now do not include building and cooking on open camp fires anymore. Instead literature suggests that people tend to use gas camp stoves, which eliminates the need to learn a once traditional skill and experience of outdoor camping (Cuthberston, Socha, & Potter, 2004).

**Table 9: The Environmental Care Code (DOC, 2007).**

<table>
<thead>
<tr>
<th>Care and respect New Zealand’s forest and birds with care.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce rubbish, and carry out what you carry in.</td>
</tr>
<tr>
<td>Bury toilet waste in a shallow hole well away from waterways, tracks, campsites and huts.</td>
</tr>
<tr>
<td>When cleaning and washing, take the water and wash well away from the water source.</td>
</tr>
<tr>
<td>Portable fuel stoves are less harmful to the environment and are more efficient than fires.</td>
</tr>
<tr>
<td>Leave no trace when camping.</td>
</tr>
<tr>
<td>Keeping to the track and lessen the chance of damaging fragile plants.</td>
</tr>
<tr>
<td>Be considerate of other visitors.</td>
</tr>
</tbody>
</table>
Arguably leaving no trace camping is considered appropriate in some locations. However, if the traditional skills are practised in the natural areas that are indeed sustainable, then building and experiencing an open fire may be totally appropriate for educational purposes in that area (Cuthberston et al., 2004).

Another perspective suggested that the traces we leave, such as the firewood we consume, are what confront people with our embeddedness in the world, therefore creating teachable moments (Brookes, 1994). This argument is not suggesting leaving rubbish in the environment rather it questions the impossibility of ever completely leaving no human trace when venturing into nature. Furthermore, the concept of leaving no trace implies that when travelling in the outdoors there is a sense that we must remain the observer, never a part of what is seen (Brookes, 1994).

Arguably some literature suggests that a care code of some sorts is important but it can perhaps interfere and impact on how someone relates to and experiences the outdoor environment. This brief example suggests that it may be difficult to implement a standard environmental code for all situations outdoors, due to varying learning needs and outcomes with each outdoor programme.

### 2.5.2 Impact of modern conveniences

Since the boom of technology in the 1970s, traditional skills that were once the foundations for recreating in the outdoors, such as using axes, saws and building camp fires, have significantly changed due to the technological advances made in outdoor gear largely accommodating people’s comfort outdoors (Cuthberston et al., 2004). Some literature indicates that modern technological advances have changed historically how some people experience the natural environment. For example, the emerging gear and techniques can send students the wrong message about ecological relatedness and sustainability (Elrick, 2003).

Some literature argues that the outdoor subcultures now experience considerable pressure to possess the latest technological innovations, which is sending the message that possessing high-technology gear and clothing is a prerequisite for participation, and that the older technology is perhaps now seen to be inferior (Cuthberston et al.,
2004). For example, some people now navigate with a computer (GPS), rather than learn how to read topographical maps, use weather tight tents rather than using a tarpaulin cover, sleep under the night sky or experience a natural shelter such as a rock ‘bivvy’. Some literature suggests that these types of modern conveniences may be physically and even emotionally detaching people from experiencing nature (Elrick, 2003).

Other literature suggests that no longer teaching the wisdom of traditional practices impacts on a certain power of mental, physical and social engagement with the natural environment, which is something the modern choice for technology has difficulty replicating (Henderson, 2003). Some traditional practices require students to learn the primitive wilderness skills, which is also thought to play an important role in creating a bond with nature, in terms of mental, physical and spiritual attachment (Clifford, 2003).

The literature suggested whilst in the outdoors, students should learn that they have control of their individual and bio-regional practice, versus thinking they have no control over the industry attached to modern technology (Clifford, 2003). Therefore, it seems important to deliver a sound and balanced programme that carefully considers the impact generated within each outdoor programme and/or activity. For instance, some technologies perhaps need to be recognised and readdressed because of their global environmental impacts, whilst other impacts may be more isolated and could be minimised during the programme, such as using a fuel stove or having an open pit fire (Clifford, 2003).

Similarly, other literature suggests that experiencing and witnessing human impact is an important part of outdoor learning, because people are then able to make more of an informed decision. For instance, the traditional method of collecting dead, dry timber for a camp fire can provide greater appreciation and understanding than the modern convenience of using gas/propane stove to cook the camp food, because gas stoves can mask the initial impact they have had on the environment already (Elrick, 2003).
Consequently, if a student understands and begins to think critically about the environmental impact of the process of cooking their camp food, then they can begin to make an informed choice about their individual actions. For example; the ecological impact of fossil fuel extraction, refinement, packing and delivery can have far greater impact on the environment than utilising local sources, such as renewable wood (Elrick, 2003).

2.5.3 Critical outdoor education

Critical outdoor education (Table 10) is an academic method for enhancing students’ theoretical environmental learning (Martin, 1999). It can encourage reflective learning, and challenges students’ perceptions and perspectives of the outdoors, for example: dominant social order, human-nature relationships and basic cultural assumptions (Martin, 1999).

Table 10: Critical outdoor education (Martin, 1999)

<table>
<thead>
<tr>
<th>Aim</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aims to examine outdoor recreation and environmental issues in light of their relationship to the dominant social order.</td>
</tr>
<tr>
<td>The central issues are related to humanity’s relationship to the outdoors (or nature), challenge whether or not people maintain or resist the dominant historical human nature relationship: one of human exploitation.</td>
</tr>
<tr>
<td>Believes there exists both a local and global environmental crisis, and that social and environmental injustice have contributed to this crisis.</td>
</tr>
<tr>
<td>Can construct an alternative reality or awareness, by examining everyday assumptions and making them slightly more visible, which may have previously gone unacknowledged.</td>
</tr>
<tr>
<td>May guide students’ learning to know nature as a friend, which supports connectedness and empathy toward the environment (nature or the outdoors).</td>
</tr>
</tbody>
</table>

Critical outdoor education aims to encourage students to explore the environment at a variety of levels, such as historically, physically and emotionally (Martin, 1999). Being critical whilst working and/or recreating in the outdoors is also thought to be a method to improve the way students behave and connect with the environment.
2.5.4 Making connections

Outdoor education practitioners are perhaps in a unique position to influence how their students connect with the natural environment. Literature based on learning theories by Albert Bandura (1977), valued role modelling and suggested that:

Human learning is a continuous reciprocal interaction of cognitive, behavioural, and environmental factors. Sometimes called observational learning, social learning theory focuses on behaviour models, in which the child observes and then imitates the behaviour of adults or other children around him or her… Social learning theory states that learning can occur through the simple process of observing and then imitating others’ activities (Leonard, 2002, pp. 177-178).

A study by Martin (2004) found that when outdoor educators increase students’ sense of connectedness and encourage caring for nature, it helped shape their connection to nature. He also found that teaching could contribute to a cultural language and conceptual framework that can enable students to think about, understand, and conceptualise human connection with the environment. Martin (2004) argued that outdoor education should go beyond acquiring the learnt recreational activity and develop positive experiences with nature. He suggested when people were encouraged to develop a connection, feel comfortable with and learn about the environmental, they were then able to develop a human-nature relationship. Martin (2004, p. 26) explained that “outdoor education, which seeks to promote a positive relationship with nature, needs to monitor carefully student learning and ensure that students are coping with the demands imposed by the activity and/or environment”.

It seems the most important aspect of making a connection is how people are experiencing the environment. Whitcombe (1999), for example, noted that an outdoor education experience associated with the modern amusement park and short-term adrenaline-rush, which is somewhat associated with the narrow definition of having fun, could mean that people struggle to develop a connection with the environment. He argued that these short-term experiences can remove students almost completely from any transferable connections. In order to encourage personal experiences within nature, he also suggested that outdoor educators needed to consider the language used, not to trivialise the experiences for someone and demystify the belief of the environment being a thing ‘out there’ for the sole purpose of human amusement or as a playground. Rather, Whitcombe (1999) believed that outdoor educators were
mediators for the environment and their teaching could have a lasting impact on how students value and behave within it.

### 2.5.5 Outdoor environmental values and awareness

Within New Zealand, Māori customs can play a valuable part in developing environmental values and awareness within an outdoor experience, because Māori have strong links with the land, bush survival techniques, awareness of edible plants/animals, and their folklore (Abbott, 1990). Other literature suggests Māori cultural customs and practices are considered to play an influential part in our national environmental beliefs and values, as well as people’s interrelationships within the natural environment (Boyes, 2000; Kearsley & Carr, 2000).

However, it seems environmental values and awareness can vary widely from outdoor programme to programme, not only in New Zealand but elsewhere. Therefore the relationship between outdoor education and environmental education has been a topic of discussion and debate in various outdoor education forums over the last decade (Lugg, 2004). Outdoor literature suggested that to develop a relevant educational pursuit, educators must be prepared to examine their own practices in relation to contemporary social and environmental issues in this place and culture (Lugg, 2004). For example, a study of outdoor education programmes associated with personal development, challenge, risk and safety, found that it was considered more important to continually seek information that confirmed and supported a dominant pursuits focus within outdoor education, rather than integrating an environmental focus (Zink, 2003).

In a different study, Thomas (2005) found that it can be challenging for outdoor teachers to foster environmental education philosophies in outdoor programmes, however, suggested there were areas where teachers could improve students’ environmental learning outcomes within an adventure pursuits programme. These areas are identified in Table 11.
Table 11: Improving environmental learning outcomes (Thomas, 2005).

<table>
<thead>
<tr>
<th>Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capitalise on teachable moments to improve content relevance and appeal</td>
</tr>
<tr>
<td>to students in adventure based programmes;</td>
</tr>
<tr>
<td>Manage technical/gear/skills to improve environmental content in activities;</td>
</tr>
<tr>
<td>Deliberate facilitation and careful planning for the successful inclusion</td>
</tr>
<tr>
<td>of environmental content within activities; and</td>
</tr>
<tr>
<td>Appropriate activities for allocated time frame</td>
</tr>
</tbody>
</table>

It seems that the integration of environmental learning in outdoor programmes requires some significant and relevant planning and organisation. Some literature suggests that the long-term aspects of environmental learning also require giving attention to the taken-for-granted beliefs, values, and social practices of the individual, because that will have an influence on their environmental behaviours and awareness in the future (Plumwood, 2002). Maybe, as Brookes (1994) suggested, a well-crafted outdoor experience could assist students’ understanding of the inherited dominant worldview, such as the assumptions of individualism, rationalism, and anthropocentrism. Literature suggests that education in general may need to merge its worldviews more formally to align with social and political sectors in order to be transformative (Lefay, 2006).

2.5.6 Transformative learning

Literature suggests that education “can and must be redefined and transformed to become itself a transformative process, such that we learn to see the world holistically and act to protect, respect and restore the earth” (Lefay, 2006, p. 36). For an outdoor programme, perhaps the impeding factors for implementing transformative learning could be:

The complexity of changing values and lifestyles; western society’s psychosocial history and conceptualisation of the out-of-doors; the lack of inclusiveness in outdoor recreation; the development of technology and its implications for outdoor recreation; the commodification of outdoor recreation; and the feelings of disempowerment potentially held by students (O’Connell, Potter, Curthoys, Dyment, & Cuthberston, 2005, p. 82).
In an outdoor education programme, transformative learning could be initiated by expanding the focus from exclusively a leisure one, to incorporating sustainability and cultural perspectives, which may broaden students’ knowledge and subsequently teach them about human and nature relationship. For example, if outdoor education could contribute somehow towards these sustainable environments, perhaps locally through various educational approaches, then that process could encourage and promote general ecologically sensitivity and positive environmental behaviours (O’Connell et al., 2005).

Outdoor education is about teaching people that they make significant environmental decisions in their day-to-day lives. Therefore there could be some world views that obstruct some environmental transformative learning. The literature suggests that some education systems in fact have no bearing on people’s experiences of real life. For example, they do not help people understand who they are or what humans’ ecological impact might be on the future. Instead they suggest that the core lessons being taught are based on individualism, consumerism, careerism and anthropocentrism and the concern is that this learning may be shaping people’s world views (Lefay, 2006).

Transformative learning aims to increase students’ environmental consciousness, therefore “outdoor educators need to be conscious of how certain social trends counteract the goals promoting a greater understanding of self, others and the environment” (Hales, 2006, p. 53). Furthermore literature suggests that more outdoor programmes can effectively help people develop an understanding of community and environmental relations, when educators can challenge the broader social processes that are actively negotiated by the individual. However, if this is not considered, this type of transformative learning may have less appeal and be actively resisted by students (Hales, 2006). Transformative education can perhaps encourage a deeper level of consideration for environmental world views, by challenging individual understanding and awareness.

In summary, this section reviews only a selected sample of outdoor literature that explores the role of the environment in outdoor education. The literature suggests that encouraging environmental awareness within outdoor education can have its
challenges and difficulties, particularly if the outdoor programme is predominately focused on pursuit/adventure learning. Nevertheless, outdoor educators can implement environmental learning within their teaching and programmes through a wide range of processes. These include adopting the *Environmental Care Code*, challenging and exploring the use of modern conveniences, developing critical outdoor education discussion, encouraging students to make a unique connection with the environment they are recreating in, teaching outdoor environmental awareness and supporting the process of transformative learning from the outdoors.

### 2.6 Summary

The literature provides a general overview of what an environmental crisis might mean to outdoor educators and how it could impact on their teaching and programmes in the outdoors. There are many potential human-mitigated environmental impacts that could potentially lead to a crisis. However, this research has focused on global warming, using supporting scientific evidence that suggests the earth’s atmosphere is heating up to a level that could be detrimental to human life and the environmental biodiversity.

To explore what an environmental belief and value might be for an outdoor educator, some historically influential environmental literature was reviewed. These writers have influenced the wider community with their: environmental land ethic and a belief in maintaining the pyramid of life’s integrity; the dangers of large scale impacts with the indiscriminate use of chemical within the landscape; and the symbiotic connection that could be possible between humans and the natural world.

To provide some context for the environmental focus of this study, the literature review explored the historical development of environmental education internationally and within New Zealand. The literature outlined five educational objectives, which were based on environmental awareness, knowledge, attitude, skills and participation, as well as exposition on the guidelines for New Zealand tertiary institutions.
The last section explored environmental outdoor education literature, to provide an insight into how some outdoor educators implemented environmental teaching and practices within their programmes. Initially the New Zealand *Environmental Care Code* was introduced because people recreating in the outdoors were encouraged to consider the principles as part of best practice, which included the idea of minimal impact. However, for some outdoor educators wanting to teach environmental awareness and pass on traditional tramping practices, this idea of minimal impact was not always possible.

What was also important to some outdoor educators was the idea of transformative learning, which may involve positive outdoor practices being implemented within one’s daily routine back at home. Some outdoor educators also encourage their students to think critically about their outdoor experiences, supporting them to make human-nature connections and improve their environmental awareness whilst recreating.
CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

3.0 Introduction

This chapter outlines the methodology and design of this research. The research purpose was to listen to and learn from tertiary outdoor educators’ personal outdoor experiences and to explore their environmental philosophies and practices. The study employs qualitative research methods as they were considered most suitable to obtain the information to answer the research questions. Qualitative methods are commonly used in social science disciplines to connect with individuals and get close to their experiences. They can rely on verbal data as well as subjective analysis, to listen and record the participants’ viewpoints (Gall, Gall, & Borg, 2005). They also incorporate the researcher as an insider who brings her considerable knowledge and experience to the research context.

My background has been profiled in the Introduction chapter and this has guided the literature read, the questions asked and the chosen design. As such, my personal values, assumptions and biases have played a role in the shape, flow and interpretation of this study. The research design is as transparent as possible to enable readers to make their own interpretations of the data collected. The data was collected through semi-structured interviews and these have been presented in case studies with each addressing the research questions. This chapter provides an exploration of methodological considerations, an overview of the participants involved in the study, an outline of the research design and sections on the research procedures and data analysis.

3.1 Research questions

The research questions were:

1. What are the environmental beliefs and values of New Zealand outdoor education tertiary teachers?
2. How did the teachers implement environmental learning?
3. How has the ‘environmental crisis’ impacted on the teachers teaching and programmes?
4. How did the teachers implement their understanding of the ‘environmental crisis’?

5. With no limitations or expenses, how would these teachers ideally implement environmental learning in their outdoor teaching and programme?

3.2 Methodological considerations

The research inquiry involved a qualitative research approach. As Denzin and Lincoln (2000, p. 3) stated: “...qualitative researchers study things in their natural settings, attempting to make sense of, or to interpret phenomena in terms of the meanings people bring to them”. I applied qualitative research methods to obtain in-depth understandings of the meanings and descriptions of situations from outdoor education teachers’ perspectives. The subjective interpretations of the research participants are paramount. Within qualitative methods, Denzin and Lincoln (2005) identify four major interpretive paradigms: positivist and post-positivist, constructivist-interpretive, critical and feminist-post-structural.

The guiding research paradigm for this research was based on a constructivist-interpretative perspective. Given that a paradigm is “a basic set of beliefs that guide action...” interpretative researchers adopt methods to become close to the way others see the world and construct meaning from them (Denzin & Lincoln, 2005, p. 22). Humans are seen to act consistently with a subjective understanding of the world and its phenomena. Interpretivism seeks to construct descriptive analyses that examine deep understandings of social and cultural interactions. The interpretive perspective recognises multiple realities, each of which is relative to a localised context. The specific qualitative methods chosen allow the researcher to obtain an in-depth understanding of the values, meanings and actions of the outdoor teachers under study.

The epistemology can be described as existential and constructivist. Knowledge is viewed as being actively constructed, historically and culturally grounded and value laden. Consistent with this, there are strong links between the inquirer and knowledge. As mentioned, the importance of context should not be underestimated with day to
day meanings derived from temporal, spatial, economic, social, cultural, historical, political and personal contexts (Pope, 2006). Ontologically, social reality is seen as the product of processes through which participants collectively negotiate and produce socially constructed meanings for actions and situations.

In interpretive approaches a practical orientation is useful. To actually be involved in the day-to-day realities of outdoor teachers’ lives and to investigate everyday circumstances bring meaning and richness to the data. An empathy with the research participants was essential in order to make meaning from the situations in which the teachers’ taught and practiced outdoor education. In this study, the contextual setting was based on outdoor education as a pedagogy, with a particular focus on outdoor teachers’ environmental beliefs and values. This focus represents not so much a methodological choice but rather a choice of what was to be studied (Stake, 2005).

3.3 Participants

Given the current global concern for the environment, the study was focussed on researching outdoor educators because they work directly with students in the environment and therefore are in a pivotal position to influence their students’ environmental knowledge and awareness. Participants involved in the study were purposively sampled for their experience and understanding of outdoor education. Stake (2005) stated that case studies are often selected for typicality but more importantly suggested choosing a case that offers an opportunity to learn. As Stake (2005, p. 451) stated: “My choice would be to choose that case from which we feel we can learn the most”. Furthermore, Maykut and Morehouse (1994, p. 45) suggested purposive sampling would increase “the likelihood that variability common in any social phenomenon will be represented in the data...”. The environmental philosophy of the participants was not known before the interview.

These teachers taught a range of outdoor programmes, which included technical recreational practical skills, and theoretical educational skills, varying in focus in, for and about the environment. In this study the term outdoor educator included anyone that taught in the outdoors, for instance: tourism, adventure pursuits, recreation, ecology and so on. At the time the participants were interviewed they were either
employed at a Polytechnic, Teachers’ College or at a University residing within New Zealand.

Three male and three female teachers were sampled to provide a gender-balanced view. These outdoor educators were asked to be involved in the research because of their experience and understanding of outdoor education. Each participant had 10 years or more outdoor work experience, and his or her outdoor academic knowledge, outdoor experience and tertiary programme varied.

3.4 Research design

3.4.1 Case studies

Case studies are a common method used in a qualitative inquiry, and this design was considered for the study because it defines its interest in an individual case through intense and detailed study (Stake, 2005). The overall project is based on more than one case study, therefore could be considered a multiple-case study, or a collective case study approach (Stake, 1998; Yin, 1993). The literature has described case studies as “a complex entity located in a milieu or situation embedded in a number of contexts or backgrounds” (Stake, 2005, p. 449). The case studies in this research were fundamentally designed in the same way, for easy navigation and to provide the reader with a descriptive picture that could easily be understood (Patton, 1990). This inquiry did not assume that because outdoor educators taught in the outdoors that they were aware of the environmental issues or had a strong environmental philosophy. Rather these perspectives were seen to emerge through the data gathering process. As Yin (1993) suggested, case studies are a method of choice, when the phenomenon under study is not distinguishable from its context. In this inquiry, the person in each case study has a unique environmental perspective and interpretation about how to implement environmental teachings and practices within the outdoors.

The case studies follow the same theoretical structure to address research questions. It was important to the researcher, that “the case study is both the process of learning about the case and the product of our learning” (Stake, 1998, p. 87). It was also important that each case study could stand alone, as a unique and holistic entity (Patton, 1990). The intention was not only to “encapsulate complex meaning into a
finite report, but to describe the case in sufficient descriptive narrative, so that the reader can experience these happenings vicariously and draw their own conclusions” (Stake, 2005, p. 450). The study developed six unique case studies, because a larger collection of case studies can provide better theorising and or understanding (Stake, 1998).

To develop the case studies, the data were divided up into meaningful clusters of information and unique themes were developed to respond to the research questions (Patton, 1990). The data analysis process explored the participants’ stories based on the raw data, then secondarily all of the case studies were discussed together, with reference to the literature reviewed. Direct quotations from outdoor educators were used as much as possible within the case studies along with supporting evidence from the literature to maintain fidelity.

### 3.5 Research procedures

All the participants were contacted by telephone first and introduced to a brief overview of the research inquiry and asked if they would be interested in taking part. This conversation was formally followed up by an invitation email (Appendix 3). This letter outlined who I was, what the research questions were and why I wanted to interview them. The participants were asked to formally reply if they were interested in being involved in the project. Then to ensure the participants were comfortable and informed about being involved in the research, the following additional pieces of information were sent; (1) Information sheet (Appendix 4), (2) Consent form (Appendix 5), and (3) Approval letter (Appendix 6). At this point research inquiries were fulfilled on a one-to-one basis, and at the participant’s convenience an interview location, day and time were arranged.

#### 3.5.1 Interview structure

Semi-structured interviews were chosen as the data gathering mechanism of choice as this is a useful technique for learning about someone’s perspective on a particular subject (Patton, 1990). The interview was considered to be an interactive process with the participant, and a negotiated accomplishment. Together, the interviewer and the participant create the context and situation (Denzin & Lincoln, 2000). The location of
the interview was negotiated with the participant, to maximise the opportunity for him/her to feel safe, comfortable and relaxed during the meeting. When designing the interview questions, the researcher considered it important during the interview to encourage a positive experience for the participant and that the questions asked would contribute thematically to the research inquiry and knowledge (Kvale, 1996).

The interview questions as much as possible were couched in the participants’ terminology and judgements, to enable them to explain the complexities of their individual perceptions and experiences (Patton, 1990). The timing and framing of the questions was designed so that the participants were encouraged to explain their environmental beliefs and values as well as their outdoor teaching and practices by reflecting on their current and ideal outdoor programmes.

The researcher’s initial steps for approaching the interview involved preparing the interview questions, informing the participants about the interview questions and process, arranging location and time, and making sure all participants were aware and comfortable about the interview being tape-recorded. The interviews were one-to-one, face-to-face conversation with the researcher, and varied in length from one hour, to one and a half hours long. During the interview, the researcher took brief notes, to maintain focus during the interview process (Tolich & Davidson, 1999). By asking essentially the same interview questions the format could be used to obtain thematic information from each participant to address the research inquiry (Patton, 1990). However, variations with probing and prompting questions were used depending on the need for further information and to give cues to the participants about the level of response that was desired (Patton, 1990).

Probing questions were also used to deepen the participant’s response to a question, and increase the richness of the data being obtained (Patton, 1990). These were generally spontaneous questions that sought further information or clarification (Tolich & Davidson, 1999). Concerning the design of interview questions, Patton (1990) suggested three different types of probing questions: natural conversational probes (participants have to fill-in the blank areas), detail-oriented questions (who, where, what, when and how), and elaboration questions (encouraging the participant to continue talking through body language).
3.5.2 Interview questions

The structure of the interview questions (see Table 12) was taken to each session to provide a constant reference. The interview structure is divided into two columns to identify the specific questions relating to the research inquiry. The first column represents the research domain, which outlines the area of inquiry for the research and was explained to participants before starting the interview. The second column has the nine standard interview questions that were asked to each participant, along with some possible prompting/probing questions if necessary.

Table 12: The interview questions.

<table>
<thead>
<tr>
<th>Research Domain</th>
<th>Interview Questions (and probes and prompts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current outdoor education practices</td>
<td>1) Can you tell me about your outdoor education programme? What is important to you that students learn?</td>
</tr>
<tr>
<td>Learning about their teaching &amp; programme focus – is it teamwork, skill</td>
<td>What do you intend your students will learn? How do you get them to understand your intention? Why do</td>
</tr>
<tr>
<td>acquisition, adventure, personal development, environment, enjoyment, physical</td>
<td>you do that? What do you believe is important to teach in the outdoors?</td>
</tr>
<tr>
<td>activity etc...</td>
<td></td>
</tr>
<tr>
<td>Outdoor environmental education practices</td>
<td>2) How do you handle the environment in your programmes?</td>
</tr>
<tr>
<td>Learning about their environmental teaching management &amp; protection measures</td>
<td>3) What do you do that identifies environmental concerns in your teaching and programmes?</td>
</tr>
<tr>
<td>– dealing with environmental impacts, human waste disposal, fire scaring,</td>
<td>4) What is the important environmental component in your teaching that you want your students to learn?</td>
</tr>
<tr>
<td>rubbish disposal, teaching the care-code, avoiding water pollution etc...</td>
<td>Why do you do that? Why are you going about it in that way? What are you trying to achieve? What are your</td>
</tr>
<tr>
<td></td>
<td>goals? What are your aims? Why is that important to you? How does that work? What do you think are the</td>
</tr>
<tr>
<td></td>
<td>limitations?</td>
</tr>
<tr>
<td>Personal understanding of an environmental crisis</td>
<td>5) What is your understanding of the environmental issues we face today globally?</td>
</tr>
<tr>
<td>Learning about how they understand it – global warming, climate change,</td>
<td>6) What are your concerns for New Zealand? What are the key impacts? Why do you think these things are</td>
</tr>
<tr>
<td>greenhouse gas causing atmospheric changes, animal extinction, deforestation,</td>
<td>happening? How would you describe it? What can we do about it? How can we do it? What do you think will</td>
</tr>
<tr>
<td>unsustainable use of natural resources, population impacts etc</td>
<td>happen in your lifetime? What do you think needs to happen to reduce humans’ impact on the environment?</td>
</tr>
<tr>
<td>Impact of the environmental crisis on outdoor practice</td>
<td>7) Have these environmental concerns impacted on your teaching?</td>
</tr>
<tr>
<td>Learning about how their environmental concerns impact on their practices-</td>
<td>8) Have they impacted on your programmes? What do you do? What is most important to you? Why do you do that?</td>
</tr>
<tr>
<td>location of programmes, more instruction of environmental care etc</td>
<td>Why not? What would you like your students to understand about the crisis? How do we make these changes?</td>
</tr>
</tbody>
</table>

Table continued on next page
Before the interviews were undertaken, pilot testing was conducted. This pre-testing involved volunteers who had some previous experience teaching outdoor education, and was used to redefine and readjust questions that were unclear and needed further clarification (Janesick, 1998). Pre-testing provides the researcher with constructive feedback on the content and format of the interview itself, as well as on the interviewing techniques used by the researcher (Maykut & Morehouse, 1994). This process informed me about the strengths and weaknesses of my research inquiry, therefore I was able to make the necessary amendments to improve the overall relevance, design and structure of the interview questions. After pilot testing I felt assured that the questions were relevant, I could conduct the interview with confidence, and was familiar with how the probes and prompting questions aided the data collection.

The interview discussion was tape-recorded, which became the study’s raw data. Tape-recording is a valuable part of collecting the interviewee’s words and is a well recognised technique of data collection. It captures the richness of speech, non verbal pauses and leads to accurate recall.

3.6 Data analysis

The analysis of this study was based on thick descriptions, which can take the reader to the heart of the experience that is being interpreted (Denzin, 1989). Thick description (in terms of naturalistic studies) employs deep, dense and detailed accounts of the experiences and these accounts often state the intentions and meanings that organise an action (Denzin, 1989). When the data was analysed, direct quotations were used as much as possible to ensure description was carefully separated from the researcher’s interpretation, and so the reader could ascertain for themselves the patterns within the data (Patton, 1990).
The data analysed was about understanding what each participant’s environmental beliefs and values were, how they implemented environmental learning, their understanding of the environmental crisis and the impact that had on their teaching and practices. These data were collected in raw form during the interview, then transcribed and formatted into case studies. In order to strengthen the research inquiry Maykut and Morehouse (1994) suggested that data directly referenced from the participants’ transcripts could maintain the accuracy of their information. Therefore the study developed a rigorous and systematic analysis of data by arranging the participant’s feelings, thoughts and actions broadly into sections. I employed Patton’s (1990) description of processing data, which involved; (1) building on items of information already known, (2) making connections among different items, (3) proposing new information that ought to fit, and (4) verifying its existence. Therefore, relevant data was collected, first based on the interview questions, then I analysed the data that emerged as themes and categories. To assure the data analysis was trustworthy I adapted Priest’s (1999) naturalistic measures.

Each tape-recording was transcribed word for word into a Word document, before being analysed for patterns and themes. The structure of the transcripts were based on Maykut and Morehouse’s (1994) transcript structure, for example:

*Name of the participant: Matthew*

*Date of interview: 12/08/2007*

Matthew is an outdoor educator at a tertiary institution in New Zealand. He has been working for approximately 10 years in the outdoors and the interview was located in his office on a Monday morning. The tape-recorder was placed in the middle of us. The interview took approximately an hour and a half to complete. After greeting formalities the interview began.

*Interviewer: Let’s start the interview by talking about your outdoor programmes…*

Each participant sighted the transcript for approval before it was analysed and constructed into individual case studies. Pseudonym names were used to conceal identities. Each participant were given a second opportunity to vet their material when the completed case study, with the researcher’s interpretation, was forwarded for approval.
3.7 Ethical considerations

All of the participants were informed about the intended use of the data from the interviews and informed that the tape recordings and printed transcripts would be stored in a private and secure location to maintain their privacy. As identified by Gubrium & Holstein (2003) it was important that the participants felt comfortable about the ownership and empowerment of their own story. The researcher was also aware of the importance of maintaining a moral code and ethical principles in terms of gaining informed consent, avoiding deception and ensuring participants felt accurately represented (Christians, 2000). Furthermore, all participants were informed of their right to withdraw at anytime and that they did not have to answer any questions they were uncomfortable with. They were also advised when the tape-recording was to start and when it ended. It was also confirmed that that pseudonyms would be used to maintain anonymity.

Particular consideration was made during the planning, data collection and analysis stages to ensure participant confidentiality was maintained. I acknowledged that qualitative researchers are guests in the private spaces of their participants’ world, therefore my manner should be appropriate for this situation and governed by research ethics (Stake, 2005).

At the beginning of the research process, the researcher submitted a research proposal for ethical approval to the university, which was granted. In order to gain university approval to conduct the research inquiry, I also had to present the proposal to academic staff for peer review, which was also approved. This process of peer debriefing was considered part of keeping the study honest (Lincoln and Guba, 1985, cited in Maykut & Morehouse, 1994). Ethical considerations were ongoing throughout the research process. In summary, the ethical principles were considered an important component of this research inquiry. Therefore a high standard of respect and responsibility was maintained throughout the process.

3.8 Trustworthiness

The literature suggests that trustworthiness strengthens the research inquiry because it asks: “To what extent can we place confidence in the outcomes of the study?” and
“Do we believe what the researcher has reported?” (Maykut & Morehouse, 1994, p. 145). Denzin & Lincoln (2005, p.24) highlight the key criteria for evaluating constructivist research and trustworthiness as being creditability, transferability, dependability and confirmability (Table 13). The following table is drawn from Priest (1999) in this regard.

**Table 13: Trustworthiness measures in a Naturalistic Paradigm (Priest, 1999).**

| Credibility          | The counterpart to internal validity, addresses whether the outcomes identified are interpretable – does the knowledge and understanding gain from this inquiry form plausible and consistent descriptions of reality? |
|---------------------|----------------------------------------------------------------------------------------------------------------|---|
| Transferability     | The counterpart to external validity, addresses the extent to which an outcome may be transferred to other situations – is the context described well enough so as to allow readers to apply the outcomes to similar situations? |
| Dependability       | The counterpart to reliability, addresses how to measure a phenomenon- is the inquirer astute in perception and interpretation of the data? |
| Confirmability      | The counterpart to objectivity, addresses the extent to which the inquiry was neutral – did the inquirer acknowledge or account for personal bias in the perception and interpretation of the outcomes? |

The credibility of this research was based on the participants’ and the researcher’s current outdoor education experience, their environmental teaching and practices, their outdoor knowledge, and their understanding and personal environmental beliefs and values. To provide some content and background knowledge about the inquiry, the research also reviewed literature that explored current environmental issues, environmental philosophies, environmental educational definitions and the role of the environment in outdoor programmes (for example see IPCC, 2007; Leopold, 1970; Lugg, 2004; PCE, 2004).

The transferability of the research data can be based on the outdoor environmental teaching strategies and practices identified by the participants in their case studies. The case studies not only share the knowledge and experience of the participants with the reader but also provide some practical strategies for implementing environmental education within outdoor programmes. The outdoor literature reviewed also provides some examples of how to encourage and implement environment outdoor learning with the outdoors, for example, engaging human-nature relationships within the environment (Martin, 2005). Transferability will rely on the reader making the
judgement of applicability to their own situations rather than the researcher implying transfer.

The dependability of this study is based on the literature the researcher referenced in order to make an informed decision about how to design the research, develop appropriate methods of inquiry and analyse the inquiry. I was conscious of being as transparent as possible to convey the research methods for the reader to ensure dependability. Incorporating direct participant quotations as much as possible within the case studies, allowed the participants’ voices to be heard and interpreted by the reader as well as the researcher.

For confirmability of this study, the literature made me aware that as the researcher, I could never step outside of the interpretive process, because as the researcher I was a part of the subject and present in the same world as the participants. I therefore played a role within the study’s framework and design, and contributed to the research outcomes (Gubrium & Holstein, 1997). The literature also suggests that, as the researcher, my personal values, assumptions and biases play a role in the interpretation of this study, as do my cultural and historical experiences as an outdoor educator (Creswell, 2003). Therefore I endeavoured to be as transparent as possible during the research design, in order to assure trustworthiness of the study. I have openly outlined my personal interest in this research topic and my outdoor experience in the introduction of the study. Also, I gained the participants’ approval for the accuracy of individual case studies, to assure that it represented their opinion at the time of the interview. Lincoln and Guba (1985) suggested that member checks were an important part of reducing and avoiding any misinterpretation or misrepresentation within the research (cited in Maykut & Morehouse, 1994).

These considerations all aimed to reduce the personal bias and interpretation of the research outcomes.
CHAPTER 4: CASE STUDIES

4.0 Introduction

This chapter reviews six different New Zealand outdoor educators environmental beliefs and values, how they implement them, their understanding of an environmental crisis and how that has impacted on their teaching and programmes. Italics are used to identify the participants’ direct quotations recorded from the original transcript. At times there may be some repetition of their beliefs and values, to reiterate their philosophies, teaching and practices. The case studies have been divided into the nine semi-structured interview domains, as previously outlined in the interview schedule.

Each participant responded differently to the semi-structured questions, which personalises their outdoor environmental practice, their environmental beliefs and values, and their understanding of the environmental crisis. However, the case studies provide an opportunity to learn about outdoor environmental education teachings and practices. The New Zealand outdoor industry is relatively small compared to other countries, therefore for confidentiality reasons information specifically about the educators’, their backgrounds and the papers they taught had to be minimised.
4.1 Matthew’s case study

4.1.1 Outdoor education programme

Teaching and programme focus

The first outdoor educator to be interviewed was Matthew. The interview was conducted in his office on a Monday morning, and the interview took about one hour and thirty minutes. Interestingly, the interview took place the day after he taught a practical outdoor paper which incorporated environmental learning. Matthew teaches both theoretical and practical papers and described these papers as:

An introduction to outdoor education, which takes a broad look at the notions that are contained within that area: the psychologically based models (anthropocentrism and ecocentrism), social models of risk, leadership theory and environmental education (where we explore people's relationship to places), and lastly, we take a look at adventure education and the educational element of being in the outdoors.

Matthew said the outdoor pursuits had an environmental focus and “were more practical in nature and were largely terrestrial programmes in the mountains”. These programmes were “both instructional and theoretically based programmes that encourage students to make connections between the classroom theory and what they did outdoors”. He said when he teaches with an environmental focus he:

Explores it in more detail, through what you might call a critical lens. So I encourage students to explore relationships of human and non human nature and some of those things such as technology, media and gender, which play some part in shaping our adventures and our relationship with nature.

Matthew believed it was important that the students learnt to critically engage in their own learning and explored what the outdoors meant to them:

I don’t care so much what people think, but I do really care that they do think! So my primary aim is to have students engage with the material and in some degree they pick up their own understandings from that. At the end of the day, I would really like them to at least have had an understanding that outdoor education, or environmental education, or whatever it is, is not necessarily a given, but they are built up upon a certain understanding that has come from somewhere, not necessarily just theoretical understandings either. That we develop our understanding of what it means for us to be an adventurer, a risk-taker, or an outdoor leader from some sectors within our society. That researching is one area, that helps us to be informed about that, but that is not the only way.
During the outdoor programme Matthew’s students were asked to review academic literature in order to develop this critical perspective. He explained that:

*In the outdoor paper, I really want them to understand there is quite a breadth of theory out there that is shaping our understanding of the outdoors.*

*In the environmental paper, I try to make some greater links between the theories through a critical perspective… As researchers, we can choose to look at these sorts of things in society, and see how they come to shape certain notions that we have of certain things, such as risk, sustainable adventure and so on… I really try to make obvious and trouble the assumptions that we may have about adventure.*

*I also encourage students to think, ok well here it is, I have got some new tools now to help me understand or to read society. Then I want them not to just leave it at the reading, which critical theory could be very good at, but I want them to think: because I have some agency, I will choose to do something, even something small differentially, because it is a better outcome for the environment and for other people around me’.*

Matthew’s teachings are focused towards thinking critically, analysing theories and examining the dominant discourses that influence our society’s beliefs and practices. He considered it important that students learn to think and question what is going on around them, rather than accept ideas and theories at face value, and consequently perpetuate values and beliefs they are unaware of.

### 4.1.2 Environmental education practices

**How the environment is considered in the papers**

Matthew suggested that the way the programmes he taught were structured guided the amount of emphasis that could be placed on current environmental issues. He believed that the environment component was more about introducing concepts, rather than perhaps action orientated or implementing them. For example, the environmental theories and practices were related to New Zealand’s natural environment and he encouraged the students to ask and consider questions, such as:

*How does the natural environment play out in our society? How do they come to maybe even perpetuate, the exploitation of the environment? And what are the mechanisms, be it technology or the existing discourses, around adventure and outdoor education?*

Matthew looks at New Zealand’s ecological history, reviews literature and watches documentaries that explore environmental issues about human impact on nature. The students begin to recognise the influences that can shape their environmental beliefs
and values, as well as their outdoor experiences. Matthew said he wanted the students to consider:

That the discourse or the storyline, that people have in their minds of what it is to be a human has a significant influence over how they behave. So I am trying to make that connection between attitude, discourse and behaviour, which is still part of discourse. For example, I take a really topical issue like global warming and try to use it again as a means to understand the storylines, which is another way of talking about discourse and our behaviours. For instance, if we have a storyline in our mind like progress is really important (and if not important, it is natural), it then becomes ingrained. If we have other storylines such as, the development of the individual and economic development, then these storylines (or discourses) play an enormous part in supporting our ideas of what it means to be human. Also, in part (almost by default) they support our relationship with the environment. So I just try to teach that connection through those contemporary or accessible examples. By explaining how these storylines effect, how we behave and have relationships with the environment. Then the flow on effect for the students is: ‘so if we change these storylines we can change the relationship’.

The environmental concerns in teaching and practice

Matthew said he has two different teaching emphases, one is predominately on outdoor skills and the other has more of an outdoor environmental education focus. The students choose the papers that interest them. In the environmental papers they have to design and present “under the guise of environmental education... a new activity that some people might not normally expect of an outdoor education programme” to their peers. For example in the past, he said:

We have had students showing us through art, dance and aesthetic forms, that we could explore our natural environment in different ways... We have had students who had an understanding of botany teach us about the plight of a particular grass on the sand dunes that is native to the country and is not surviving. It is happening as a result of marran grass, which is all over our sand dunes, Interestingly, until then, everyone in this group (except this one student) thought that this was normal and natural. We had students who took us into the rocky pools (that we normally leave for the kids of the world) and showed us the seaweeds that we could eat (which we did), how the Māori would cook it, what these plants would hide and so on.

Another example was, a student discussed the food associated with outdoor experiences, its weight, nutrition and energy value. They also discussed the impact agriculture had on the environment as part of its production, transportation, packaging
and how to dispose of any waste. Then he developed with his peers an environmentally sensitive and sustainable menu from local and organic produce. Matthew said during these presentations, he utilised teachable moments and group discussions to further explore and enrich the students’ presentations and discussions. He believed that it was important for students to challenge the concepts they had about outdoor education, in order that they would develop their own theories and practices.

Matthew also encouraged the students to create a link between theories and practice, for example, using teachable moments to explore whether or not to have an outdoor campfire. Matthew said he would talk about whether or not it was appropriate, irresponsible, or perhaps even both, to have an open fire as opposed to the fuel-based burner during an outdoor experience. He said:

We would discuss just what was exactly at stake here, so we talked about safety and responsible use of the activity in the environment. We also talked about the storyline, which is based on this idea of ‘Leave No Trace’. We discussed how that storyline, embraces certain things particularly at the local level, but how it has no consideration for the global impact. What is often overlooked is the impact of creating the burner, getting the fuel together, transporting it to this very place and that very local time.

Matthew said he also explored with the students, the notion that perhaps some people related to the environment as only a “resource for humans and that humans tend to feel somewhat special and dominant, and that maybe, we are no more or less important than the environment”. Matthew explained that:

The outdoor education paper does not do much more than start talking about semantics, and what environmental education is thought to mean within outdoor education...The way I see it is outdoor education and environmental education tend to be somewhat separate. Not because that is what I believe, but I think that often in practice that is often how it works out. So there is some real difficulties there I think to see unification between outdoor education and environmental education, and if that is what people think exist, then I don’t think that it does.

Identified limitations

Matthew said the tensions between outdoor and environmental education, created some limitation for merging the practices because:
I think outdoor education has developed its roots in this country around the development of the individual as the main plank and to some degree the development of the group, or the individual as part of the group, through the use of quite a limited number of outdoor pursuits. On the other hand environmental education has bubbled up through the education system to the point where it now can be recognised, to a degree at least, and by default it seems, to lie within outdoor education. It has no formal place in the curriculum or within the school, and consequently it is left to everybody but nobody. While the two are thought to have some sort of marriage, in my mind, there is not really a fit between the idea of developing the individual through outdoor pursuits necessarily and the idea of environmental education. Other than that, we can ‘safely’ (and that is an important word I think), still teach aspects of environmental education within outdoor education, because it does not tend to upset the perceived importance of outdoor education. So we could teach about the environment within outdoor education but if we were actually truly teaching for the environment through outdoor education, then I think we would have to look really carefully at all our practices in outdoor education.

This aspect of outdoor environmental education, he believed was a contradiction in the sustainability of the outdoor pursuits. Matthew also questioned: “how beneficial to the environment is all the driving to activities, for example, 400 kilometres with a trailer load of boats to paddle some grade three rapid, so that someone’s self-esteem can feel a bit better at the end of the experience”. He thought that was the paradox about outdoor education. However, he also said within his own practice it troubled him, the amount of driving he did sometimes, to get to some of his favourite outdoor environments. He also said within his own teaching experience, he did not feel comfortable about where environmental education was situated within the curriculum at present and believed that:

We will need to get our head around where does environmental education fit in. If it is ‘for’ the environment, I do not think it is actually happening at the moment, whether it is through the vehicle of outdoor education or anywhere really. It is focused largely on education ‘about’ the environment, where it does not want to rock the boat.

He suggested that environmental education has struggled within the education system because the system as it stands, tailors “people for the work force so they can contribute largely economically and to some degree socially”. Matthew argued that this leaves very “little, or no real concern for the long-term effects of all that on the environment really”, posing questions about the effectiveness of environmental education programmes. He believed, that the people that feel responsible for teaching
environment education “if they do really come on too strong with this argument that we are supposed to be doing things for the environment, and strongly question certain practice, then they are probably going to be labelled marginal, radical, or both, and then they would become somewhat ineffectual”. He argued that the easier option for outdoor educators was to choose to practise within safe areas within environmental education because ultimately there is no political pressure to do otherwise. Matthew explained:

I am a bit like some of those environmental educators that maybe do not want to upset the apple cart too much practically. I do not feel that comfortable teaching it myself because at times, I might possibly prefer to practise something that I still know is not necessarily theoretically that sound. I still will drive to places that are a little more far flung, and I will still buy food that is not necessarily made as sympathetically as others.

However, he added that when he could suitably advocate sustainable practices in outdoor pursuits, he did encourage it. For example, when he takes students walking around in the alpine mountain regions, he said that in the past:

I have initiated the practices of taking the human solid waste containers with us, so that we do not leave solid waste out there... Also on this journey, whilst we still take certain equipment with us, such as tents for safety reasons, I try to impress upon the students that there are alternative ways we can be comfortable enough in the environment without certain pieces of equipment, but maybe not be quite as comfortable, as we would be in our Luna modules, the tent.

Sometimes I have introduced discussions and asked questions about: Why we are adventuring? What is it that we are seeking/wanting to get out of this? What is important about the adventure? And, is it really important to get to the top of the mountain, and if so, why? This way we start to unpack a little bit and perhaps talk about the discourse that is driving that programme along. So, I question them to think: Is it really just about personal challenge or can we, on a not so nice a weather day, just learn to chill out and sit in the snow cave?

Another theoretical issue Matthew discussed during these programmes related to sustainable practices, issues related to “land ownership and land use in recreation areas because a lot of the areas have had farming use”. He would encourage the students to think critically about the storylines or discourses associated, with farming for example: “What it means when these properties have been a farm even if it was only lightly grazed, versus when it becomes conservation state? As well as, what does that impact mean in turns of access, the nature of the environment and for us recreating?”
The environmental component

Matthew said “for many of them, they have had limited experience in the outdoors, and they have had limited or zero exposure to theoretical notions of adventure”. Therefore he teaches them how to make camp, cook food, and set a shelter up, either a tent or tarp. Matthew’s important environmental focus is “the basics and I try and instil in them, not to leave a mess out there”, as well as question their own concepts of outdoor adventuring, practices and behaviours:

Students often have no appreciation of just how fragile an alpine area is. So I would often spend some time explaining, about the fragility of that area, even though it may appear to be harsh, both walking through it and often the temperature. I would also try and develop some conversations around the bigger picture stuff, but that is often quite challenging with students that might be twenty years of age. I would talk about our presence and impact on the environment, as well as the numerous other people who visit these limited natural areas, all creating a cumulative effect. I would encourage in them to have certain sympathy for the wildlife even though we do not meet too much of it these days for a variety of reasons.

Matthew suggested “when you start to get so hung-up on technique you can very quickly and easily abandon the other discussion and learning opportunities”. However, he believed technically orientated programmes have their place.

Environmental beliefs and values

Matthew believed that “we have got so much education going on at present, about the environment, that it was often packaged up as meaning to be for the environment” that maybe it has become ineffectual:

When something is not right, one of the quite typical responses in our society is to say, well we need to educate people more, but I actually think we have more than enough, almost too much in this media society, so that people probably start to switch off and it just becomes another story about another problem.

In order to motivate people, he suggested there needed to be a new approach “that went beyond that sort of cynical response of saying, ‘well there is another story but it is business as usual’, and somehow makes people consider process and acknowledge the politics of the situation”. He went on to say that:

Until the politics is addressed, I think environmental education will be considered almost like the set of clothes. Something that you put on when
you want to be perceived as somebody or something, but you will not really change dramatically the way you go about things. I know that sounds a little kind of desperate maybe, but I am not sure that environmental education is going to be the thing that leads necessarily to more significantly sustainable relationships.

Matthew also believed that “the media drives a message that values economic progress, which the world seems captivated by and has a dominant discourse that favours individualism”. Therefore, it was these storylines that were “shaping people’s outdoor practices today, towards thinking the environment was a human resource or playground”. He suggested that education is not going to be the only answer required to deal with the environmental issues: “it may have to be a combination of events that need to take place... and perhaps, it will not be until that structure is upset and we start to see and hear more things through the media, will people start to think we better start changing”. He thought perhaps change would come, “probably when people were just forced to change”.

Matthew said he may “sound pessimistic”, but was actually “very optimistic” about the future. He believed that both politics and the media played an important role in educating and motivating people about environmental issues, and suggested the current environmental messages within outdoor education alone, perhaps would not change much:

People still ought to be environmentally educated and should be able to address the issues, messages and practices, as well as be able to unpack it and understand it to some degree... But at the moment we have been a bit swamped by the other messages, I think we are not addressing the really political nature of both education and environmental education. We are accepting the message that education and politics are separate but I do not think they are for a minute.

There are ideas that are filling peoples’ heads with more and more stuff, which are supposed to give them greater skills, but it is in fact just perpetuating the same dominant (and maybe not so helpful to the environment) message... Such as, thinking technology will sort things out, which I think is not being critical enough. We can see these mixed messages in outdoor education, for example, with the garments, equipment, and so on, that is simply re-enforcing this idea that newer and more advanced is better all the time, and there is an impact on the environment, that is perpetuating that model. I think environmental education needs to question that... I see outdoor education and environmental education as somewhat separate, certainly at a curriculum level.
What Matthew would like to see happen was that:

Outdoor education (if that survives as a term) embracing what I think is the intention of environmental education, which is questioning our relationships with the environment and what that actually means for the environment. I do not think it does that now, but I think it has the opportunity to do that and I think there are a number of people in the tertiary sector at least, who are starting to see that outdoor education has still remained rather marginal as an area of study. And that it has the opportunity to maybe develop a rather strong link, to this idea of sustainability and relationships with environments. I am not quite sure how to do it yet maybe, because it means probably abandoning, or seriously reviewing some of the existing storylines that support outdoor education. But I think if outdoor education is going to survive and not mean anything more than just a fad over the last 20 to 30 years, it will have to buy into that new storyline and abandon a few of its old favourites.

4.1.3 Understanding the environmental crisis

The global crisis

Matthew’s understanding of the global crisis was that humans are facing “something that has been going on for a long time”. He suggested humans have known about it for a while but now there is “a sense of urgency” and for some people they “feel it is beyond their control”. He believed that:

The idea of global warming is going to be very significant... I relate to James Lovelock’s ‘Gaia Theory’, and his thinking that earth will probably find a new point of stasis and things will continue on, in spite of us really and all our worries. But I think the things that are going to be more concerning, as a result of global warming, is the dislocation of people and the chaos that may bring to many countries. Even before we get to that point, I think water is going to be a major issue for a lot of the nations of the world and the unrest that will bring about, and quite probably even food as well. I think we are in for this really potentially turbulent time and global warming is just a part of it. To be honest, it really feels like it is going to come anyway. There is going to be change and for some of us we are just starting to get our heads around that one and the idea that we need to cut back on our CO₂ emissions.

His own response to global warming was to reduce his own carbon footprint by biking where he can and using public transport, but he said: “It almost feels like that is just going to be a small delay and maybe we are going to see change, probably even in my lifetime because there is some serious stuff going down”. Nevertheless he believed: “we are born with a will and whilst you are on the planet you might as well be as positive as a person as you can and encourage others to be it likewise”. He also said
that people needed to adjust their needs to minimise their individual footprint and aim to become more environmentally sustainable in their behaviours. He believed change “might upset some people but maybe that discussion still needs to take place because we need to really act out our environmental convictions”. Matthew thought that some people may need to reduce non-essential consumption and simplify their lifestyles, which maybe more of an “inconvenience in our minds and a little bit of burden, but we would learn to be happy and live without. Perhaps this might become the new benchmark one day”. Within an outdoor context, he believed that:

If we are going to be fascinated by the individual and continue with that, then we need to ground that discussion in the context of: What does it mean to develop the individual in that way for the rest of the planet? Instead of being so damn worried that someone’s not reaching his or her potential.

Concerns for New Zealand

Within New Zealand, Matthew believed there “was the false conviction that we are a clean and green country”. He thought that:

We could actually produce most of our needs here but tend to forget about that in this day and age. I think our natural environment is a real asset to us and it might be something that we need to be more active about in the future. I know that would mean a really significant change in lifestyle but that could be a great thing.

Another concern Matthew had was about “the impact of tourism and the way some of the industry is managed; our fascination at the moment with dairy industry, our growing consumer debt and how people are spending more to have that boat and holiday bach”. He believed that as the population grew, so would people’s energy needs but thought it was unfortunate the alternative sustainable practices, such as wind and solar still seemed “unpalatable” to most people. However, he said: “with some good leadership and some very strong supporters at the outset to help us get our head around the change that is necessary”.

4.1.4 Impact of the environmental crisis

On teaching and practices

Matthew said his outdoor teaching and practices were influenced by his understanding of an environmental crisis, which gave him a feeling of responsibility to talk about it:
In the field of outdoor education (because it still tends to see itself as having the mandate to talk about environmental matters) I feel like I have the right to talk about this issue and that you should be talking about what is going on and what should happen and so on.

However, he questioned these feelings about teaching environmental education, stating: “Why should we think we have the right to do that, and if we do, are we doing it to our best ability? And if we really want to be the leaders in that area then we should be acting like it”. Matthew said that the idea of an environmental crisis “fired up a new interest for you because a lot of what you talk about, it could be talked about in a number of contexts. When you have this storyline going on, it is quite easy to hang a lot of stuff off it and prompt discussion”.

The direct change he noticed in his practice was that he talked about environmental issues a lot more:

“I am using it metaphorically at times and almost directly in the curriculum as well. It has changed my practice as an outdoor educator. I would not say it is like a massive shift, but it certainly changed my practice as an outdoor educator, and my concern for the environment.

In Matthew’s teaching and practice he talked about environmental issues, but he believed the real impact of an environmental crisis would probably have its biggest impact on urban lifestyles, rather than outdoor lifestyles because “that is where the most chaos will be” located. He reiterated his concern for the future of outdoor education by stating:

The fact that people can paddle down a grade 4 rapid and/or can safely take a couple of people up a mountain, is going to be immaterial I think. If it all does hit the fan and there are serious changes, then people are going to see the importance of that, as being pretty minor. I think outdoor education is really based largely on having leisure and if it were not the idea of leisure, as we know it, there would be no outdoor education.

4.1.5 Ideal outdoor environmental programme

Enhancing environmental learning

The ideal outdoor environmental education programme for Matthew would be changing the actual teaching environment and improving the way students dealt with new information. He ideally would like to see an improvement in the way students integrated their environmental learning back into their own practices:
Part of the answer is getting out of this institutional environment and spending a hell of a lot more time out of classrooms. It does not necessarily have to be in the outdoors... perhaps at a beach hanging out or in a hut somewhere. Somewhere a little simpler, where we could get away from the many distractions, have a chance to reflect, think and talk, probably a little less than we do in this environment. I think that is part of the answer.

The other issues would be how do we teach this new knowledge, because it can really upset some people. Students think, well I cannot just know this stuff now, I have got to deal with it somehow.

It was important for Matthew that students and outdoor practitioners were supported to deal with changes, because an environmental crisis can seem like an overwhelming issue:

> It is really easy, particularly in our field, to get quite enthusiastic and think you are going to save the world. I think you need to realise that you are probably going to be one of those many people that have a modest amount of influence over things... So ideally I'm trying to get the students to make a connection with that place out there what we call the outdoors, the environment or whatever and back here, because this is where it all happens. It's here in these urban environments where there are lots of people and lots of mixed messages coming in at them, telling them to do x, y, and z.

Therefore Matthew thought, getting students away from the institutional environment, could provide them with the opportunity to implement the environmental theories and practices they learnt, as well as explore their environmental knowledge and actions. He believed this kind of programme could encourage critical reflection and encourage them to think: “Ok, so what am I going to do, the next time I go out and teach”.

Matthew expressed a frustration about the education system, suggesting it was predominately focused on developing a type of person “one that will become very useful in the public and private sector”. He believed whilst:

> There will always be an opportunity for outdoor education to really try and shake things up a bit with what is happening in the world. But we are not going to be the whole answer, by maintaining the position of educating people to become better sea kayakers, guides for the tourist industry and whatever else. I don’t think until that one is questioned, we are not going to be a big player and whilst people continue to think that way, the environment is always going to play second fiddle with the entertainment side.
He suggested that a review of “what the education system is about” may be required and that “perhaps outdoor education might not even be a player in the short-term, rather we will become like another fad in education”. He thought that there needed to be:

Less fascination with GDP and more interest in what it means to live an adequate life, whilst being very mindful of the six generations to come. It would not be such a bad thing to get out of the cupboard some of the teachings from a number of indigenous peoples and other cultures... Maybe we need to integrate some of that thinking into our desired outputs from the education system and value some of these other things a little less, like a lovely lifestyle...

We are going to have to change... and one of the options, that is going to be put on the table will be can we manage that lifestyle again for another few centuries? The answer is probably not. So what sort of lifestyle can we manage? What can we reasonably expect to have and pass on to somebody? So any thinking we do now along those lines and any changes people can make in the mean time will also be helpful, and the more the better quite frankly.

He suggested “you might as well dive in and work away with a bit of optimism” to increase the sense of urgency for both individual and political environmental change.

Matthew concluded the interview by saying:

In short, I would hope students understand that what they hear in the media about the environmental crisis and from other interested parties may well be just that, a reflection of those interested parties’ desires and the discourses they are subjects of. And that this environmental crisis makes very relevant the connection between what we think we know and how we act. So as educators, our first job is to help people to develop ways to understand how students think, what that means, how they behave and then to be critical of those assumptions. Then we can present alternative ideas and offer alternative ways of behaving. We all have a place where we can play our little bit.

4.1.6 Summary

To summarise, Matthew is a tertiary outdoor educator who encourages his students to think critically about environmental issues, whilst in the outdoors. He uses teachable moments to encourage the students to think about issues that have shaped their outdoor and environmental behaviours. He thought the expectations of environmental education were unclear and that generally teachers like himself were careful not to rock-the-boat for fear they would become marginalised, or otherwise become ineffectual.
Matthew’s understanding of the environmental crisis was optimistic, even thought he believed globally we were heading towards a period of change, with global warming, major disasters such as dislocating people from their homes and worldwide water shortages. He believed in the Gaia theory that the earth would find its own balance, in spite of human concern. He thought that the main issue for New Zealanders was that people would not change lifestyles until they were forced to and would continued being unsustainable with a ‘business as usual’ approach.

He believed people were born with a will and whilst they lived on earth, people could contribute positively to the environment. Having an understanding of the environmental crisis, Matthew said the way it influenced his teaching and programme was that he feels he now has the right to talk about environmental issues. Therefore he taught students to reflect on their own environmental beliefs and values and to think critically.

Ideally Matthew would teach environmental outdoor education in a different environment other than a lecture room, perhaps outdoors in a hut. He also wanted students to know how to deal with information once they learnt it, and that they had a chance to implement it and critique themselves. To improve environmental education’s effectiveness, Matthew thought that education in general should redirect its focus from the GDP to the environment, and perhaps re-evaluate the value of the environment within an outdoor programme.
4.2 Mary’s case study

4.2.1 Outdoor education programme

Teaching and programme focus

Mary’s interview took just over an hour and was at her office. As an outdoor educator she teaches both practical and theoretical papers to various year level students. She believed that the practical papers were “mainly focused on getting the students to a high level of pursuit competency”. The theoretical component covers broader areas related to outdoor programmes: such as food nutrition, fitness, computer skills, access rights to the outdoors and the environmental impacts of recreating and caring for the environment.

The focus of the advanced level papers includes; Adventure Based Learning (ABL) models, how to facilitate experiential education, group processing, decision-making and problem solving. Mary said that these papers give the students an opportunity to develop lesson plans and gain experience as outdoor educators, guides and instructors. The outdoor environmental education aspect of the programme is where the students learn the broad and basic information about the natural world, such as “how the earth operates”. The students also learn Tikanga Māori\(^3\) and present a mihi whakatau\(^4\) so that students “know how to introduce themselves and learn about what the natural world means to indigenous New Zealanders”.

When Mary teaches, she said she always tries to incorporate aspects of environmental education into the paper and encourages the students to role model this learning in their own practice. Particularly when “our students teach local school students how to rock climb, kayak or sea kayak, they are expected to incorporate environmental learning into their programme and it needs to be relevant and specific to that pursuit. During this leadership/instructor paper, the students “receive a feedback from their peers and tutors when they are teaching real clients”. Mary said she always

\(^3\) Tikanga is correct procedure; that is everything is organised according to Māori custom (Moorfield, 2005)

\(^4\) The term mihi whakatau is used for a speech, or speeches, of welcome in Māori (Moorfield, 2005)
encouraged her students to “tune in with the natural environment”. For example, during a rock climbing session:

On the way up a climb, students needed to count (or record) in their heads the number of living things that they saw going up there. Whether that is a creature or plant or something like that... this turned their focus into the fact that the rock is actually a living ecosystem rather than a dead piece of rock that they were climbing up.

Mary also believed that an outdoor instructor was not limited to just providing technical advice, but they could also “talk about water pollution and how this is a huge concern everywhere in the world”, as a way of incorporating environmental education.

What is important for students to learn

Role modelling was an important part of how Mary implements her environmental beliefs and values, stating:

I believe it starts with you and I try to role model that... I ride my bike on the frosty days, in the middle of winter in the rain and/or catch the bus... Hopefully by role modelling that to them, they will see that when they are in a leadership position it is important for them to role model to others as well.

Mary also tried to improve students’ human-nature relationships by encouraging them to make connection with the environment, and she believed an important aspect of her teaching was motivating the students to want to minimise their impact on the environment both in their outdoor pursuits and within their own lifestyles. Mary believed that students made closer connections to the environment when they spent lots of time having experiences within it. Therefore she motivated her students to have adventures, but also encouraged them to care for the environment:

Outdoor education has got a head start on other disciplines for incorporating environmental education, because we try and help students develop that connection automatically through the outdoor activities.... But I need to teach and facilitate learning around that awareness of their impact because that does not happen necessarily automatically.

Mary explained the students have to demonstrate environmental actions outside of their outdoor pursuits. Therefore they volunteer “their own time to something that is directly enhancing of the environment, keep a diary for eight weeks about how they
have minimised their impact on the environment, and give a lesson to their peers on a chosen environmental topic, such as energy”. These papers Mary said were a compulsory part of passing the outdoor programme because:

[I think that is quite important. If they do not do it, or do not do it very well, then they will not pass the paper. So part of that motivation is because initially I force them to, but ideally that is not the only reason that they do it. I want them to actually leave the course and go away intrinsically motivated to lessen their impact on the environment. I think that part of being forced to, actually proves to them they could do it. That it is not hard and it is just a matter of getting into the habit. They say that it only takes 3 weeks to form a habit, so hopefully over 8 weeks a positive habit could be formed. It may be simple things, like taking their own bags to the supermarket rather than using supermarket bags... I do not force then to do things rather I impel them, and they actually get a lot out of it. They potentially go away with a lot more than they would have otherwise, which I think is the same philosophy really.]

Mary believed that “sometimes it is really quite hard for students to see the relevance in things”, therefore for her, it was about developing their awareness, teaching them why it is important and getting them to understand they had a choice about their environmental impact. She said that her teaching style was influenced by the Outward Bound philosophy, which impels students to experience things they perhaps would be hesitant to try at first, but later experience the reward of doing something they thought they could not do.

4.2.2 Environmental education practices

How the environment is considered

Mary said that “I role model the environmental practices that I expect the students do themselves and hope then that they will pass that on to others”. For example when she instructed rock climbing, it is not all about the technical skills. She included the “history of rock climbing, human impacts and the wildlife in the surrounding area”. Also, during the lesson she would utilise teachable moments when and wherever possible. For example, Mary said that once she had a sea lion lying a few metres from the climbing crag, which created a great opportunity for her to talk about marine life at this location and the importance of being aware of humans’ impact on natural places.
When recreating outdoors Mary wanted the students to understand how they could minimise their own impact, for example how to responsibly toilet in the bush:

*I talk to the whole group about how to pooh in the bush in a way that is going to not have a detrimental effect on it... I talk about digging down to the humus layer, not digging too deep because basically it does not break down and you have not got the same enzymes too deep. But deep enough, so animals do not know it is there or where it could contaminate the waterways.*

**Environmental concerns in teaching and programmes**

Mary said “actually making sure for me that I incorporate environmental learning, I have to work quite hard”. She was passionate about teaching for the environment and tried to implement environmental learning wherever possible, but admitted that “the hard thing is time”. It is difficult to find enough time to teach and get the “students to quite a high skill level”. However, Mary believed there were positive environmental learning opportunities happening within the programme.

For example, during the whitewater kayaking training, the kayaking students are required to wash their boats inside and out with the disinfectant detergent when they get off the river, to prevent the spread of didymo. Every bit of the kayaking kit gets washed to rid it of the didymo algae (their paddle, spray deck, and their clothes). Mary believed that “we are teaching them how to clean up because they are going to go paddling in their own time and we want them to be responsible for not spreading didymo and to understand that it really is a big deal”. She believed this environmental protection policy was sometimes easier to enforce than others because the students can see the impact of didymo, “from being on clear, beautiful, clean water, compared it to this crappy looking didymo infested slummy rock snot rivers”. Mary reiterated again that: “I think the big thing is role modelling and forcing (in a way) rules that state this is what you do! I hope then that becomes a habit and the connection creates motivation for them to continue to do it”.

**Important environmental aims and goals in the programmes**

Ideally Mary wanted “the students to change their lifestyle to minimise their own environmental impacts and ideally go on to teach others to do that as well”. It was her environmental belief that:
It has got to start with yourself and that everyone can make a difference. If their lifestyles have minimal impact on the environment then it is going to make a difference, especially if they are going on to be leaders and influencing others, especially young people. If they are doing it themselves then they are role modelling positive behaviours and hopefully they are encouraging others to do it as well, that is the first step. It has got to start with them but they need to change their lifestyles first.

Mary believed that the programme has environmental contradictions, for instance “the amount of driving done to do a particular pursuit”. However, she could not figure out a possible alternative to reduce the programme’s reliance on vehicles, other than stating:

I would really like to have bikes with panniers at the institution to do a week or two out at the local rock climbing crags. We could ride there with all our gear for a week and then ride back again. That would make the course costs less because we would not have to hire a vehicle for those days, but then maybe we could do it again the following week because the costs are so much less.

Even though Mary said it was difficult to suggest a sustainable solution for transportation she believed:

There needs to be a little bit of compromise, in that, we need to take these students kayaking because they are doing an outdoor education programme. The institution needed to provide a variety of places, such as rivers, within the programme for students to improve their skills. We need to take them kayaking to develop that connection with the river environment and the natural world because it is the best way for them to be fully involved in it. I want them to have exciting times, so I encourage my students to have epics in it and experience euphoria on a wave in their boats and decide that they love the natural environment. So there are environmental contradictions within our programme but there is a balance and reason for it too.

She believed within the programme there needed to be more pursuits done locally because “the connection students need to make with nature is often based on familiarity”. She explained that:

Part of developing a connection is being in one place, within an area and zone... You know you ask people about a special place for them in the natural world and often it is a place that they have continually gone back too. It is not somewhere where they have had a one off experience. I think that is a good argument for minimising travel and fuel consumption.... I am not into constantly doing stuff in this city because it is too limiting, although I do question whether we need to drive all the way to Buller to kayak. People come from the North Island to go to Central, so let’s just have a Central focus and get them really familiar with one place.
Mary said there was increasing awareness among all staff about trying to decrease the programme’s carbon emission:

*Tree planting as far as global warming and reducing carbon, could be a good compromise for us at this institute. Part of that is not saying ‘oh we have travelled this far, so we have got to plant a tree’, but it is getting the students to work out how much carbon dioxide was actually used during that trip, how many trees will be needed to actually absorb the carbon dioxide and then how many trees do we need to plant to offset that. We would also need to set in place a formula for the students so they can do their calculations a week before they go, so they can say we need to go get x amount of plants. Educating people needs to be a part of that process, and once again that is a hard one as it involves a whole heap of time.*

### 4.2.3 Understanding the environmental crisis

#### The global crisis

Mary’s understanding of an environmental crisis was that:

*The planet was heating up at a faster rate than it probably would if we were not here. Humans worldwide are using up lots of the natural resources at a very fast rate, oil in particular which we rely on for a lot of things including the food we eat, which these days is covered in pesticides and herbicides. The list goes on really with landfills, nuclear waste, and the water pollution from the sewage.*

She was glad that people were becoming more aware of their own and others’ unsustainable practices, but did not believe the environment was in a state of crisis. Rather the environmental issues and problems were created by humans. She said:

*Perhaps the word crisis is used to scare people into action, which I think that it sometimes has an opposite effect. Unfortunately people say, ‘Oh yeah whatever, I cannot see any crisis’ and because people cannot see these serious things in their everyday life, the message is not getting through. I do not know what other word I would use, because it kind of is and it is not.*

Mary expressed concern about the amount of flora and fauna extinction, and queried people’s belief that science would solve the environmental concerns. She thought that:

*Humans have become so clever and created so much themselves that a lot of people say ‘science will fix it and that they will come up with a way’. I think that it is a lazy cop-out really. So I do not like the word crisis because it implies there is a crisis right now that we can fix... The environment is something we have to think about forever and ever, and we have to change the way we live, so people can continue to live on the earth.*
It was her environmental belief that people should always consider how they could minimise their impact on the environment, whether it was in a state of crisis or not. She talked about how societies worldwide have not learnt from the environmental mistakes of the past. However, the cycle continues to repeat itself.

**Concerns for New Zealand**

The environmental concerns Mary had within New Zealand, she said, were:

*I think we need to change the way we live and become more locally focused and productive. We need to go back to community living... create our own basic needs for ourselves rather than being reliant on the government at the national level or even internationally, for food and stuff like that...*  
*Perhaps all we need to do is produce some power locally, grow food locally, and even collect water locally and then maybe we would begin to save enough of these resources, that then we could sustainably manage a few of those luxuries....*

Mary believed that global warming was not going to be an immediate threat to New Zealand. However, she said she was more concerned about the decline in the ozone layer and the increasing strength of the ‘UV’ rays in New Zealand.

**4.2.4 Impact of the environmental crisis**

**On teaching and practices**

Mary said because of the increased awareness of an environmental crisis:

*I teach more towards environmental education, certainly more than I did in the past, and I am looking at going into the area even more. It would be nice to do it in combination with outdoor education but my teaching and experiences in the outdoors has led me to realise that actually environmental education is more important than outdoor education stand alone.*

Nevertheless, she explained that:

*The stuff that I have done in the past tramping, climbing, kayaking and all that fun stuff has developed in me a huge respect for the natural environment. The environmental crisis has made me concerned that a lot of these amazing natural environments may not be around much longer, or it is going to be reduced into a small area, or will not be as nice, if we do not do something about it now. My learning and experiences over the years as an outdoor educator and an outdoors person, have led me to*
realise that it is more important that I teach people how to live lighter on earth, than how to recreate. I think we need to live lighter on earth, so we have still got the opportunities to go and recreate.

The most important issue about the environmental crisis she wanted her students to learn was:

That they think that they can make a difference as an individual, they can change the way they live and therefore impact less on the environment. That it is important and that makes a difference no matter what other people are doing around them, that they have that choice.

4.2.5 Ideal outdoor environmental programme

Enhancing environmental learning

If Mary had no limitations and could enhance environmental learning in her outdoor programmes, she said “we would use bikes to go places” to reduce the programme’s dependency on vehicles and localise the pursuits:

I would work with students to find alternative ways to recreate in the outdoors, by minimising the use of vehicles and reducing anything that has an impact basically. All the food that they ate and took into the bush could be either collected in a sustainable way from the bush, from their gardens, local communities, or maybe even from a community garden here at the Institute.

Mary mentioned she has frustrations and difficulties with balancing her own environmental beliefs and values, and teaching outdoor education, stating:

I think that outdoor education is not as important to me anymore, because outdoor education alone has a huge impact on the environment. Look at all the equipment you need to go climbing with. Look at all the plastic you need to go kayaking. At the end of the day, I think that outdoor education is going to be about getting into the natural environment and connecting with it through gardening, swimming, walking, tramping, and may be even mountain biking. I think there are other ways we could enjoy the environment. Although it is a hard one because the way I developed my connection is from the full-on exciting experiences that I have had.

Mary thought there maybe some limitations in implementing her ideal environmental programme, because she believed:

The whole way that we live has to change first before I can sort of envision how outdoor education might fit into that. But I think going locally means that people will be limited to what outdoor education can do. It may be structured according to what and where they live.... And we could not run a programme where we did everything by bike and used minimal equipment, because it is still a competitive world and the idea of
being an outdoor instructor and travelling around the country, and paddling remote rivers and all that kind of stuff, is what is driving people to be outdoor educators and outdoor leaders. Not to come and connect with the local place and be able to take other people into the local areas - that is not what is driving people to do these programmes.

However, Mary believed “if everything were to become localised, then people would want to do the outdoor things that their city could provide”. She believed that outdoor programmes “would have to work with the students to find ways to have adventures in the outdoors, that did not involve going huge distances and using a lot of equipment”. Mary thought that environmental education was overshadowed by outdoor education’s adventure pursuits, mainly because she believed “there is not the motivation in society and there is not the urgent need to be environmentally sustainable yet”. Mary believed that “people will not change until they are forced to change”.

To conclude the interview, Mary said it was important to her “that the natural world to be there for the next generation to enjoy”.

4.2.6 Summary

To summarise, Mary taught both practical and theoretical outdoor education papers. She wanted to intrinsically motivate students to be aware of environmental issues, minimise their environmental impacts and role model sustainable environmental behaviours.

Mary’s main concern about the environmental crisis was that people believed science would fix the environmental problems, rather than adopting sustainable practices and reducing modern luxuries. She believed that New Zealand should become more autonomous within the international community and be dependent on locally produced energy and food produce.

When Mary implemented environmental education in her outdoor papers, she admitted that at times she struggled with finding the time to deal with the environmental contradiction caused by transporting students to pursuits outside the local area. She suggested there was a need for driving students to their specific areas.
to enhance their skill level. However, she believed this focus removed the familiarity for students to create connections with their local environment. She believed this assisted people to develop an environmental connection. Therefore, as an outdoor educator Mary role modelled, used teachable moments and taught students to implement minimal impact practices, when and where possible.

The way she would enhance the environment in her ideal programme, would be to reduce the programme’s impact on the environment, staying locally and using bikes to get around. However, she believed that this would be difficult to achieve, whilst local environmental initiatives were not prioritised.
4.3 Mark’s case study

4.3.1 Outdoor education programme

Teaching and programme focus

Mark’s interview was also conducted in his office where he worked and it took about one and a half hours. He has been involved in managing a variety of outdoor education programmes. Mark taught both theoretical and practical papers, but said he preferred teaching outdoor practical skills and contributing to the development of the programme. He said that the outdoor education programme attracted young adults who were interested in learning technical recreation skills and believed that they:

Just do not know what they want to do, or what they want to learn about in the outdoors, or do not know what they want to get out of the experience. Often they want to get a job in the outdoors but they do not have a touch of reality of what it is really like... What they get is an intense experience on developing their personal skills and then they become proficient white-water kayakers, sea kayakers, rock climbers and proficient trampers. However, integrated into that is the leadership skills and more now the environmental skills and issues that they need to be aware of.... So it is quite interesting and quite cool, to be a part of their life and hopefully be some positive influence on a wider scale. So you plant many seeds during the programme, water them and hope they grow.

Mark said gaining technical outdoor skills was the main focus of the programme, however, students were encouraged to think critically about their practice. For instance, the students learn to link their practical skills ‘how to’ climb or paddle, with outdoor theories. In the more advanced papers students were expected to demonstrate their outdoor knowledge and skills by teaching their peers and/or clients. He said the students review academic literature and complete research papers that aim to challenge their preconceived ideas of what is involved in being an outdoor educator.

Mark believed that the theoretical component “addressed their conceptual understanding of outdoor education”, and was an important part of reviewing their own outdoor beliefs and values. He taught the students to think critically about the outdoor environment and how they would educate within it. Also as part of the programme, students learnt about things such as: first aid skills, risk management procedures, and environmental issues. Mark said presently they were:

Rewriting our courses and building in strands that are interwoven like a ‘DNA’ into our programmes on environmental issues. We are trying to
create an inbred culture on environmental practices, so that is really key to what we are trying to do within this programme... My vision is to broaden that environmental depth and that ability to think critically ... I am quite keen to challenge the students and other staff on the way we deliver and think about our programming. So we can interlink it with the environmental issues that face us today.

Another interest for Mark was the cultural diversity of the students on the course, suggesting that was something that the programme wanted to explore further in the future. He explained that:

At this stage we have not really addressed very well other ethnic cultures that might be attracted to our outdoor education programme and I do not think we cater very well for that. We do not seem to attract a diverse ethnic group. The majority in our programmes are white European, sort of middle class society type people.

Mark also mentioned the amount of resources used to deliver an outdoor education programme:

Historically, if you look at outdoor education for the last twenty years, in many ways it has used the environment as a backdrop. It faces some huge issues in the respect to the amount of resources that outdoor education uses and what an outdoor educator should be teaching. That is why I say we are at a crossroad. Take kayaking for example. It is an incredible drain on resources, the driving, shuttles, the plastic boats used, and the amount of gear we buy and use, all those sorts of things. What is outdoor education doing for the environment? Not much! You are generally just using it for a backdrop to go and have fun... I think our programme faces some real issues in that respect.

Mark said the outdoor programme provided a range of venues to achieve outdoor skill and technical competency, which required a lot of driving but he believed at times this was important. For example, he said when the programme runs a white water kayaking session, “we need to go where there is water flowing”. However, he also suggested that the amount of driving was a concern for the staff, and that they were presently working out solutions that might minimise the programme’s overall carbon emissions. Mark explained that:

The difficulty of teaching a skill pursuit and trying to use local resources is that sometimes the local resources do not lend themselves to be able to teach these skills. So this is where we are at a contrary, where we have to teach these skills and we need to travel somewhere to do that.
When Mark taught in the outdoors, he focused on “the relationship between the person and the environment that they are in”, by encouraging them to understand the interconnection and intrinsic value of the environment within daily life. For example:

Some people can be quite disconnected with the land and when you take them into an outdoor environment, suddenly they need to be dealing with the basics, their food, water, shelter, and issues like that... So their perception of their comfort zone is sometimes radically changed as they are dealing with new equipment, a new environment and all those sorts of things. So the first thing is to teach them some skills, on how to become comfortable and be able to move around in that environment. Once you have that sorted, then the next thing is to challenge them on their thinking, on their relationship with the environment and their relationship with other people. The ultimate goal is to take them into that critical level of thinking and challenging them on their past and what their normal thinking was usually... Then start to relate that relationship back into their everyday life.

Mark said he found “it was ironic that we talk about the environment as a separate world, when we are in it all the time”, and believed that “the outdoors is not limited to a pristine or wild notion of nature, but it includes everything that surrounds us”. He thought that once that was understood, then people would be more satisfied and comfortable about enjoying the local places around them, whether they were natural or partly human constructed. Mark encouraged the students to develop and make connections with their local environment, and also believed that:

The further on down the track people go within the programme, the less travel they really should have to do because they should really be happy recreating in any environment. They should be able to go into any local park from here, and think critically in respect to addressing some issues on how their relationship is with other people, and their environment. Students then could consider how that interrelates with everyday life in this urban environment... and realise that the outdoor environment is actually right here in front of their nose.

4.3.2 Environmental education practices

How the environment is considered

Mark believed that in his own teaching that “it was important that we are walking the talk in all facets of the programme”, and hoped in the future students would be learning how to work out what was the environmental footprint of the outdoor programme and actively working to reducing it. Mark said:
We still need to face that challenge of how we do outdoor education and how far we travel. I do not believe we have actually addressed that issue correctly yet and I think we still have a long way to go... But the critical aspect that I am trying to push within the programme is to reduce the amount of resources we chew-up. We are trying to get the vans we have on bio-fuel... and if we are buying any gear for the programme we are trying to look at more second hand gear rather than actually buying brand new. I would like to see environmental practices inbred and through walking the talk, we can create cultural changes within our programmes and within our students.

Ideally as part of the outdoor papers, Mark said he would like to see the students set two goals that would benefit the environment; a goal could be done within the programme, and the other that could be completed within their lifetime. He said the aim of these goals was to encourage the students to engage more in environmental issues that interested them or impacted on their experiences outdoors. For example: didymo in the rivers and human made dams can impact on the white-water rivers people kayak on. However, Mark said he chose “to look on the good side of environmental issues with students, because otherwise they would get swamped with the bad side and feel overwhelmed”.

Influences

In the last few years Mark said he has become more aware of environmental issues due to increased media coverage, stating:

The neat thing is, that we are living in a time where environmental concerns have become more of an issue and gained political strength. People have been bleating about this for years, but now we cannot open a newspaper without some environmental issue being talked about and we cannot listen to the media or news without hearing some political person having to address the issue – which is great, because we need that wider political front pushing it. This has been really driven from the environmental reports being put out... such as Tim Flannery, coming for a visit and doing his lectures. Now people are starting to read his book ‘The Weather Makers’ and saying, ‘Oh, I never thought of that’. And of course the scientists, who are saying, ‘Well, you have got to buckle up your ideas because you have ten years left before a major change’... The changes are already on the way and that sort of thing is potentially irreversible, because of the amount of time that the industrial revolution has been hammering away. For us to suddenly turn and back paddle from it, may be too late but it is not going to happen overnight.
As a teacher Mark said he felt like he was in a “privileged position to influence people”, both staff and students alike. He believed his influence was like: “Dropping the pebble in the water and watching those ripples go out. That is what you can do on a positive level and it starts with yourself. You change the ways that you do things and that will slowly emanate outwards”. His believed as an outdoor educator, he could influence a few people, which could have a flow on effect on others: “So it has gone from dropping a pebble in the water, to dropping a stone in the water and consequently the ripples then turn into waves spreading further out”. Mark believed it was important to become involved and engaged in the issues that concerned him, because: “I believe that you cannot bitch and moan about anything, unless you have made an effort to change it and be involved”.

Implementing environmental teachings

As part of implementing environmental education, Mark encouraged the students practically to “think and actively engage in reducing the amount of waste they were producing”. For example, they adapted composting practices within the programme, by taking a portable buckets for biodegradable food products and then disposing of the content back at the institute. Another example Mark mentioned was when he teaches rock climbing, at first he takes students to the local climbing wall to learn the basics. Then he said they go out to the local crags, not only to learn to climb but make connections with the local environment and history of the area. He believed by teaching them in this way he hoped that students would gain an appreciation for climbing environments. He wanted students to think about: “Why do we need to travel such a long way to go climbing?” and “Was it is always necessary to travel long distances to participant in outdoor pursuits?” Mark said that within the programme unfortunately they do travel long distances to provide different rock experiences, to advance and diversify students’ learning outcomes. However, he explained that:

*There is plenty of opportunity to talk about issues that can surround and encompass the particular pursuit that we are actually teaching. Those issues can be raised during the walk in, during food breaks and often when we are all enjoying the view... For example, sometimes I would start up a conversation about the farmed landscape and how it has changed... from the deafening sound of bird life in the mornings and evenings.*
Mark said he would like environmental issues to become more ingrained within outdoor education, therefore he “kept at the students, about these issues the whole time”. He explained:

*I am not boxing it and saying, so right here we are, now we are going to do environmental issues, I am integrating it all the time. It should be like a constant jabbing at them, to get people to start thinking about these things along the way... Trying to challenge things, in every way that we move and groove in the world and try to make our actions more thought about. Ideally I would like to see an ingrained environmental conscious culture within the programme, where our actions are automatic.*

**Creating new habits**

It was important to Mark that he taught the students to question the outdoor culture which prescribes that “we need the latest and greatest outdoor gear” when recreating or exploring the environment. As part of his teaching he looks at these issues with the students. Mark said ideally he would like to see the manufacturers of outdoor equipment and clothing apply more environmental and ethical principles to their products, which could be a part of the outdoor industry walking the talk, but for now he encouraged students to think about the outdoor companies they supported. He believed that “Changing the habits is what we are trying to do for the environment in a practical sense and just challenging these concepts all the time”. Mark believed that by teaching this behaviour, it could begin the process of learning to value social and environmental action. He said he encouraged the students:

*To always critically challenge their relationship with the environment and incorporate it into their outdoor practices. There are no rules or guidelines as to thou shalt do this but it is to always be critically challenging those issues and their own actions because the environment is dynamic and it always changes.*

Mark believed that he guided student learning rather than told them that what do or think, stating that:

*People have to be independent and make their own rational decisions and you cannot be mothering them along and be there making their decisions all the time. So that is the ultimate thing. If they walk away from our programmes challenging things and generally thinking about the different ways they can do things that is the ultimate and if they put that into practice or they make a change in their life, cool.*

He taught the students “to consider and be responsible for the greater good of human kind”, which required them to consider the environmental implications of their
actions in everything they did. These values he hoped would resonate and surface in
the students when and if they became outdoor educators.

4.3.3 Understanding the environmental crisis

The global crisis

The concept of an environmental crisis was something Mark was familiar with, from
what he had read and heard in the media. However, he believed there was a “smoke
screen” masking the urgency of the environmental issues. He argued that this smoke
screen enabled people to maintain a “business as usual approach”, and continue
“consuming everything, driving anywhere and doing anything”. He explained, some
people needed to “take a step back and look at the bigger picture... and start to
realise we have got a finite amount of resources... and recognise this smoke screen
we have got, which is clouding the true vision on where we should be heading”.
Furthermore he said:

If you think about how long it has taken for things to be created in the
world, then you begin to appreciate how long it has taken for oil to be
deposited in the world and be created. The metamorphic changes in rocks
take millions of years, compared to how long humans have been around
on the earth.

However, Mark believed “the crazy thing was, the world cannot keep a balance at the
rate that we are consuming stuff, and so climate change, and the environmental issues
have come to the forefront in a wider scheme around the world”. He said our values
should be “for the good of the country and for the good of humanity... It is about
acting on our environmental values and ethics on a bigger scale”. Therefore it was
his environmental belief that:

We have a moral and ethical responsibility for our future and for the
future survival of our species. We have a moral and ethical responsibility
to care-take the environment we live in and the frustrating thing is that we
could but we do not. Not on a mass scale, but we do in cells of humanity
around the world.

Concerns for New Zealand

Mark thought that the whole country should become a National Park, then people
would “understand that they live within the environment, rather than living outside it,
and they may then consider his or her environmental actions and follow an
Environmental Care Code. However he thought: “Some people just do not think
about it, they go from day to day... But I believe we still have a moral and ethical obligation, as well as a responsibility while we are on the planet to care about our environment”. He believed politically there needed to be more focus placed on promoting, protecting and maintaining the natural environment, suggesting that:

We are not working fast enough or hard enough. The government’s national targets for reducing carbon admissions are too low. The government should give tax breaks to companies that are far more environmentally sustainable...

I am a little frustrated when I think of New Zealand because I think we have the potential to lead, to be the leading light of the world with the clean and green image, and often people on the outside look at us as potential for that as well. Tourism is pushing the ‘clean and green’ image but when you look around we can see that we are not, it is a façade. We are not walking the talk yet and we are nowhere near it.

He said that the government needed to create more incentive for New Zealand to adopt environmentally sustainable practices, for example, any new building should be required to use renewable, reusable and recyclable materials.

4.3.4 Impact of the environmental crisis

On teaching and practices

Mark said his increased awareness of the environmental crisis had “changed and challenged the way I think about outdoor teaching” and explained that:

Originally when I first began teaching outdoor skills, I was using the environment as a backdrop pretty much. But now things have changed over the last ten years. Now when I walk into this sphere of people, I think about what am I going to give, what am I going to do and how am I going to inspire these people not use the outdoors as a backdrop. I want them to actually integrate their actions within the environment to care for it, which is an ongoing challenge. That is why outdoor education is so cool and it is dynamic. It is changing slowly and I think we should be challenging ourselves in new ways, on how we are going to run it. It definitely holds some big challenges for me, on how I integrate environmental education into my teaching more and more. But I recognise I still have so much more to do...

Mark went on to say that:

I have not done a degree in environmental science and I have not come from a background of that. But I do my own reading, listen to media and read the paper... but I have so much more to learn about this and it will be forever ongoing, until I drop dead and that is the exciting thing about it though. The ironic thing is it is not about knowing it all. It is about challenging your own actions and eating humble pie all the time really.
It was important to Mark that he taught the students to be aware of environmental issues, and that they understood they “cannot fix the world but they can be influential, by developing their own little world and through their own action”. He also suggested that:

> Probably the biggest thing in my teaching is to help people conceptualise that, and not to get bogged down by the big problem. By helping people maybe managing that in their minds... It is a matter of how we can minimise the issues and influence others too as well.

For the students that became particularly passionate about the outdoors, Mark said he tried to “keep that in balance for them” because he thought that at their age they needed guidance:

> I think, as you get older you can keep things in check, you have a different perspective on things, you can balance that out in some way and you can keep your feet on the ground generally. But for some young people it can be very challenging.

### 4.3.5 Ideal outdoor environmental programme

**Enhancing environmental learning**

To implement the ideal environmental programme, Mark said he would “immediately change the surrounding facilities” within the teaching institution. For example:

> I would have facilities that were sustainable and we would recycle water and catch rainwater using water tanks. We would have a plot of land where students could plant stuff and where organic waste would go... The programme would use transportation that was far more sustainable and so on.

He thought ideally that:

> All the programmes should be geared towards it. Integrated in, rather than bleating it down people’s throats, but in a way that would be hopefully positive and have a positive influence on people’s environmental behaviour and practices. Still the programme would be fun and exciting because it has to be. You cannot bleat about the environment because then you suddenly get labelled as a ‘greenie’ and then you end up turning people off. People need and enjoy risk, they need to have the ‘fun’ factor, and so we have still got to have that appeal to these people.

To encapsulate an environmental culture, Mark explained:

> I would like to see our environmental footprint minimised to the smallest amount possible. I would like to see the organisation that I work for, have an ingrained culture of environmentally friendly practices and to be
walking the talk, in all facets all the way through, because if you are walking the talk you are minimising. You can then quantifiably say, that the amount of resources being used, are being reduced, and that is of an acceptable nature... We need to reduce, reuse and recycle and that can take some investment. A lot of it needs time to develop strategies about how this can be done, and what is challenging about that is, we all run a busy programme already, and finding that time seems difficult enough.

To conclude the interview, Mark said:

So walking the talk is what it is all about, it is doing it - switching a light off on the way out, those little things all add up. The tricky thing is that people need to get on to that concept... It is those small things that make the difference; I know flicking a switch off, does not change the amount of industrial pollution that happens in China, but it all adds up when everyone starts doing it. It also starts to help inbreed a consciousness within our culture and society, that what we need to be doing is trying. I would say that is the key. I am just flabbergasted by the way people take things for granted and it seems like they do not care. So we have a lot of work to infiltrate New Zealand’s cultural psyche... But if we just tick away with it, then the ripples do start to come and spread out, then it will impact at a much larger scale.

4.3.6 Summary

To summarise, Mark taught both practical and theoretical outdoor papers. He encouraged the students to think critically about their behaviour and practices when outdoors, as well as how they interrelated with their environment. Due to the increased media coverage of worldwide and national environmental issues, Mark has become more aware of teaching for and about the environment. He believed people have a moral and ethical responsibly to care for the environment. However, he thought some people hid behind a smokescreen, and was therefore concerned that humans would continue a business as usual approach to environmentally unsustainable practices and consumerism. Nevertheless, he believed it was important that the students understood and learnt about the environment during the programme, so that they could be influential in the choices they made and the environmental actions they chose.

Ideally, Mark wanted the students to be able to measure and quantify their environmental footprint. He wanted the outdoor education programme to be walking the talk during practical papers and generally within the institution, such as promoting
an environmentally friendly facility that was sustainable in the way it functioned and taught.
4.4 Jane’s case study

4.4.1 Outdoor education programme

Teaching and programme focus

Jane’s interview took around one and a half hours and was completed in a quiet location that suited her. She described the outdoor programme she taught as providing “three different programmes that build, and stack up on top of each other”, where the students learn about outdoor recreation, leadership, instruction and education. She explained that initially the students have “a taster in personal development, social development, and get the basic skills in all the outdoor pursuits”. At the advanced level they are “learning to instruct, continuing to develop their outdoor pursuits, they start adult education papers and complete some business studies too”. She said, they learn about adult education and “also have their own personal outdoor pursuits where they are gaining more mileage, experience and up-skilling in that. Then they begin teaching their outdoor pursuits and this is when they start instructing the first year students”.

She explained, within the theory papers is included an environmental education paper, which has been integrated into the outdoor education papers over the last few years. Jane said learning for and about the environment was now considered a natural part of the curriculum’s objectives.

Programme changes

Initially when Jane started lecturing, she thought outdoor education programmes were lacking a strong environmental educational component:

It felt very much like it was focused purely on outdoor pursuits and part of this is due to the age of the students and the focus of students, in terms of treating the outdoors as a bit of a playground or a gymnasium sort of thing... Helping to move people or explicitly challenging them on that, and moving them through that, was part of the reason for bringing in Environmental Education.

Jane worked with other staff to design and incorporate environmental education further into their outdoor teachings and practices. She believed initially the programme:
Felt like we were really dealing with outdoor recreation as opposed to outdoor education and I had a bit of a ‘thing’ going on about that. A bunch of that was because the intensives were focused on up-skilling people or extending them and paddling harder water or getting better at rock climbing or climbing harder grades or whatever. So it felt very technical skills based and it felt like we did not have an explicit environmental component in there or that sort of thing, so it did not feel as holistic as it needed to be.

Jane believed that around the same time the New Zealand Outdoor Instructors Association (NZOIA) expected more awareness of environment education for their instructor certifications, stating that:

NZOIA had started to increase the environmental components in their awards syllabi. It started essentially in the bush one and then it was moving across and there was some resistance to that, when that was starting to happen. They did some work integrating their core generic syllabus (which the main environmental focus was) into their pursuits syllabi. What was certainly coming across, were certain definite flavours of environmental education. So our programme now has a huge environmental and sustainability focus in there.

The environmental education papers

The requirement for setting up this environmental education paper was so the students would focus on “environmental education rather than environmental knowledge” for example:

How they can incorporate it into their teaching and ranging in everything from concepts of sustainability, active citizenship, through to storytelling and interpretation and how to incorporate that sort of stuff through into their own programmes. Certainly concepts or aspects of environmental knowledge and knowing stuff about flora and fauna in New Zealand, how we have ended up where we are now and why the environmental stuff here is special, the Gondwana land story and all that. But part of their assessment is they need to be incorporating that into their teaching, and they need to be seen doing that.

The environmental education component that Jane wants the students to learn and incorporate into their practices, included: ‘information about sustainability, historical and cultural information, Māori perspectives, myths and legends, understanding of how things have evolved, to improve knowledge and connection to the place, knowing what the plants were in the area, and getting a sense of appreciation of the environment’. Jane said initially bringing these environmental perspectives into the programme “has been an interesting road to travel”. For example:
During their assessment, there is always one of our staff members and often there is another staff person, who is a very experienced instructor from the industry there too. They have an observation sheet that they take out into the field and basically they tick the students off as they see them incorporating stuff during their instruction, through interpretation or whatever. But in order to try and give as much scope for the type of stuff the students could incorporate and the ways they could incorporate it, I basically compiled this huge list of various sorts of environmental aspects they could cover. They do not have to get all of it, but they need to get a solid portion of it and to be seen doing it.

Initially Jane said she was surprised by some of the staff's response to the environmental component of the programme. Even the people with a degree involving environmental science seemed not to understand what we were looking for. She thought perhaps it was because “they are not used to incorporating that stuff into outdoor pursuits, so they did not get what it was that we were trying to have students incorporate. For the others, it is just these words that they were saying holy moly what is that about”.

Since including these environmental aims and objectives, Jane said it has not only been interesting to see some staff engage with these environmental components, but also watch some students develop this knowledge, because it had been a “rocky road”. She explained that:

At first they were trying to get a handle on it themselves or trying to move from thinking that the environment is a playground for me to go out and paddle hard rivers in. To changing their thinking or operation from that place themselves, to now incorporating anything about environmental aspects, so thinking what are the outcomes to damming this river, or how can I pull environmental aspects in, when I am just trying to teach them how to ‘wooopee’ or ‘cartwheel’.

Jane believed didymo was a “fantastic” environmental problem for kayaking students to learn about, because it impacted directly on their experience, it required environmental management and it can trigger environmental action. She said:

Kayakers are having to control the way they are dealing with the didymo, in terms of their own paddling, like up in Buller, they have these great big disinfection tanks, and all the students going kayaking have to disinfect everything including towels, the whole works. It is a massive rigmarole but they are all doing it and they are all taking responsibility.
She explained that environmental education “has been practised and incorporated into programmes by many people in and outside the outdoor industry for years and it was just what they did”. Jane believed that environmental information is becoming more widespread these days, particularly within the outdoor industry, stating:

*It may not be the really deeper ecological spiritual aspect but they are starting to bring in more about flora and fauna, or that sort of thing. Certainly three or four years ago, it felt like I was fighting a bit of a battle to try and incorporate that, but over that last couple of years it feels like stuff has really started to move.*

The mind shift toward environmental outdoor teaching, Jane believed, has become really important, “particularly when you hear and see highly respected outdoor professional operators incorporating that into their own teaching and practices”.

She also believed that teachers’ outdoor practices could influence students’ outdoor behaviours, particularly when they think of them as “gurus” of that pursuit, which can “help raise some students’ awareness and moves them along into that thinking”.

Jane said “it has been interesting watching things shift” and seeing environmental practices incorporated into the outdoor cultural psyche of the programme, but she said it has taken some time. In her teaching now:

*I am more of the opinion that some people are simply not ready to go into the deeper or the more challenging stuff. And if you are expecting everyone to be along that line, then you are basically going to lose a lot of people and you will not achieve that. So you are better to go from wherever they are and direct them on a bit, whether that is simply increasing awareness of the environmental issues or increasing their awareness of what is around them, or that they are not the only important things that exist in this place. Then if you can achieve that shift, when they start to mature more, then there may be some more shifts later on. In some ways I have sort of softened on that a little bit, but I have probably become a bit more pragmatic, by realising what is going to be more effective and what is not.*

**Teaching and intended student learning outcome**

In Jane’s teaching, she said: “I think it is really valuable to get students to examine their own value base and weigh things up”. Therefore, one of the activities she did to explore these ideas was asking the students to consider “where do your beliefs lie”. Jane asked them certain questions based on: “If I gave you a million dollars what would you do with it, would you__?” encouraging the students to question, evaluate
and rank their beliefs accordingly. Jane thought it was important students “wrestle with their thoughts and explanations”, because:

Whilst it is not getting into the climate change or the sustainability stuff, it is another sort of aspect in terms of what is going on out there. Then after that, they do a reflection on it and basically look at where their beliefs are now and what sort of stuff is going on for them in regard to that. For some people you can see that it just has not really touched them and they are just skimming along, but for others you can see a huge shift... Right from the first challenge of where do your beliefs lie?

In Jane’s teaching she believed the papers were designed so that the students learnt to question, “what and how they practised, related to the outdoor environment, and whether or not, they viewed it as a gymnasium or something very spiritual”. She thought that:

There has been pretty amazing shifts there, which is really exciting to see. Then knowing people will go out and incorporate what they have learnt even if it simply starts to open their eyes more, then that is okay in terms of their outdoor education and their instruction.

Jane wanted to give students the base knowledge about environmental issues so they can build on that throughout their outdoor experiences. Initially Jane thought that perhaps they were “trying to do stuff without having enough of a base”, but she said once students and some staff were exposed to that base environmental knowledge, they were capable of incorporating environmental aims and objectives into their outdoor experiences.

4.4.2 Environmental education practices

How the environment is considered in the programme

Jane said the environmental theoretical papers explore: active citizenship and social action, interpretation and storytelling, and how to incorporate the New Zealand environment into outdoor education. She explained that the students learnt about environmental philosophies, theories, stewardship and environmental beliefs, and how to design an outdoor education lesson. They would learn a little about science and ecosystems, as well as flora and fauna. Jane said these theoretical environmental papers had been implemented into all aspects of the programme, which meant:

Everyone is now starting to increase their incorporation of it and the contract instructors (who have been involved with us for a few years now)
are starting to see that this is an important part too. So people are getting more of it earlier on. It feels like we are doing more of the base knowledge better...and from a programming perspective it works better.

She believed teaching for and about the environment “was absolutely integral” in her outdoor education. Jane also wanted to improve students’ environmental knowledge and encourage environmentally sustainable behaviour, explaining: “when I am teaching in the field I would certainly use teachable moments to discuss this sort of stuff”, but admitted things have changed since she first began teaching:

In the past the outdoor environment has been in many ways, a medium for personal development and the social development. It was the venue within which to do the outdoor pursuits, which certainly has not been the philosophy or the belief of all of the staff. But because of the way the programme has been constructed, that essentially had been the message. Although there has always been in the philosophy statements in terms of behavioural stuff and a respect for the environment, there was not so much a stewardship aspect. However, with the shifts that have been happening, in terms of people’s beliefs and the wider shifts in the outdoor education field at the moment with the papers it is now moving away from simply being a medium I guess and it is now becoming more an education for the environment than what it was.

Jane believed these environmental changes have improved that “flow on effect” because the students have base knowledge and are shifting towards incorporating sustainable behaviour and environmental action.

**Important environmental components that students learn**

When Jane taught the practical pursuits she would be “well read up on what was happening in the places that we were in, and bring that stuff into the discussion out there”. In the theoretical papers she said, she wanted the students to be stimulated and empowered by what they learnt, in the hope they would have wanted to implement their own environmental action. For example:

I would bring into class, all my Forest and Bird magazines and the New Zealand National Geographic magazines, that sort of stuff for the students to look through... Part of the reason I would bring in so many resources was so they could start to have those interests peak and to encourage them to explore these ideas more... There is always a certain task that they were required to do during the programme that involved engaging with the environment... These environmental papers would allow them to put their ideas together for a class presentation/lecture... In terms of the way the thing was marked, most marks were involved in
the biophysical aspects but they also had marks allocated for the social, economic and political aspects.

It was important to Jane that she encouraged the students to develop a “holistic and well rounded” opinion of the environmental issues, from global warming to a particular bird species in crisis. She explained:

The purpose of that paper was to get them to a much deeper knowledge in an area and have it in an area that they chose. They then could use it to support their integration of those concepts into their own teaching... All the lecture notes were copied and the students end up with that as a resource to keep. So they would end up with twelve, or however many were in the class, presentations they could learn from.

Jane also mentioned students experienced “the realities of conservation work in New Zealand”, when they provided environmental support in a chosen conservation site: “different groups would work on various species recovery programmes with DOC”.

Jane believed this conservation experience:

Was about building and integrating it, as well as supporting their learning in terms of trying to make it as holistic and well rounded as we can get. As well as having the set teaching stuff. Also making sure that I was giving as much scope for people to find their own way in and through their own areas of interest. I think this seems another way to be able to get people from where they are, to open and start to move forward.

Part of Jane’s environmental teaching “was getting people to look at different ways they can get involved and different social actions they can take”. Another activity she did with the students was to arrange a member from Forest and Bird to present a mock press release about environmental changes to a rock climbing area the students visit. They were told:

The powerlines were being upgraded, and of course, this runs straight through the rock-climbing crag. We told them that they were about to blast all this stuff out even further, to upgrade the line... It was amazing the effect it had on students. They were totally in there and working together to write submissions and stuff. It was not until the end of the session, that he let them know that this actually was not true.

The intention was to get students passionate about environmental action, locally, nationally and at a political level. Jane said: “I basically wanted to raise awareness and empower them”... “It showed them that you can be involved, that you can have
your say and make a difference, as well to give them the tools to be able to do that”.

She believed that:

Now they have had a practice and have the tools, then they tend to utilise them. But if they don’t know they have these skills, they don’t do it because they tend to think it is this scary thing and that important people who are really literate that are used to making and doing that stuff, do it.

Jane said she wanted to integrate environmental education into her teaching practice because:

If I can start them thinking on that and on those aspects, then it is their choice where they go with that. Giving them tools, increasing their skills in terms of being involved and making those choices. In many ways it can help people to become responsible members of society - having that awareness in terms of their own personal behaviour, understanding the potential impact on the environment.

Identified limitations

Jane said: “Looking at what I was seeing as limitations is what I am now seeing as realities. In terms of moving people and in terms of whether they are ready to start seeing things differently”. She explained that these limitations also related to finding enough time within the programme, and knowing just how much could be added in so the students could actually complete the task to standard. Jane believed: “at the moment the programme is busting at the seams and there was actually not a huge amount of scope for doing too much more”. She went on to say that: “I have become a lot more pragmatic about it, in terms of there is only a certain amount you can achieve in this period of time and a lot of these beliefs, these behaviours, these values, this sort of stuff, is an ongoing thing and lifelong”.

Even though Jane said she was pleased with how they have been able to integrate environmental learning in the outdoors, she still believed that “the programme will probably remain mainstream”.

4.4.3 Understanding the environmental crisis

The global crisis

Jane thought that “there was no easy fix” to an environmental crisis and that it “will require a major shift in the way people behave and the whole way our society operates”. She said that:

*I do not think that going just to bio-fuels or clean energy, or that sort of stuff is going to solve it. It is actually the amount of energy that we consume... one of the fundamental issues that is a major problem (and I do not know how this will ever shift) is the belief we need to have economic growth all the time. You know that whole model is quite forward and that is kind of driving this issue. Then we have other issues like the wind power and people not wanting it in their backyard because of people’s connection to places.*

She believed that the environmental crisis was complicated and thought that:

*The change and increase in awareness has been absolutely phenomenal. I mean there have been people talking about this stuff and raising awareness saying hey there is a problem here since the 1960s. Suddenly a whole bunch of stuff has happened, in turns of public awareness across the world and it has suddenly starting to shift again, but it is whether people will actually take that next step of changing their behaviour.*

It was her belief that the impacts of the environmental crisis were wide spread due to various contributing factors such as climate change.

Concerns for New Zealand

In New Zealand, Jane said the same international concerns applied, such as the effects of climate change. Other concerns she mentioned were:

*I am very concerned about the fact that we are building roads, where we could be building train lines and improving public transport. I am concerned about the genetically engineered organisms coming in to New Zealand being released, being grown and coming into our food supply and the number of pesticides being used... Accountability needs to be on the developers in terms of to prove this is safe, as opposed to the general public to prove it is unsafe. That to me, seems a very screwy way to setting stuff up. It seems incredibly dangerous letting us all be guineapigs here and this could have serious consequences.*

Jane was also worried about the extinction of “indigenous flora and fauna, the human impacts and the state they are in”, as well as the methods chosen to manage and protect these species, for example:
I have put in a submission recently on the Doubtful Sound dolphin pod because they think they are going to be extinct by 2056... I would hate for them to close off that place to the public because it is an amazing place. However, I would not be surprised if what they end up doing is closing it off to the public, but letting the commercial stuff carrying on. I think there needs to be a complete change in the way those commercial operations operate because at the moment you go in and seeing the dolphins is an incredibly important part of their advertising. But they need to be going in, thinking if we see dolphins well you’re lucky and if you can see the dolphins without using binoculars then you are too close. There needs to be some pretty massive shifts there.

Another concern was the future impact on water and land as New Zealand increases dairy production. For example she said: “Canterbury’s low land water is in an absolutely shocking state because of all the dairying and dairying conversions. It is diabolical and it is really very concerning”. Jane believed farming practices do not have to have a detrimental impact on the area, suggesting:

People can do it in a responsible and sustainable manner. So it is when people put the five-year profit in front of the one hundred year sustainability that is the problem... Lower that priority and increase the priority of the societal impact, the environmental impact and the long-term sustainability. That is what we really need to have happening.

As an example, Jane described a farmer she thought was a “very wise fellow and was part of setting up the QE2 National Trust a number of years ago”. She explained that his approach to farming was:

That essentially you look at the hundred year impacts of what you were doing and that is what you measure it against. You do not measure it against whether it will make more money or not next season, it is about asking yourself what will be the impacts of this in one hundred years of practice. This essentially requires a head shift, but that again is changing that economic growth model.

Nevertheless she was positive about New Zealand’s future, because she knew there were people and organisations trying to protect the environment, for instance:

There is some very good stuff happening, absolutely fantastic stuff happening in terms of, not only through Department of Conservation, but actually though community groups, like the Mangatapere Reserve at the Central Waikato mainland island, that they have created up there.
4.4.4 Impact of the environmental crisis

On teaching and practices

Jane said the widespread impacts of an environmental crisis influenced her to teach more for and about the environment in the outdoor education programme:

*I have become more aware of the issues, and more aware of the concepts and the underpinning stuff going on. I have developed the belief that it is my responsibility to make sure that I am incorporating that in my teaching and an awareness of the importance of it.*

Furthermore she said, “Whatever the subject area, I have realised the power, the impact and the responsibility of anyone who is in a teaching position. It is incredibly important what you role model, what you show them and how you behave”. It was her belief that an outdoor educator needed to find appropriate strategies to incorporate environmental education in their teachings and practices, for example:

*It needs to be in such a way that students feel empowered, because if they just have all of the doom and gloom stories, then they become overwhelmed and apathetic: ‘Well what can I do? I have no power here at all, it is all big stuff, global stuff and I am just this little person who has no impact, what so ever’. It is a very careful balance otherwise you end up with people that are feeling really bad and doing nothing. I think it is incredibly important and it has to be in there, otherwise you are not going to achieve anything, and you are going to end up with people thinking this is too hard.*

Jane said she has tried to design papers that encourage environmental discussion and students to engage critically in contemporary environmental issues, both nationally and worldwide, in the hope that “the students can hang their own practices on these issues”.

4.4.5 Ideal outdoor environmental programme

Enhancing environmental learning

To implement the ideal environmental outdoor programme, Jane said that she would need more time to consider this carefully because:

*Essentially if you have only got an environmental programme, then people need to want to be coming on it and they need to be ready for that. It is like any sort of outdoor education, if people are not ready to make changes then they are not really going to. So there needs to be a certain readiness there from students.*
However, she thought that perhaps students could:

*Go down into wilderness areas for the purpose of working on some sort of flora protection or fauna protection - in terms of going down the Fiordland coast checking all the traps or something like that. That certainly is a very inspiring sort of thing for people, and is more likely to have them going ‘I want to be involved with conservation efforts’.*

Jane said if she was trying to achieve greater behavioural and attitudinal shifts, then perhaps:

*Taking the students somewhere where global warming is really evident, having to actually go to see, experiencing it and then drawing the links; this is what is happening and this is what is causing this, that is maybe a way of getting people to take it seriously. It could have an impact on people if they can make some sort of emotional connection with stuff but beyond that I do not know. I have always had to work within constraints.*

At the end of the interview, Jane concluded by saying:

*I think environmental education is an incredibly important part of outdoor education, but it is also an incredibly important part of everything else. I think it needs to be almost in everything that is taught throughout schools and throughout all sorts of other stuff. Not always overtly because it does not always fit overtly and does not always fit appropriately... Basically, for stuff to change in every facet and every sector of society across the global, people need to make that shift.*

### 4.4.6 Summary

To summarise, Jane taught both practical and theoretical outdoor education papers that integrated environmental education into the curriculum. Her initial experience of outdoor education was that it was pursuit focused. However, over time she has managed to influence environmental education within the programme. Jane starts integrating environmental awareness in students’ outdoor papers straight away, to give them the base knowledge to build that awareness from. Then to peak their interests, she encourages them to explore their own environmental beliefs and values by discussing contemporary environmental issues. Ideally Jane said she wanted to provide the students with the skills and knowledge that would motivate them to be environmentally action-orientated about the outdoors.

Jane thought that an environmental crisis could have catastrophic effects worldwide and may require major shifts in human behaviours and lifestyles to reduce the impact of climate change. She said the main concerns she had for New Zealand were issues
about future transportation, how food was being produced, the welfare of indigenous flora and fauna, and unsustainable agricultural farming practices. However, she believed some individuals and organisations were developing exciting environmental initiatives, as a response to certain environmental issues.

Her understanding of the environment has influenced her own teaching, as she has become more aware of role modelling positive environmental behaviours. The environmental crisis has made Jane more conscious of teaching students about contemporary environmental issues locally, nationally and globally. If she had no limitations on her ideal outdoor environmental programme, she would encourage students to experience remote conservation work and visit areas that have been affected by global warming to assist learning outcomes.
4.5 Luke’s case study

4.5.1 Outdoor education programme

Teaching and programme focus

Luke’s interview took just over an hour to complete and was conducted at his office where he worked. He taught both theory and practical papers, in what he described as an outdoor educational and recreational programme. He said that once the students complete this programme they sought higher education degrees or various employment within the outdoors sector, such as at “teachers college or working in New Zealand outdoor centres (for instance OPC\textsuperscript{5} or Outward Bound). Other students elect to travel overseas to work in outdoor education centres and in school camps”. He also said that:

\begin{quote}
We are actually ending up with more people going into postgraduate teaching out of the degree than we have anticipated, and we see that as increasing not decreasing. We have also got a set of graduates going into the Department of Conservation, regional and local councils.
\end{quote}

The papers Luke taught looked at were: “outdoor education policies, programming, and planning, as well as social and environmental issues” and also some outdoor pursuits papers. He said as a teacher the “driving force in education was for social change, and that is what engages me to continue teaching”. He explained further that:

\begin{quote}
The underlying value that I place on learning is that critical reflection at a really deep level should occur on all my papers, whether they are theory or practical. So for example, when I teach rock climbing, I really try and get the students thinking about what is it that we are actually doing and how we can actually use this pursuit as a vehicle for other learning. Rather than focusing on the technical skills of climbing, I want them thinking about what else we can hang on this, so that climbing becomes a vehicle for other learning. That is where it becomes really exciting because you can get very creative and suddenly the outdoors instead of becoming a location for a technical pursuit it becomes a location for powerful learning.
\end{quote}

Luke said he integrated Barry Law’s sustainable education model into his practice, which was based on a Māori weaving:

\begin{quote}
It has four strands that together form a jigsaw puzzle and one of the strands underlines the other three, so it is a backdrop to everything. That
\end{quote}

\textsuperscript{5} OPC - Outdoor Pursuit Centre
backdrop is made up of deep critical thinking, collaborative learning and participation, emancipation, reflection and most importantly action, which is about transformative learning and about change.

If you think about those things as the method that underpins the backdrop to education, then that is where I fit sustainable education. The other three threads that lie on top of that backdrop are economic, socio-political and environmental. Within each of those there is a whole myriad of content that you could look at, for example: peace education, environmental awareness, ecological systems, equity, gender, and age issues. All of these issues fit within those broader topics.

Environmental education papers

Luke said he tried to amalgamate sustainable, environmental education and cultural issues into the students’ outdoor educational learning. He said when he taught rock climbing he tried to “flip everything around and instead of rock climbing being the content it becomes the method to hang this other stuff around”. He believed that it was important the “students learnt to look at other sorts of learning”, and their learning was challenged. For example, once they had learnt the technical things to keep safe, “rock climbing was about the story that you have behind it”. As part of their teaching paper the students were required to demonstrate these various ways to teach in the outdoors. For example, a couple of students chose to teach outdoor education at a Māori language immersion school. Luke encouraged these students “to ask Kura Kaupapa what we can do with each other that would work, that will give your students what they need, but using our skills”. As a result his students developed and led a rock climbing traverse, that identified the local cultural significance within that area. Mark explained that:

We set up a very easy top rope, once at the top they traversed along the full length of the cliff edge, and had to rappel or abseil down at the other end. Students could actually climb up, or you could walk around the back and jump onto the traverse and go across and go down. So straight away everyone could participate because there was no reason not to participate (if you are obese, scared or whatever). So right along the edge of the traverse we had like a jigsaw puzzle story and it was the methodology and history associated with the place bound together, which we sourced from a local website that is provided by Ngāi Tahu. So these students in a climbing environment learnt about the mythology and history of this place, and had a fantastic time.

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6 Kura kaupapa is a school operating under Māori custom, that uses Māori as the medium of instruction (Moorfield, 2005).
Another example of how the students “created a way to integrate other values into a climbing setting”, involved eighteen secondary students and a two and a half hour walk into the rock climbing crag, where they set up camp for eight days. Luke said that: “In itself that was special because very often with climbing activities we associate ourselves with road end type themes and we miss out on that camping experience, which adds a whole other dimension to climbing”. He went on to explain the following about the journey:

One of our Māori student leaders taught everyone how to put together a mihi7, which was worked on over a couple of days. On the last night we all climbed right through till dusk and at about nine o’clock (or something like that), we climbed up to the top of the crag to a flat area. Up there we all cooked dinner, watched the sunset, and saw the air force training fighters fly over. (it was a very moving kind of time). Just after sunset as the stars where coming up we did these mihi, one of the student leaders spoke in Māori and we just took turns going around the circle. The mihi did not have to follow absolute traditional style, instead it was about where you were from, then what made climbing special to you (in turns of feelings, emotions, textures of the rock), what places were special to you and what where the momentous occasions in your climbing life. All of these different threads were drawn out during the session. It was a very powerful experience.

Also whilst on the trip, the student leaders all had to present a topic. I tended to drive them away from presenting a history of climbing or the gear associated with climbing and things like that. Instead they had to present on things like flora and fauna, problems with track use, problems associated with intense pressures with campsites and that sort of thing. Two students researched Māori language and taught the whole group a whole lot of Māori words for our climbing harness, the rope, knots and so on, which was used during the trip.

Another example was a canoe trip, which went from an industrial area and got less urban as they paddled down the river, moving into a habitat restoration area. Along the way the student leaders taught the Kura kaupapa students about the river vegetation, talked about how it might have looked like in Māori times, and taught Māori names for particular plants. These explanations indicate the various ways Luke was encouraging the students to teach outdoor activities as a medium for learning about Māori culture and the environment they were exploring.

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7 A mihi (or mihimihī) refers to the introductory speeches that occur at the beginning of a gathering or meeting, and after the more formal speeches. The purpose of a mihi is to establish links between the speaker and those within the gathering and it can be given by both men and women (Roberts, & Taylor, 2006).
4.5.2 Environmental education practices

Environmental teaching

After completing environmental studies Luke said he wanted to “iron out the environmental conflicts within his life”, which then filtered into his outdoor teaching and practices. For example, in the past he travelled across New Zealand and internationally as contexts for the papers he taught. He said “probably the biggest change” in his teaching was consciously relocating these pursuits locally where he could, to minimise the travel impact on the environment.

Luke said the decision to teach locally and in a more centralised location was not easy, but he considered it an important decision for the outdoor programme to move towards environmental sustainability. Some of these places were “not as good technically, but the teaching venue was better” which was important for him. For example, the rock climbing location was better “because you have got a two and a half hour walk through native New Zealand bush, with stunning scenery at a sub-alpine level and it is gorgeous”.

Luke said the programme had two core streams: a professional stream, which was aimed at professional teaching practice and professional education practice; whilst the social-ecological stream dealt with improving knowledge about flora and fauna, local ecological systems, and green belts or corridors within the city. In the theory papers he taught the students to learn how to “work out their individual ecological footprint, and to try to come up with ideas of how they can reduce that through their own lifestyles”. They also explored issues “dealing with economics, ecological destruction and gender inequalities”, and “all these big things such as fair trade, trade equity, globalisation impacts on third world countries, the ‘Millennium Ecological Assessment’ reports and the Parliamentary Commissioner For Environment ‘See Change’ report”. At the end of the year, he took them on a field trip, where:

The students present their future outlook based on some current trend... They have the ability to pick trends that are leading towards social collapse, or they also have the ability to choose trends that could lead to a positive future. It is up to them.
Luke said he was aware that trying to deal with global issues could “drive the students quite low because it all seems just too overwhelming”. Therefore he said he always finished that session with his two views of the future:

_I can reason academically that the future is not looking so good but I can also reason emotionally that the future can be very positive and that we each have our sphere of influence around us. It is the idea of throwing a stone in the lake and making ripples. If I can touch half a dozen students and each of those students can touch half a dozen students then you get progress._

**Environmental action orientated learning**

In Luke’s teaching he said he liked to explore with the students “transformational learning and social change”. For example, “We study the mechanisms of social change and where there is a thing that is called the policy window, which means a government at a particular point, is ripe to bring about a level of legislative reform.” During these theory papers, Luke encouraged the students to explore, “how to bring social change, initiate a grassroots movement, and then force some political change from the top”, which he believed was a part of informative learning. For example, Luke taught the students about the Springboks rugby tour, the anti-apartheid movement and how New Zealand protested. Students reviewed case studies about social activism and learnt the rationale behind informative learning and discussed what it was trying to achieve. He also believed the way people taught outdoor education “all depended on how people interpret things”, and that he spent a lot of time looking for holes in the outdoor curriculum to nest this stuff justifiably, because he thought that:

_Outdoor education in New Zealand has become boxed in with pursuits and a little bit of environmental education if you are lucky, but mainly with pursuits and personal group development stuff. Now it did not used to be like that, so it is just a social construct and it is where you place yourself. I refuse to bow to that, so the words are really problematic._

He said the biggest project the students did was “to identify and undertake some sort of social change in their own area of interest”, and over the years, there has been numerous social actions undertaken as part of the programme. For example, a few students wanted to reduce the amount of disposable coffee cups going into landfill, therefore they set up these big stands, explaining what the associated problems were with using disposable cups. They prompted other tertiary students and staff to
purchase their vacuumed flask cup, and in return they received a discount on any coffee and tea at three local cafés. All the profit received was donated to another environmentally related fund.

Other examples of social environmental action projects included some big displays informing people about what could be recycled and what could be thrown away. Other students helped local schools establish worm farms, or gave workshops to introduce sustainable methods for travelling (such as walking or riding), and how they could reduce their waste (such as lunch packaging). Another project was based on the international movement ‘Random Acts of Kindness’, incorporating sustainable education concepts of equality, integrity and respect. Another project some students did was a waste audit at the institute, for example:

One year they collected the whole day’s waste from the whole institute, pulled it apart and tried to see what could be composted, what could be recycled and what was the actual waste. This year they just did one faculty and because of that we now have a composting system here and a recycling system that was implemented by the students. There are five compost bins between here and the gear shed, and on all of our field trips, they now take these buckets out with them, to bring their food waste back here to be composted.

Luke said the institution was also very supportive of these programmes and for the last few years, the institution’s Environmental Manager has provided funding for these projects of up to $5,000. All the students get to use that fund and their environmental service provides the waste audit for the institution’s faculty.

Other types of environmental action have included “students lobbying local and regional governments”, for example:

Most years the students would arrange some kind of car-free day. A few years ago we had three students co-ordinate three car-less days at the University, the Education College and the Polytechnic all on the same day, which was a big undertaking. They had a website which had hot links to all the students’ websites and they raised at least one thousand dollars worth of prizes to give away.

Interestingly, Luke said that: “When you get into this transformative learning you give the students an awful lot of power because you are saying, what do you want to do that is going to engage you and change your world... Therefore transformative
learning can lead to anti-social behaviours and some of these movements can be really quite big”. An example of this was:

The year that Al Gore’s ‘The Inconvenient Truth’ screened, because there was a lot of public awareness going around environmental issues. So what one student did was go to quite a few public meetings where he heard local politicians speak, and then he wrote to local and national governments. Although he did not tell me this at the time, he ended up sewing two-double bed sheets together, climbing up on the Chalice, and tying it up there one night, and it said ‘we need to change to stop climate change’.

Also, a few years ago a student undertook a Critical Mass bike ride for her social action. So it is cool stuff, but sometimes it pushes you a little bit as to what is acceptable.

The wetlands project

Another environmental programme that Luke encouraged students to be involved with, that is not associated with the outdoor programme, was the local wetlands project. It has had significant impact on the local community and the students, as some have and still do contribute to restoration planting projects. Luke suggested that being a part of something like this could develop stewardship, connection with local natural environments and provided him with another teaching opportunity for the students to learn about local wetland ecology and positive environmental action (for further detail see Appendix 9).

How environmental education is considered

Luke said within the programme there were environmental contradictions, even though he encouraged students to “make an effort to tread lightly” they still “needed to drive to some locations, for example to get on rivers or get into the mountains or to get on rock” to gain practical outdoor experiences. However, he said that the programme had been trying to work on how to minimise the amount of driving and still maintain the quality of the outdoor programme. For instance:

We have made an effort to use local resources as much as possible, and a good example of that is... we used to travel for a couple of hours to do a several day hike but we have axed that and what we are doing now is

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8 Luke explained that “Critical Mass started in San Francisco in the mid-seventies, and it is a worldwide movement for cyclists. What happens is there is no leader, or nobody knows who the leader is because it is all done via web, text and whatever. Just a group of cyclist getting together then in mass, they bike ride around the city during rush hour blocking traffic, to draw attention to the needs of cyclists in the city”.
students leave here by bus... and get on the ferry... and then spend three
days walking around the crater rim back to the urban area and then
travel by bus back here to finish. So we have tried where possible to
to change the way we do things.

He mentioned staff also tried to role-model positive environmental behaviours, such
as bike riding to work, as well as when students are on practicals they “haul out what
they hauled in” including human waste in starch bags and sealable tubes. The
programme has “tried to adopt systems, when students are out in a natural
environment to lower our impact”. Luke said that: “I think we have a very strong
social and environmental core across the programme... set up to deal with it and it is
not thought of as some special little component”. He said that students were
encouraged to think critically about social and environmental implications throughout
the programme. However, he believed that there needed to be a balance met
somewhere, because:

Humans never function without impact, but I think we can function with
minimum impact if we want too. Gradually we are travelling far less from
our campus and over time I think we will see the activities change as we
move from a pursuits-based model. But I think it will take some time to do
that and there will be other pressures, like financial pressures and
pressures on ratios that will come into play not just philosophical issues.
Already transport costs are our biggest costs after staffing. So it does not
need to move much higher in price for you to start thinking. In the past
we have taken students down to Queenstown and I think we will not be
able to do that anymore because it would be just too expensive.

Luke suggested that the area the outdoor programme struggled most with was
incorporating issues related to the Treaty of Waitangi and Māori culture. He said,
over the years they have been building a closer working friendship with the Kura
Kaupapa, with the incentive to bring this continuity into the programme. For the last
five years the programme has had a New Zealand Treaty educator come to teach the
students a two-day awareness paper and an a advanced one-day paper “that looked at
indigenous tension and those sorts of things”. Luke said this year was the first time
the staff ran these Treaty awareness papers themselves, because they were confident
they could teach “from a non-Māori stance about biculturalism and the Treaty but
we have a long way to go with that”. Trying to integrate it naturally into an outdoor
education programme, was not easy:

It is something I can’t quite get my head around because my own
perspective is white middle class and outdoor education has grown out of
that perspective. Trying to break down the assumptions around that, in order to draw in the values of another culture, is very hard.

Part of the environmental component he wanted the students to learn, was to question why things were as they were. For example: “In the very first class I get the students to take out a bit of scrap paper and ask them to write ‘why’ on there” and inevitably everyone will write why, because they were told too. He believed “It was a matter of encouraging students to question everything right now and try to formulate their own position, rather than accepting a position”. So gradually, he would encourage the students to “question why they act the way they do, question what their assumptions and what their beliefs are, no matter what those might be”. Furthermore, he explained that:

*It is the goal of this course to have students questioning authority on everything at every level and that includes their politicians, parents, decision makers and even tutors. At the end of the course I will ask them to write ‘why’ and nobody will, or they will ask why do you want us to do that. I guess that is a metaphor for trying to get the students to try and get them doing that too.*

### 4.5.3 Understanding the environmental crisis

#### The global crisis

In Luke’s opinion, humanity and the ecological systems that currently support human life on the earth are in serious trouble. He said he used to read a lot of academic writing about political and philosophical environmental issues, in particular related to resource management, but all this reading made him feel depressed. Consequently, he said, “I do not read absolutely everything that I can get my hands on anymore and I have become more discerning about the literature I read and how I teach”. He explained that:

*I try and touch on it with my students, but without getting too deep or dwelling too much on it. I think what is critical for sustainability education, is students need to come out of it with a positive spin. If they come out thinking it is all over and that they might as well throw the towel in, then as a teacher you have not done anything positive and you are actually working against the objectives of sustainability education. So I think you have to be really careful there.*
Concerns for New Zealand

The environmental issues Luke identified for New Zealand he believed were similar, if not the same as other westernised countries:

We have cleared more land and destroyed most of our indigenous habitat as well as seen more extinction of our indigenous flora and fauna, like many other countries. It had to do with the fragile nature of the fauna when we arrived here, coupled with the exotic pests that have come over, as well as turning this small landmass into viable agriculture. The destruction is based on the philosophies that underpin all that. I mean we are still thinking of the New Zealand environment as a bottomless basket of resources. Water here is a classic example because we are extracting 100% of our water from the aquifers. Most of that is going onto agricultural land to promote wetland agriculture, which it is very short term in its thinking. We cannot keep doing that. New Zealand is not distinct. We are not the clean and green utopia that we market ourselves to be. If anything, we are the other extreme. We have beautiful landscapes but that is lucky, because I don’t believe it is our management that has done that, and like any other country, we are sitting on the cusp of losing it altogether. New Zealand was identified in the Millennium Ecosystem Assessment report as having major problems.

He believed it was important that more solutions for local and national environmental issues were developed. Within one of the papers Luke teaches, the students have a chance to study the New Zealand Resource Management Act and then they learn how to write and send in a submission. Two examples he mentioned were:

A couple of years ago we put in a submission on a helicopter company that wanted to run scenic tours and land helicopters every 15 minutes, all daylight hours, seven days a week, up on the local mountain here. They would do a figure of eight flight around the harbour and over the city, therefore the students and I put in a submission against that. They received over 12,000 submissions and we saw that application actually withdrawn, which was important for students to understand that the council have the power to make changes.

This year we put in a submission on water extraction for dairy irrigation from the Waitaki River and that will be interesting to see what is going to happen with that. They want to irrigate forty thousand hectares of dry-land agriculture, which is currently in dry stock or grains, into wetland dairy. New Zealand just cannot sustain that stuff and Canterbury especially cannot sustain it because it is not a wetland environment, it is dry.

As an outdoor educator Luke thought it was also important people like himself, who enjoy and work in the outdoors, were aware of how the environment is impacted on during their activities. He said:
Outdoor educators spend lots of time in wild places and we are just as much part of the problem as dairy farmers, but in our own way. By treating nature as this place that we go to rather than this place that we live in, we are exasperating this dichotomy, this split of nature and urban.

4.5.4 Impact of the environmental crisis

On teaching and practices

Being aware of the environmental crisis, Luke said, motivated him to teach sustainable environmental education in the outdoors and it had now “become the sole driving force for teaching”. When he began teaching outdoor education, he said “it was very classic outdoor education pursuits education, a bit of instruction, facilitation and perhaps a little of environmental education, but not very much… I hold this positive vision, that I should do my best to push sustainability education and empower students to do the same”. Luke said he introduces the students to authors such as Noam Chomsky⁹ and Fritjof Capra¹⁰, theories about social collapse, as well as discusses:

The bell curve of the rise and fall of dominance, how very few if any societies have ever been sustainable and they have all at some point reached a point of collapse, only to be replaced by another paradigm. We look at Easter Island and some of these other quite well known example of social collapse.

Luke thought the issues associated with an environmental crisis “were incredibly complex: they are interrelated, they are intergenerational and they are multi-dimensional”. In further detail he explained that:

It has to do with the dominance of the patriarchy and it has to do with economic structures and the whole consumerist system based upon the idea that we will be satisfied if we have more. It has to do with the relationships we have built historically with the world around us that trace right back to Christianity and even earlier. It is systems of governance that side step democracy and the United States of America is a classic example, where they do not have a democratic system. Democracy is rhetoric – it is not a democratic system but rather the powerful people decide who will lead in the United States of America. The media are incredibly complex political forces too… For example,

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¹⁰ Noam Chomsky is the author of Hegemony or survival: America’s quest for global dominance (2004), Profit over people: neoliberalism and global order (1999), and Failed states: the abuse of power and the assault on democracy (2006).
Noam Chomsky wrote about how the media is having a huge influence on our lives and how they create the image of everything that we know and think is real. We assume things are that way, but it is really a construct reality – a social construct... We have dislocated ourselves from the ecological systems that support life.

In his teaching, Luke said he hoped: “the students would think about their own values, their own place in the world and what value will they add to their communities”. Further more, he said:

Students need to have an understanding of the global issues and the confidence to be able to bring about change. So they have knowledge of global issues, understanding of political processes and confidence to be able to participate in those at a local level through education and political formations. I guess that is what underpins it, global awareness, local awareness, and local action and knowledge.

The duration of the tertiary outdoor programme Luke taught, he said, was designed to engage the students’ environmental awareness and build up their knowledge over time. He explained that:

We can focus on those issues sequentially over the year levels and take people on to a deeper level of understanding. So our students are able to enter into deep levels of discussions about sustainability issues locally and on a global level. They have a clear understanding of what the issues are and how the curriculum fits in with that and what the opportunities are for them as teachers or instructors to bring that information out. We use the Millennium Ecosystem Action Reports, the Ministry for Environment Reports, and the writing of academics and journals. I use a lot of philosophy, deep ecology journals to try and draw on those things too.

4.5.5 Ideal outdoor environmental programme

Enhancing environmental learning

Luke believed that this outdoor programme already delivered some “pretty amazing stuff” and that he was already fortunate that he could “push those boundaries” to enhance environmental learning. He said he was happy to continue to do this, as long as the student learning outcomes and peer review feedback remained positive. However, the changes he would make if he had no limitations would be to “try and break away from the compartmentalised programmes and the little block courses, and try to draw really strong links between them.” He thought that perhaps “there was an opportunity to work collaboratively with other groups outside of the
institution, to perhaps gain other cultural perspectives”, which was something he had already begun researching as an option. He mentioned again, that there were “quite a lot of paradoxes within our programme”, which perhaps he would not necessarily change, because:

I am of two minds there. Sometimes paradoxes can sharpen people’s awareness and if you remove the paradox you actually lose the ability to use it as a teaching point because students are aware of that sort of stuff. So I think our degree will always have these strong environmental cores and it will still take students paddling or up mountains. But I think we will start to use those in different ways. I think we will just keep developing what we are doing and our teaching and assessment methods will just get better. I think we are going the right way, but one of the problems we do have, is that there is not a lot of others out there role modelling, or doing what we do.

At the end of the interview, Luke’s final statement was:

I think one of the biggest hurdles is being able to explain why you do things and the rationale behind it. Many people have a problem with words like sustainability and I guess that is something we all need to get our heads around. What are we trying to do? Are we trying to elongate the current social framework, the current social values and attitudes? Or are we trying to move to a different way of thinking, a different paradigm? My personal belief is we are not trying to elongate the present, but we are trying to step away from the values of the present and start a whole new set of values. But that is not something that is going to happen in the short term, it is probably going to take several generations to do and we will probably need to get a lot more external pressure, before we see significant movement in that way. But it is that move to a different way of thinking, a different paradigm, when I think about sustainability education on a broad social level and social change.

Another thing that is really encouraging is that sustainable education is written into the institute’s constitution. Over the next three years, starting in 2008, every programme in the institution has to show how they are incorporating sustainability into their teaching and into their programmes, on a percentage that increases each year over the next three years. I think we will see changes in the institute as well... I know here, there is an alliance between the tertiary institutions and part of that alliance is dealing with sustainability, not physical sustainability but educational sustainability and structural sustainability. So there are some really good things happening.

4.5.6 Summary

To summarise, Luke taught both theory and practical papers for an outdoor education programme. He was interested in engaging at a critical level of thinking, and
encouraged transformative learning to both environmental and social change. Luke taught students about how to integrate environment teaching in outdoor education, become involved with local issues by writing submissions and encouraged engagement in some form of social environmental action. Luke believed as part of outdoor education students needed to have an awareness of the Treaty of Waitangi and how to integrate that naturally into their own teaching.

Luke said it was important for him that his teaching and practices were aligned with his environmental beliefs and values. He described the environmental crisis as being incredibly complex, interrelated and intergenerational, which incorporated multidimensional local, national and global issues. Within New Zealand, Luke thought that we would have similar issues to deal with as other westernised counties. However, he was specifically concerned about the increasing extinction rate of indigenous flora and fauna, and the amount of water being used for agriculture. Overall, he wanted the students to learn how to live lightly on the earth, but was conscious not to overwhelm the students with “doom and gloom” stories.

To enhance environmental outdoor education, Luke thought it would be good to integrate all the compartmentalised block papers into the programme and introduce further collaboration with other organisations outside of the institution to broaden perspectives. However, he believed if outdoor programmes were to move towards sustainable environmental education, there would need to be a significant paradigm shift within society.
4.6 Sarah’s case study

4.6.1 Outdoor education programme

Teaching and practice focus

Sarah’s interview took about an hour and was also conducted in her office where she worked. She taught the “students to think more critically, astutely and to be engaged with learning” within a theory and practical outdoor education programme. For example:

\[\text{I am always trying to get them to ask questions and not just believe whatever they hear, and from there what they end up believing is fine. I actually do not mind so much, as long as they have explored different examples and have not just accepted it.}\]

She explained that in her teaching, she challenged the students’ perspectives by presenting the opposing issue (even when it was something she did not agree with), “just to see if I could try and convince them, just so they understood there are different perspectives and to encourage them to have a look at other perspectives”.

Sarah said that because it is an outdoor programme she was interested in challenging them and getting them to “start to understand that the New Zealand environment was in its biggest and most contested sort of complications. As well that they could not assume that everyone thinks the same as they do”.

In her teaching she also encouraged students to slowly build up their knowledge and ability to question things in their papers. Initially, Sarah said she tried to present these details and ideas, and then gave a framework within which to operate. At the more advanced level, the students were encouraged to apply those skills, for example:

\[\text{We get them to question it a lot more and that is the basic philosophy of what and how we are operating. So they need a little bit of experience and maybe some sound principles as best as we can provide them and then you start applying those and they need to start questioning them.}\]

Even though all the papers had different intended learning outcomes, Sarah tried to encourage the students to explore their own outdoor environmental beliefs and values within them. She explained that:

\[\text{I am trying to develop observation skills, so that people are starting to see things. Once they start to see things they can start to ask questions about why things are as they are. Then they can start asking questions}\]
about how they can start influencing that, why are they saying that and why they have constructed it in that way. For example: Why do they like looking at pictures of mountains without people on them? How is that constructed? Is that really what they want to see? Or, why do they not value the farmland as much? Because the truth is that is what provides the New Zealand economy, which again questions and challenges how they are thinking and developing their ideas. So again it all relates to a build up of critical questioning.

Sarah taught introductory papers that she thought challenged the students’ knowledge, theoretically and practically, about recreation and outdoors education. For example, when she taught rock climbing, she would teach them the technical skills and “teach them about how they might go about instructing and why they might want to introduce people to rock climbing”. She also said:

While they learnt to climb, place gear and move on rock, (which they would see as the main part of the programme), they are also asked: why is that important and what are you hoping to achieve by taking other people out rock climbing? So I would say ninety five percent is pursuit orientated and five percent is thinking about what they are doing.

In the practical outdoor papers Sarah taught, she explained it involved: “cycling trips around here, canoeing trips on the rivers and looking at the urban and semi-urban environments for outdoor education opportunities. So thinking about how we are building connections with our local environments through adventure”. She also said that:

It is more about doing local trips, getting into the local environment and building up that understanding of what is available within the area. Then learning how they might use that in schools instead of going to pristine wilderness areas. So it is paddling down local rivers through the industrial areas as well as exploring the beautiful areas.

As part of the theoretical papers Sarah taught, students review outdoor academic literature to learn contemporary issues and basic research skills. She said this paper encouraged them to explore their own outdoor beliefs, gain knowledge from other outdoor educators and begin the process of questioning everything around them. She said it “is based very much around choosing issues, which they want to explore, and then thinking critically from different perspectives around those”.

4.6.2 Environmental education practices

The role of the environment

Sarah explained that as a part of teaching environmental education, she would explore students’ concepts of the environment and how they varied from a pristine or wilderness idea, to perhaps “more relational terms like a wilder environment or a more natural environment”. The way students related to the environment was also something Sarah encouraged students to explore. Sarah said her perspective of the environment was “of a slightly more natural environment, or urban and it is more continual on a more relational manner”. She also challenged the students’ concept that people could Leave No Trace on the environment. Sarah argued that New Zealand already had a comprehensive Environmental Care Code, which was more relevant and “a bit more moderate than the U.S.A’s Leave No Trace code of conduct”. Furthermore, Sarah thought that:

To build a connection, you need to be able to engage in the environment. So if you are always treading on tiptoes, not wanting to be out there and frightened you’re going to leave a trace, then you are not going to get your feet muddy and be involved in it. Obviously, I try to avoid major destruction of the environment and exploitation of the environment, but every time we go outdoors we do leave a trace and we need to know what that trace involves. We need to engage in the environment, appreciate and enjoy it. So I guess, my philosophy is to participate in the natural environment to the fullest that you can, but do not exploit things.

When Sarah took students tramping, she said she would regularly discuss the concept of Leave No Trace with students to get them thinking about their beliefs and values. For example Sarah explained:

Students have stoves with them but we often have small fires, which they also do some cooking on and we obviously talk about and try to Leave No Trace of those fires after we have used them. But we are still using fires, which does leave a trace and no matter how much you tidy up they leave a trace.

I think fires are an important part of the New Zealand environment. Since people have come, people have had fires. Providing we keep them small and we do not burn trees down and we are using them for a purpose of cooking, then I do not see a problem with it. We talk about the natural cycle of wood and animals (the life that live on the forest floors) but we will still use small fires to cook on. So that will be one area that we will talk about things.
During tramps, she would also encourage the students to think about how for centuries humans have been living, working and recreating in the environment, again questioning humans’ impact. Sarah explained that:

*I take twenty students into the bush but supposedly big groups are going to cause problems. So I explain Arthur’s Pass was a route for the gold miners in the late eighteen hundreds and in some years as many as 20,000 people would cross the path. So I say well does it look like twenty thousand people came through here? It is a narrow track and there is some erosion on it, but it certainly did not look as though they had wheelbarrows on it, horses and carts there, because there is a regeneration within that. I would say that twenty people is fine to go through here and that we are not creating a bigger track. In fact we are creating very little visual damage to New Zealand, and part of being in the outdoors is we are going to leave an impact. I do not believe in fencing it off because what you are gaining on the trip has more important benefits behind what we are doing.*

Sarah said when and where possible she utilised teachable moments to explore these ideas, encouraged students to understand nature’s intrinsic value, “to respect and learn to challenge preconceived understandings of the environment”, and understand how humans “tend to be looking at and in the environment, as opposed to being utterly a part of it”. For example, during a tramp they would:

*For two or three days learn plant names and then start challenging the concept of these names. We would discuss why we use names, what does naming actually do, and do we actually get power and control by naming. When we go through some farmland and we discuss a little bit about how the land is used. A farm we go through is poorly managed, and it seems exploited and damaged because it has some cattle in the creek. So we discuss how often we tend to assume that it is no longer natural because it is farmed. We talk about those issues and how that can be minimised. We discuss how people who are living on the land still value the land and that perhaps it is not that they are trying to destroy it. That we still need to appreciate their connection to the land because they are living and working on it at times to their best abilities. I get the students to try and think about whether all land should be tied up, or people should just live in the cities where there is not always enough work. We look at the work ethic and the history of New Zealand’s environment and that it obviously involves farming, land management and Department of Conservation. Then when we leave the farm and move onto the lake to end the journey, I try to take some of the ideas back with us.*

During these tramping trips Sarah aimed to instil “a sense of understanding about the different ways of seeing the environment and how it is a mixed bag. From a scientific perspective of naming and controlling, to a work ethic, to recreational and to trying
to feel a connection”. Ideally she wanted the students’ to develop “a connection to a place”, feel comfortable within the environment, and “realise that it is important to value these places and see them as opportunities for themselves and others to experience without destroying”.

Sarah said that, “ninety-five percent of the papers are focused on the skills and safety. The other five percent are about teaching what they can get out of it and discussing why/how it could be an important educational tool”. She explained that the programme was designed so that students learnt how to do the pursuits, and then how to integrate the environmental components. In her teaching she explained firstly she “wanted them to enjoy where they were at by engaging with different elements and environments”, then secondly the environmental aspects were integrated to built up on these experiences.

Environmental concerns in teaching and programme

In a theory paper she discussed with students critical social issues and “quite often it is about damming rivers, general power use, nuclear power, global warming, sustainability, and then how they can implement these concepts into their outdoor programme”. Sarah believed that within her practice that “the environment is integral to everything that we do”, and the culture of outdoor programmes seemed to attract “students from a fairly early stage that are interested in those issues”. Therefore she suggested environmental education “was coming from the students, they are driving this interest in their research projects and a lot of them look at connecting these interests to their practice”.

Sarah said that she encouraged students to think critically about their environmental concerns and questioned them about “why and how are we being sustainable, and what is the purpose of that? She said she tried not to “focus on the negative impacts of humans on the natural environment and how we are effecting change” in fear that the students might become “disillusioned and depressed about it”. Therefore Sarah reiterated that she wanted the students to “enjoy the environment and try not to exploit it”, and that the programme wanted “students to be challenged and explore ideas, in order that they come up with their own individualised responses”.
Important environmental considerations for students to learn

In Sarah’s teaching, it was important to her that the students “appreciated what different outdoor environments, both urban and more natural ones, could offer them”. She believed “it needs to be fun and there needs to be some adventure in it” but also:

Students need to respect it, if they have got freedom, then they need to take on responsibilities. If they enjoy the outdoors, well that comes with responsibilities and in their management of it. They should be volunteering in other areas. I would like them to live in it, that is my big thing - it is about having an interesting quality lifestyle, which respects others and themselves.

It was important to Sarah that students understood they “do not have to be in a pristine area to enjoy the outdoor environment” and valued recreating in local areas. For example:

Rather than just assume the best place to go is the Mount Cook National Park because that is the most famous. Or if they need a multi-day wilderness trip, drive to Fiordland because that park is the most famous. I want them to ask themselves, can they go to their local National park to have a good time, or do they need to be doing these particular activities in pristine areas. To question why do they like those places and what is driving those values and beliefs? .... The outdoors is a lived space for me and you need to go out there and live it, enjoy it, and appreciate it.

Sarah believed students needed to “realise the outdoor environment was more than a National Park” and that there were many natural areas such as parks, rugby fields or botanic gardens. She suggested, “we should enjoy all aspects of the outdoors and that it did not matter if you can see evidence of human change”. For example, Sarah challenged the students’ thinking by bringing several cheap tourist images of New Zealand that have shots of the coastline, lakes, mountains, and glaciers. Then she would ask them, “to decide what they thought was an outdoor environment and interestingly, most of the students related to the images where there were no evidence of human change”. Sarah believed this happened because:

There was a tendency for the media to frame the outdoors in this way and that people began to see it as a pristine place, where humans interfered and were not actually welcome - people spoiled it. For me, I do not want people to have that attitude necessarily. I want them to have the idea that people are a part of it, live in it, work in it, recreate in it and enjoy it. We are a part of and within the whole balance of nature.... The Department of Conservation and the media frame the outdoors as being separate and sell this outdoor image on their scenic post cards.
They frame the outdoors, for example, the mountain with a glacier in front of it, with a nice waterfall with soft water and green trees and that sort of thing. Hiding our influence in the outdoors. We are denying our presence and I have a feeling that is not good. So I am all for engaging and being involved in it but still appreciating it and not destroying it nor exploiting it.

Sarah wanted the students to question these kinds of images and discourses, because she believed the students:

Need to be thinking about things and asking those questions, but they still need to be living in the world. I want them to have this sort of passionate response to it. Be engaged, excited about their life and what they can do - then they will do things. But if you live in this sort of dreary mediocrity of being scared to do anything. Perhaps they might use a little less fuel, but they are not going to make any change in the end because they are not passionate about life and not living it to the fullest.

It was Sarah’s belief that when people enjoyed something, they were more likely to want to protect it, for example:

Looking at it, standing there and seeing that it is outside, or out there is not for me... For me it is being in it, that does it for me... I need to be kinetically engaged with the environment... For instance, when cycling you get the smells, the sounds, get to talk, you get the dust in your ears, you fall off, swear and kick the bike, it’s that stuff. That is just engagement and through that you are engaging with the environment as well as with your bike and the motion of cycling.

She suggested that their outdoor programme found it difficult at times to manage or reduce the human impact whilst recreating in the outdoors, and admitted that she “did not take some people out into these areas because of its fragility”. Sarah said that, “there are limitations about taking people into the outdoors because they are causing some environmental erosion style damage. Walking around some environments it is surprisingly how quickly some areas can get damaged”. However, Sarah believed: “that everything we do has an influence. I do not think that there is anything you can do that does not have an impact, and I live with that paradox”.
4.6.3 Understanding the environmental crisis

The global crisis

Sarah believed the environmental crisis was “just another part of the cycle of the world and that there really was no crisis, or an environmental crisis at all, rather a human impact crisis”. She believed that:

The world will not be as comfortable for humans in the manner that they are living in currently and that people might need to change. That environmental crisis is not as serious as many other environmental things that have happened in the world. Things like, the meteorite falling on Hall Creek and big volcanic explosions that have put the world into darkness for five years. We have increased the carbon out-put far greater, than it has ever been before by burning fossil fuels, so from a human perspective there is an environmental crisis. I am a believer that we are having an impact on the carbon and methane that is increasing in the earth’s atmosphere. We are having an impact on our finite resources and we are using them up at a rate that is going to bring that future closer rather than further away. It is this swinging balance, humans are going to kill themselves off and with a few less humans the earth will get itself into balance again.

Sarah thought that technology may provide some, but not all the solutions because:

I am a big believer that the world is bigger than people and that balance will be achieved somehow. It just will not be achieved in a way that humans in particular will enjoy. There will be a crisis at some point or stage, where a fair amount of the population will suffer. It might reduce the population and small segments might survive.

Concerns for New Zealand

The management of air and water quality was Sarah’s greatest concern for New Zealand’s environment in the future, in particular she said:

We have wonderful water and there are people that want to irrigate and reduce our aqua fills down to a minimum, where there will be pollution run off, just so they can make more money. To me that is exploitation. We need to look after our water... We are phenomenally rich in water and yet we just trash it. There are not many places in this city where you can go and swim in the river anymore, therefore we have got to look after our rivers. If you go out to the local hills any winter day and look out over our city, there is grey smog over it and yet people still do not want to stop burning wood fires, and they still want to drive a car everywhere which is creating pollution too. Get real! If you want to live healthy, or you do not want to die of some grotty diseases, we need clean air and clean waters as well as good food.
4.6.4 Impact of the environmental crisis

On teaching and practices

Sarah said that: “now and again I do get really excited and believe that New Zealand is this clean and green country, that we could be promoting it as a National Park and that we could be a good example to other countries”. That is why she said she would encourage students to weigh up environmental issues and adjust their individual lifestyles as much as they could. She said she role-models this by “biking to work because it is easy and I enjoy it, but I am not obsessive about it because I will still drive within the city sometimes”. However, when she felt strongly enough about an environmental issue she would get involved, by arguing and writing letters, for example:

I would argue with people about building up on the local hills because it is spoiling the skyline. I would if I knew how to, support cleaning our air because I want to live with clean air and clean water, and those things affect me... But I would still fly down to Antarctica because that is life and we have to live it to the full.

As part of Sarah’s response to the crisis, she encouraged students: “we have got to look at the future and we are all going to have to make some serious changes about the way we live... We need to look at it now and address the serious issues that are happening and learn how to deal with it”. She also hoped that the students would: “give out a personal integrity that says: “we are living life, but we are not exploiting it, we are aware of what the issues are and when we can do something we will””. For example on a personal level, Sarah said:

I would make life a little bit uncomfortable for myself if I thought it would have an effect. I mean we very rarely have the heater on here at work, because we can just wear more clothes. It is the same at home. I would wear more clothes, I dry the washing outside, I do those things and that is just normal.

Sarah said having an understanding of the human environmental crisis “has impacted on the philosophy of the outdoor programme”, for example:

We do have more environmental awareness within the different components in the whole degree programme. There is a driving force there, because we have quite a lot of staff that drive it that way, and I guess some of the other staff get people thinking around those issues.
4.6.5 Ideal outdoor environmental programme

Enhancing environmental learning

The suggestions Sarah had for enhancing environmental learning within an outdoor programme would involve taking smaller groups, travelling less, staying out for longer trips, and integration of the theoretical aspects, wherever possible whilst outdoors. The following is what she would change:

*Cost wise we are sometimes limited by ratios and the size of groups and things, so working with six to eight people in certain environments would certainly be better than working with twelve or fourteen. I would not reduce it too small because there is a lot of social learning that happens. Ideally it would be really nice to have a couple of staff go out with small groups, and integrate a lot of the ideas about the eight papers that we have over the year. Perhaps, go out for two weeks and try to integrate all those papers, over six or seven days. The trip would not be particularly based around vehicle shuttling. The students could be doing other things like travelling, or camping, in one spot it would not matter. They might do a bit of rock climbing with a bit of mountaineering and tramping because you are walking into places. Perhaps, we could combine that with a social environmental paper, which is capable of looking at the environment in more depth. We might combine it with a bit of an education paper, as well as look at whatever education stuff they happened to be doing at the time, for example: Experiential Learning, or some of the theories of ABL. Then we could combine that, with the business paper and safety paper. So do all the papers whilst being in the outdoors: there could be a bit of theory, a bit of talking, a bit of doing, a bit of living, as well as a bit of socialising and mixing. Not so it is uncomfortable, or like soloing out with two sticks and a carrot, but so they are enjoying being in the outdoors and they are learning whilst being in an environment. It could be done in the local hills... I would tend to be more into the slightly less urban environment, not too far away but not fully urban and industrialised. It would vary depending on the trip`s purpose but five days is plenty I think, so we can live a life, as well being an outdoor teacher. That way students and teachers have time to do their own stuff, which is important. So that is what I would like, just a few more of those. Some could be low key and others could be physically challenging.*

To conclude Sarah said: “Do not get bogged down with environmental issues, live life”.
4.6.6 Summary

In summary, Sarah encouraged her students to enjoy and respect the natural environment. She taught both practical and theoretical papers and wanted the students to engage in and appreciate both the natural and urban environment. She believed people were more inclined and motivated to care for nature, and have a connection if they experienced it rather than being concerned about leaving a trace. In her teaching, she encouraged the students to think critically and question their actions, ideas and values of the outdoors, by asking them ‘why’ questions all the time.

Regarding worldwide environmental concerns, Sarah thought that it was a human environmental crisis, rather than an environmental crisis, and believed the earth would rebalance itself, perhaps at some expense to some human life. Therefore people need to adjust their lifestyles and reduce their environmental impacts. Within New Zealand, Sarah said she would like to see an improved management of the environment and of air and water quality.

Sarah role models positive environmental behaviours when she can, for example, rides her bike to work most days, but occasionally she will still drive around town if necessary. She said she was comfortable living within that paradox, which recognises humans have an impact on the environment. However, if she feels strongly enough about an environmental issue, she will argue or write a submission to support it. Sarah encouraged the students to enjoy the outdoors, not to exploit it and to live life to the full.

If Sarah had no limitations she would enhance environmental education considerations by having smaller groups, and extending the experiences outdoors to integrate all the outdoor papers. The programme could combine both theory and practical whilst living outdoors and enjoying social, physical and reflective learning opportunities.
CHAPTER 5: DISCUSSION

5.0 Introduction

This chapter discusses each participant’s environmental beliefs and values, their teaching and practices, as well as how their understanding of the environmental crisis has impacted on their teaching and programme. To address the research inquiry, the chapter presents the participants’ viewpoints in tables, and discusses their similarities and differences. It also explores where the participants’ viewpoints agree with the literature reviewed, and where they do not.

The chapter is divided up into sections to assist addressing the research questions; (1) participants’ environmental beliefs and values, (2) how participants implemented environmental learning, (3) how the ‘environmental crisis’ impacted on participants’ teaching and programmes, (4) how participants’ implemented their understanding of the environmental crisis, (5) how participants’ ideally would implement environmental learning in their outdoor teaching and programme, and (6) suggestions for further research. The chapter explores the study’s findings in a way that can provide the reader with strategies and information about how some New Zealand outdoor educators implement environmental education within their outdoor programmes.

5.1 Participants’ environmental beliefs and values

A part of outdoor education is exploring nature, having adventures and learning various outdoor pursuits. Arguably, when people see the natural world with a sense of wonder and as a place worth preserving, they are more likely to act in support of environmental management and care (Atkinson, 1990). Then perhaps, how outdoor students are taught for and about the environment can positively influence their environmental sensibility, awareness and respect. In the study the participants shared a common belief that as teachers they were in a privileged and somewhat powerful position to influence their students knowledge about the environment as well as how they interact and behave whilst recreating outdoors.

The literature suggested that an environmental belief and value comes from becoming immersed within nature and understanding the intrinsic value of human-nature
relationships, in terms of holistically supporting and respecting environmental harmony, integrity and its sustainability (see Abbey, 1968; Devall & Sessions, 1985; Leopold, 1939, 1970; Suzuki, 2003). In this study the participants’ environmental beliefs and values reflect similar viewpoints to those noted in the literature chapter although at times the teachers identified different pedagogical perspectives and viewpoints. The following Table 14 provides a summary comparison of the specific characteristics of each participant’s environmental beliefs and values.

**Table 14: A summary of the participants’ environmental beliefs and values.**

<table>
<thead>
<tr>
<th>Participant</th>
<th>Beliefs and Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matthew</td>
<td>To try and instil in people not to leave a mess out there in the environment because people do not have an appreciation for how fragile an alpine area is. Therefore time is spent explaining to people about the environments fragility, talking about big picture stuff, such as human presence and impact on environments and its cumulative effect, and encouraging in people to have sympathy for the flora and fauna. “I think our natural environment is a real asset to us and it might be something that we need to be more active about in the future. I know that would mean a really significant change in lifestyle but that could be a great thing”.</td>
</tr>
<tr>
<td>Mary</td>
<td>“I believe it starts with you and I try to role model that”. People need to learn how to live more lightly on the earth, so that we can still have the opportunity to be outdoors and recreate in it. However, people need to make some changes and/or sacrifices, to ensure that the natural world is still there for the next generation to enjoy. It all has to start with our own actions and behaviours.</td>
</tr>
<tr>
<td>Mark</td>
<td>Environmental change needs to start with people taking action and then this will start to inbreed a consciousness within our culture and society towards positive environmental behaviours. “I would like to see environmental practices inbred and through walking the talk, we can create cultural changes within our programmes and within our students”.</td>
</tr>
<tr>
<td>Jane</td>
<td>Environmental education is an incredibly important part of outdoor education. It is also important that people see change in every facet and every sector of society across the globe, so that people can make the necessary environmental shift. “It is when people put the five-year profit in front of the one hundred year sustainability that is the problem... Lower that priority and increase the priority of the societal impact, the environmental impact and the long-term sustainability. That is what we really need to have happening”.</td>
</tr>
<tr>
<td>Luke</td>
<td>People need to be encouraged to think broadly about educating for sustainability and towards social change, but it will probably take several generations to see a change towards this thinking. “Humans never function without impact, but I think we can function with minimum impact if we want too”.</td>
</tr>
<tr>
<td>Sarah</td>
<td>It is important people enjoy the environment but they need to respect it, and take responsibility for their management of it. “My philosophy is to participant in the natural environment to the fullest that you can, but do not exploit things”.</td>
</tr>
</tbody>
</table>
The literature reviewed suggested that the common elements of environmental education were: to influence environmental values, attitudes and behaviours; having an emphasis on linkages between the biophysical environment, social, economic and political activities; contributing to the protection and management of the environment; and learning a range of activities encompassed by environmental education which included formal and non-formal education (MFE, 1998). Mark, Jane and Luke mentioned that as teachers they felt they were in a powerful position of influence on their students’ environmental beliefs and values. For example Mark and Luke believed they had a great sphere of influence that went out through the students’ into the wider community, using the analogy of throwing a stone into still water and watching the waves ripple out from the centre.

These same three participants, Mark, Jane and Luke, also shared a similar belief in wanting to see a positive environmental shift in society’s consciousness towards the environment and social change. A positive environmental shift was also mentioned in the literature by Leopold (1970) who encouraged people to think about the sustainability of land use beyond solely economic gain, but towards affirming that nature had a right to continue to exist in its natural state. The outdoor literature suggested that education in general may need to merge its world views more formally to align with social and political sectors in order to be transformative (Lefay, 2006).

Mary and Mark suggested that positive changes in environmental behaviours needed to start with the individual and in their own actions. The outdoor literature suggested that if outdoor educators could contribute somehow towards sustainable environments, then perhaps locally through various educational approaches, that process can encourage and promote general ecological sensitivity and positive environmental behaviours (O’Connell et al., 2005). Similarly, literature by Carson (1962) argued no one had a right to be irresponsible and/or destructive towards the environment for short term gain, because it could have long lasting impacts on the integrity of the environment. An example that shares this belief and value when recreating in the outdoors would be as Mary discussed, if a kayaker does not correctly wash their paddling gear, they would spread didymo algae which is clogging up the New Zealand rivers.
In summary, even though the environmental beliefs and values of these teachers’ varied, these teachers believed and valued the integration of environmental learning in their outdoor education programme.

5.1.1 The barriers, limitations and contradictions of incorporating environmental education

All of the participants’ interviewed said there were some barriers, limitations and contradictions when trying to incorporate environmental education into outdoor education programmes. Some of these concerns were unique to individuals whilst others were shared by many. For example, a barrier I perceived for some participants, was that the environment was largely thought of and used as a backdrop or playground for students to achieve a particular outdoor skill. However, it seems that outdoor teaching and practices have started to shift people’s perceptions of the environment as a shared and valued aspect of an outdoor experience. Some questions that individuals posed are worthy of further discussion. Below are some of these questions.

Matthew questioned the role and focus of environmental education. He stated: “We will need to get our head around where does environmental education fit in”. Matthew believed that “we have got so much education going on at present, about the environment, that it was often packaged up as meaning to be for the environment”. He suggests that it may have become ineffectual. Furthermore:

*When something is not right, one of the quite typical responses in our society is to say, well we need to educate people more, but I actually think we have more than enough, almost too much in this media society, so that people probably start to switch off and it just becomes another story about another problem.*

Mary made a suggestion about building an environmental ethos in students:

“I think part of being forced or impelled to, actually proves to them they could do it. That is not hard and it is just a matter of getting into the habit. They say that it only takes 3 weeks to form a habit, so hopefully over 8 weeks a positive habit could be formed”.

If outdoor educators “are doing it themselves then they are role modelling positive behaviours and hopefully they are encouraging others to do it as well, that is the first step. It has got to start with them but they need to change their lifestyles first”. Mary
believed that the environment needed to be a part of the educational process, for example:

*It is getting the students to work out how much carbon dioxide was actually used during that trip, how many trees will be needed to actually absorb the carbon dioxide and then how many trees do we need to plant to offset that. We would also need to set in place a formula for the students so they can do their calculations a week before they go, so they can say we need to go get x amount of plants.*

Mark was concerned about how outdoor education was framed and the consumption of resources. He believed:

*We still need to face that challenge of how we do outdoor education and how far we travel. I do not believe we have actually addressed that issue correctly yet and I think we still have a long way to go... The critical aspect that I am trying to push within the programme is to reduce the amount of resources we chew-up.*

Jane was concerned about scaffolding the students’ learning into the area:

*I am more of the opinion that some people are simply not ready to go into the deeper or the more challenging stuff. And if you are expecting everyone to be along that line, then you are basically going to lose a lot of people and you will not achieve that. So you are better to go from wherever they are and direct them on a bit, whether that is simply increasing awareness of the environmental issues or increasing their awareness of what is around them, or that they are not the only important things that exist in this place. Then if you can achieve that shift, when they start to mature more, then there maybe some more shifts later on.*

Luke highlighted the lack of a coherent personal environmental philosophy with outdoor education:

*I think one of the biggest hurdles is being able to explain why you do things and the rationale behind it. Many people have a problem with words like sustainability and I guess that is something we all need to get our heads around. What are we trying to do? Are we trying to elongate the current social framework, the current social values and attitudes? Or are we trying to move to a different way of thinking, a different paradigm? My personal belief is we are not trying to elongate the present, but we are trying to step away from the values of the present and start a whole new set of values. But that is not something that is going to happen in the short term, it is probably going to take several generations to do and we will probably need to get a lot more external pressure, before we see significant movement in that way.*

Sarah explored the importance of empowering students. She discussed critical social issues with students through a theoretical paper and “*quite often it is about dammed*
rivers, general power use, nuclear power, global warming, sustainability, and then how they can implement these concepts into their outdoor programme”. Sarah believed that within her practice that “the environment is integral to everything that we do”, and the culture of outdoor programmes seemed to attract “students from a fairly early stage that are interested in those issues”. Therefore she suggested environmental education “was coming from the students, they are driving this interest in their research projects and a lot of them look at connecting these interests to their practice”.

The following Tables (Table 15, Table 16 and Table 17) summarise the issues and concerns these participants observed whilst teaching outdoor education in New Zealand.

Table 15: Identified barriers of environmental education in outdoor education.

<table>
<thead>
<tr>
<th>Perceived unification</th>
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<tbody>
<tr>
<td>Outdoor education and environmental education tend to be separate in practice. Some of the difficulties relate to a perceived unification between outdoor education and environmental education.</td>
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<table>
<thead>
<tr>
<th>Human resource and/or playground</th>
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<tbody>
<tr>
<td>The media drives a message that values economic progress, which the world seems captivated by and that has a dominant discourse that favours individualism. Therefore, the storyline that is shaping peoples’ thinking and outdoor practice today is that the environment is a human resource and/or playground.</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Environmental education programmes struggles</th>
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</thead>
<tbody>
<tr>
<td>Environmental education struggles within the education system because the system is largely focused on people contributing economically and to some degree socially therefore having little, or no real concern for the environment.</td>
</tr>
<tr>
<td>The people that feel responsible for teaching environmental education come on too strong with the argument that we are supposed to be doing things for the environment, and/or strongly question certain practices</td>
</tr>
<tr>
<td>then they may be labelled marginal, radical, or both, becoming somewhat ineffectual.</td>
</tr>
<tr>
<td>It is an easier option for outdoor educators to choose to practise within pretty safe areas within environmental education because ultimately there is no political pressure to do otherwise.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Political motivation</th>
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</thead>
<tbody>
<tr>
<td>Until the politics around environmental issues are addressed, motivation for environmental education it seems is not going to be the thing that leads necessarily to more significant sustainable relationships.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Teaching environmental motivation</th>
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</thead>
<tbody>
<tr>
<td>Outdoor educators need to teach and facilitate environmental awareness because it does not happen automatically and students do not see the relevance.</td>
</tr>
</tbody>
</table>

Table continued on next page
• The appeal of being an outdoor educator is becoming an instructor and travelling around the country recreating in wild environments, not to connect with the environment.

• There is not the motivation in society, or the sense of urgency needed, to be environmentally sustainable yet, therefore people will not change until there is a need to change.

**Fun and games in the outdoors**
• Students are encouraged to have exciting times, to have epics and experience euphoria within the outdoors.

**Environmental backdrop**
• Historically, outdoor education for the last twenty years has used the environment as a backdrop to go and have fun, therefore outdoor education programmes face real issues trying to encourage people to respect the environment.

**Teaching focus**
• Teachers tend to focus more on the positive environmental issues, rather than the negative or big issues, otherwise students become overwhelmed and get swamped or bogged down.

• There is not yet an ingrained environmental consciousness and culture with the outdoor programme, where people’s environment actions are automatically incorporated into their recreational activity.

**Avoid becoming ineffective**
• Care must be taken when teaching about the environment to avoid being labelled a ‘greenie’ because it can turn people off learning about it.

**Outdoors a medium for personal development**
• The outdoor environment has been a medium for personal development and social development. It is the venue within which to do the outdoor pursuits.

• Outdoor education needs to improve environmental stewardship by challenging not only students concepts and actions beyond the environment being a playground, but also the beliefs of some outdoor teachers.

**Teacher role modelling**
• Outdoor educators can role model to their students positive environmental practices and behaviours, therefore playing an influential part in their environmental knowledge.

**Imparting knowledge**
• Students do not know they have the skills and tools to implement environmental change because they tend to think only important people are making and implementing that change.

**Empowering students**
• Environmental education needs to be taught in such a way that students feel empowered because if they just have all of the doom and gloom stories, then they become overwhelmed and apathetic.

**Transformative learning**
• Transformative learning can lead to anti-social behaviours and some of these movements can be quite big.

**Positive spin**
• It is critical not to get too deep or dwell too much on sustainability education, so that students come out of it with a positive spin.

**Challenging perceptions**
• Many people have a problem with words such as sustainability and understanding why it is important to be sustainable and the rationale behind it.

*Table continued on next page*
Sarah

**Being positive**
- Important to not focus solely on the negative impacts rather on the environmental change humans can have on the natural environment.

The most common barrier identified from the participants’ case studies was that the environment was often used as a background for the outdoor pursuit. The outdoors was considered a playground in order to satisfy individual needs and/or personal development. Another barrier suggested was that environmental education struggled for status and time within the education system. More specifically, a participant suggested that within outdoor education, there is not an ingrained environmental consciousness and culture, and the responsibility for teaching about the environment is often left to the educator to teach.

Another participant suggested that teachers needed to be positive role models in order to instil awareness of the environment and to motivate students to make a connection. However, if students became overwhelmed with ‘doom and gloom’ environmental stories, they could become overwhelmed therefore making this awareness ineffective.

Some of these issues were previously identified in the literature reviewed, such as the PCE report. For example, this report suggested that within the tertiary sector, environmental education has never been compulsory within the curriculum, therefore it has often been perceived as an add-on. Many teachers are being trained without developing any understanding of environmental education or education for sustainability (PCE, 2004). These issues warrant further research.

**Table 16:** Identified limitations of environmental education in outdoor education.

<table>
<thead>
<tr>
<th>Matthew</th>
<th>Individual development</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Outdoor education is largely focused on the development of the individual, and to some degree the group and/or the individual as part of the group, through the use of quite a limited number of outdoor pursuits.</td>
</tr>
<tr>
<td></td>
<td>- Environmental education has no formal place in the curriculum or within the school and consequently it is left to everyone but nobody. It lies within outdoor education by default, as environmental education does not really fit with developing the individual through outdoor pursuits.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mary</th>
<th>Programme time restraints</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Incorporating environmental learning can be difficult because the programme mainly allocates time towards getting the students to a high skill level.</td>
</tr>
</tbody>
</table>

*Table continued on next page*
CHAPTER 5: DISCUSSION

Mark

Maintaining programme appeal
- The programme needs to be exciting because people need and enjoy risk. It also needs to have the ‘fun’ factor so it will still have appeal.

Time limitation
- Outdoor programmes are busy and finding the time to develop strategies about how to incorporate environmental education would be difficult.

Teacher training
- Some teachers are not used to incorporating environmental considerations into outdoor pursuits, therefore they do not understand how to teach their students how to incorporate it.
- It is difficult trying to teach students who do not have enough base knowledge about environmental issues.

Time limitation
- There is not enough time or scope to incorporate more environmental issues into outdoor programmes, in terms of moving people and getting people to start seeing the environment differently.
- There needs to be a certain readiness from students otherwise they are not going to make changes.

Interpretation of outdoor programming
- Outdoor education in New Zealand has become boxed in with mainly a pursuits focus and personal group development, with a little bit of environmental education if you are lucky. This is a social construct and it is where you place yourself.
- The outdoor programmes spend lots of time recreating in wild places, which exasperates a dichotomy that splits nature and urban places, by treating nature as this place to recreate in rather than a place people live in.

Teacher perspective
- Outdoor education has grown out of a white middle class perspective and trying to break down the assumptions around that, in order to draw in the values of another culture, is very hard.

Environmental education programme role models
- There is not a lot of outdoor education programmes role modelling how to implement environmental education in their outdoor education programmes.

Humans apart of the environmental balance
- People are a part of the environment. People live in it, work in it, recreate in it and enjoy it, therefore they are a part of the whole balance of nature. However, there is a tendency for the media to frame the outdoors as a pristine place, where people are not actually welcome because they interfere and spoil it.

The main barrier identified was for teachers to find time within a busy outdoor programme to allocate and incorporate environmental education. It was suggested that in order to maintain programme appeal, the outdoor programme had to remain exciting and have the ‘fun’ factor. Therefore most of the programme time was allocated towards enhancing students’ outdoor skill level. The literature suggested that short-term experiences, which is somewhat associated with the narrow definition of having fun, can remove students almost completely from any transferable connections.
(Whitcombe, 1999). Also considered a limitation was outdoor programmes being largely focused on the development of the individual, therefore environmental learning was limited to teachers’ knowledge about how to teach for and about environmental issues. It also depended on the readiness of the individual as to whether or not they engaged in the environmental learning. The outdoor literature suggested that to develop a relevant educational pursuit, educators must be prepared to examine their own practices in relation to contemporary social and environmental issues in specific places and culture (Lugg, 2004).

Table 17: Identified contradictions of environmental education in outdoor education.

<table>
<thead>
<tr>
<th>Matthew</th>
<th>Driving to activities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>How beneficial to the environment is all the driving to activities?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mary</th>
<th>Connecting and impacting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Students also need to develop a connection with the environment, so that they develop their own love for the environment. Taking students out into the natural world is the best way for them to be involved in it but they have an impact on the environment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mark</th>
<th>Outdoor skills impact on the environment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>To improve students’ technical skills outdoor programmes need to provide them with a variety of outdoor experiences in different locations. This also impacts on the environment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Jane</th>
<th>Outdoor recreation uses resources</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Recreating in the outdoor uses lots of resources for example travelling to locations and the recreational equipment. This has an impact on the environment.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>The outdoors not limited to wild environments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The outdoor environment is not limited to a pristine or wild notion of nature, but it includes everything that surrounds us. It is ironic that people talk about the environment and behave like it is a separate part of the world, when we are in it all the time.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Travelling for pursuits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In the programme some outdoor pursuits require travelling long distances, which has an environmental impact.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>There were huge issues associated with the amount of resources used within outdoor programmes, for example a whitewater kayaking practical requires driving to the river locations, shuttles vehicles at the beginning and end of the river, plastic boats, the necessary paddling/safety gear and so on.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Focus on outdoor pursuits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Initially the outdoor programme felt very technically skills based and it did not have an explicit or holistic environmental component.</td>
</tr>
<tr>
<td></td>
<td>Due to the students age and their focus, in terms of treating the outdoors as a bit of a playground or a gymnasium, it was focused on outdoor recreation as opposed to outdoor education. The intensives were focused on up-skilling people or extending peoples’ technical pursuit skills.</td>
</tr>
</tbody>
</table>

Table continued on next page
The contradictions I have highlighted suggest that even though outdoor programmes aim to improve students’ impact on the environment, the very act of outdoor recreation will always have an environmental impact. For example, the outdoor practices associated with people moving around and living in natural environments, as well as the clothing and equipment associated with the outdoor activity, all have an impact on nature.

Another contradiction was the amount of driving and the distance travelled to expose outdoor students to a range of environments that will improve their technical skills. This driving contradicts the potential sustainable efforts initiated during the activity because of the release of Carbon dioxide from vehicles into the earth’s atmosphere (New Zealand Government, 2007). Both the literature and the participants suggested that contradictions such as these, become opportunities to create talking points and teachable moments, to discuss environmental issues and confront how people interact within the environment and address human-nature relationships (Brookes, 1994).

In summary, there were barriers, limitations and contradictions for the participants when they incorporated environmental education into outdoor education programmes. The key barriers were that environmental education struggled to gain traction within
outdoor education and the environment sometimes became the backdrop or playground for students to advance their technical skills. A busy outdoor programme and time restraints were considered limitations for further integrating environmental education. Whilst it is unavoidable that humans impact on the environment in some way, a significant contradiction was the amount of driving involved within a programme to ensure students gained technical competency. There is good evidence to suggest that an outdoor educator’s environmental philosophy, perspective, and awareness can influence the students’ experience of environmental education within an outdoor programme.

5.2 How participants implemented environmental learning

Commonalities between the literature reviewed and the case studies were again observed, when participants discussed how they implemented environmental outdoor education in their teaching and practices. The literature suggested that the attitudes of teachers in general would be a key in increasing students’ understanding of the environment and its links with human development (WCED, 1987). In this study, the participants employed various teaching strategies to encourage the students to engage, connect and interact with the environment. For example, Jane said she incorporated holistic teaching in her practice to develop students’ environmental learning. Similarly, the outdoor literature indicates that holistic teaching was an important part of transformative education, because it examines our world view and teaches students how to act in, protect, respect, care for and maintain a healthy environment (Lefay, 2006).

In the outdoor writing by Martin (1999) he suggested critical outdoor education could enhance student learning, by encouraging reflective learning, engaging students in the environment, and challenging their perceptions on human-nature relationships. In the same way, Sarah and Matthew believed in order for students to create a passionate response and improve their understanding of human-nature relationships, students needed to engage and connect with the environment.

In general, the participants’ environmental teaching strategies contained the key aims of environmental education proposed by the MOE (1999), and focused on improving
students’ awareness and sensitivity; knowledge and understanding; attitudes and values; as well as skills, participation and action. The following explores the main areas these teachers focused on; (1) role modelling, (2) critical outdoor thinking, (3) encouraging students’ environmental awareness, and human-nature connections, (4) challenging students’ environmental practices, and (5) encouraging less travel for pursuit competency.

5.2.1 Role modelling

The literature suggested that role modelling was an important educational tool that could provide support and structure for environmental education and social learning (Martin, 1999). In this study, both Jane and Mary mentioned that they role modelled positive environmental behaviours, and the different ways they modelled these are identified in Table 18.

Table 18: Participants implementation of role modelling in their teaching.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mary</td>
<td>Role modelling good environmental behaviour was a big part of environmental education. Role modelling positive recreational behaviours and practices when outdoors, can motivate people to adopt and continue these behaviours within their own outdoor practice and encourage a connection with the environment.</td>
</tr>
<tr>
<td>Jane</td>
<td>Anyone teaching must realise the power, impact and responsibility they have in that position, whatever the subject area. Therefore it is incredibly important what is role modelled, what is shown to students and how one behaves.</td>
</tr>
</tbody>
</table>

However, generally both Mary and Jane encouraged the students to connect with the environment through role modelling positive environmental behaviours, as well as utilising teachable moments and group discussions. In particular, Jane believed as an outdoor educator she was in the ideal position to teach for and about the environment. Literature explained that learning is a continuous reciprocal interaction of cognitive, behavioural, and environmental factors, and that learning can occur through the simple process of observing and then imitating others’ activities (Leonard, 2002). Mary and Jane suggested that role modelling could be an effective outdoor teaching strategy to learn and focus on environmental education.
5.2.2 Critical outdoor thinking

Outdoor literature by Martin (1999) on critical outdoor education suggested that teaching the students how to think critically and questioning their world views could enrich and deepen their outdoor experiences and improve their understanding of environmental issues – in terms of personal motivation for social and political change, action-orientated behaviour and positive role modelling of sustainable practices. In Matthew’s, Luke’s and Sarah’s case studies, they suggested critical outdoor thinking was an important part of improving students’ environmental awareness and knowledge. To implement this in their teaching, they utilised teachable moments to challenge the students’ environmental education. The following Table 19, identifies the variations of how they implemented critical outdoor thinking teaching strategies in their teaching.

Table 19: Participants’ interpretation of critical outdoor thinking in their teaching.

<table>
<thead>
<tr>
<th>Matthew</th>
<th>Students learn that there is a direct connection between thoughts and actions (those we are aware of and those we are not) and making some greater links between the theories through a critical perspective.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luke</td>
<td>Critical outdoor thinking, reflection, collaborative learning and participating at a deep level, can occur in both theory and in practical programmes. This is as well as critical action, which is about transformative learning and making change.</td>
</tr>
<tr>
<td>Sarah</td>
<td>Encouraging students to think more critically, astutely and to become engaged with their own learning. It all relates to a build up of critical questioning and trying to develop their observation skills.</td>
</tr>
</tbody>
</table>

Furthermore, these teachers all encouraged their students to question the choices they made whilst recreating and to examine the psychological, environmental, social and theoretical aspects of being in the outdoors. Examples of the types of questions students could be asked when implementing critical outdoor thinking within outdoor education are:

*How does the natural environment play out in society, how do they come to maybe even perpetuate the exploitation of the environment, and what are the mechanisms, be it technology or the existing discourses, around adventure and outdoor education?* - Matthew
This study and the literature suggested that critical outdoor thinking seemed a useful environmental teaching method for enhancing environmental awareness. Perhaps because it encouraged students to reflect on their own education, it builds on their environmental knowledge, challenges their beliefs and values, and encourages discussions about how people see and experience the outdoor environment.

5.2.3 Encouraging environmental awareness and human-nature connections

Environmental education has been defined as a multi-disciplinary approach to students’ learning that can develop their environmental knowledge, awareness, attitudes, values and skills that will enable them to contribute towards maintaining and improving the quality of the environment and the community (MFE, 1998). In this study the teachers suggested that environmental education aims and objectives were integral to improving awareness and action within the outdoor curriculum. The following Table 20 (see page 148) summarises commonalities and variations on how the participants encouraged their students’ environmental awareness and connection.

All participants suggested they wanted their students to feel comfortable recreating in the outdoor environment. Mark shared a similar belief with the literature that suggested it was important that students were comfortable in the natural environment before they were able to make a transition towards making a connection with their environment (Martin, 1999). The literature also suggested that having a kinetic engagement with the environment was very similar conceptually to bonding and forming a friendship with nature that was respectful and caring (Martin, 2004, 2005). Similarly for Sarah, she wanted the students to engage in the natural environment to explore their potential but not exploit things.

As previously noted in the literature reviewed: “the social education aspect of the experiential learning strategies, not only brings environmental issues closer to the students, it also highlights the relationships and the interdependence between the people and the environment” (Quay, 2005, p. 84). For similar reasons Matthew, Luke and Sarah said they challenged their students’ environmental assumptions, ideas, and behaviours, and taught them alternative ways of experiencing and recreating in the outdoors.
Table 20: Participants’ implementation of environmental awareness and human-nature connection in their teaching.

<table>
<thead>
<tr>
<th>Name</th>
<th>Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matthew</td>
<td>Help people to develop ways of thinking, what things mean, how to behave and be critical of those assumptions. Then present alternative ideas and ways of behaving.</td>
</tr>
<tr>
<td>Mary</td>
<td>Part of developing students’ connection is being in one place, within an area and zone. Often a special place for people within the environment is not somewhere where they have had a one-off experience, it is often a place that they have continually gone back to.</td>
</tr>
<tr>
<td>Mark</td>
<td>Getting students comfortable and dealing with the basics first, which enables them then to experience the environment and get to know it. Then they develop a connection, as they build on their environmental awareness and their sensitivity to natural places.</td>
</tr>
<tr>
<td>Jane</td>
<td>Encouraging people’s awareness of the social actions they can take and empowering them to become involved. To make those choices that can help them become responsible members of society.</td>
</tr>
<tr>
<td>Luke</td>
<td>Teaching outdoor education is not limited to adventure based learning, instead outdoor activities are a medium for alternative learning, such as social-ecology, transformative learning and social change. It all depended on how people interpret things.</td>
</tr>
<tr>
<td>Sarah</td>
<td>Provide outdoor experience, sound principles and then start applying those. Utilised teachable moments to encourage students to respect, and challenge their preconceived understanding of the environment. Teach them that humans are utterly a part of the environment, have a relationship with it and enjoy all aspects of it. It does not matter if you can see evidence of human change. Students need to have a passionate response to the environment, and be engaged.</td>
</tr>
</tbody>
</table>

Both Jane and Mary had different methods of encouraging their students compared to the other participants. Mary believed that people could make special connections with the certain places when they were regularly visited. Writing by Horwood (1995) supports this saying once an environment becomes more personified and less objectified, individuals can form personal connection with it.

These teaching methods were supported by literature that suggested: “people are generally more likely to develop relevant environmental knowledge, attitudes, skills and behaviour, when environmental education activities are action-oriented and focused on their own community” (MFE, 1998, p. 26). In particular, Jane said she wanted to empower the students and peak their interests, therefore she engaged them in group discussions and updated them on any environmental issues related to places that they were about to go recreate in.
5.2.4 Challenging students environmental practices

New Zealand has an *Environmental Care Code*, rather than a code of conduct, that encourages people recreating outdoors to; (1) protect plants and animals, (2) remove rubbish, (3) bury toilet paper, (4) keep streams and lakes clean, (5) take care with fires, (6) camp carefully, (7) keep to the track, and (8) consider others (DOC, 2007). The management of this care code is arguably more flexible in its message than the United States of America’s *Leave No Trace* code of conduct, which some writers argue is not always an appropriate method for teaching environmental education. The literature suggested that when people see, learn and understand how humans impact on the environment, then they have the tools to understand and take responsibility for their own actions (see Brookes, 1994; Cuthberston et al., 2004; Elrick, 2003). In this study, Matthew and Sarah also commented on the *Leave No Trace* and minimal impact principles, suggesting that these concepts needed to be challenged. The following Table 21 identifies the participants’ viewpoints.

**Table 21:** Participants challenging their students’ environmental practices.

<table>
<thead>
<tr>
<th></th>
<th>Matthew</th>
<th>Sarah</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matthew</td>
<td>Students need to consider and balance the technological impact of outdoor technology versus the impact people can have on the environment. For example, camping with a gas burner, compared to creating a campfire to cook food on: the energy required to resource the material and build a burner and its fuel. As well as the energy required in transporting it to stores and then the impact on the environment disposing of it has. This is often overlooked.</td>
<td>Even though the programme always tries to avoid major destruction and exploitation of the environment students need to become aware that every time people go outdoors they do leave a trace. Rather than being frightened of leaving a trace, because then they do not want to go out there, students need to know what that trace is and act to minimise it. Getting their feet muddy, appreciating and enjoying nature, is an important part of becoming engaged with the environment.</td>
</tr>
</tbody>
</table>

The literature suggested the concepts of *Leave No Trace*, and the convenience of modern technology has to some extent replaced students’ learning and participating in traditional camping experiences and practices (Cuthberston et al., 2004). In both Matthew and Sarah’s case studies, they talked about the importance of students experiencing cooking on campfires as opposed to fuel stoves. For example, Matthew said he regularly discussed with students the positives and negatives of using fuel
stoves, to challenge their beliefs about it having minimal impact. He believed that making a campfire was an important part of students’ learning to take environmental responsibility whilst recreating, as well as developing and learning basic survival skills.

Similarly Sarah believed that it was important that students understood the impact they have (and others) on the environment, that they learn to respect the environment and develop the skills and judgement to minimise that impact. The literature took these concepts further suggesting that it was important to teach students about human impacts because emerging gear and techniques can send students the wrong messages about ecological relatedness and sustainability (Elrick, 2003). This concept was something Matthew also tried to impress upon the students. He suggested alternative ways of being comfortable and experiencing their environment, by encouraging students to avoid technologies and comforts such as the tents, and to sleep under the stars whenever possible for enjoyment. The teachers discussed the principles of Leave No Trace and minimal impact with their students, and encouraged them to question, learn, and manage their own environmental impacts rather than believing modern technologies were the ideal outdoor practice.

5.2.5 Reducing travel for pursuit competency

The literature stated that carbon dioxide (CO₂) is considered the main greenhouse gas contributing to global warming and is a by-product caused by motor vehicles (New Zealand Government, 2007). In this study, Mathew, Mary, Mark and Luke suggested the amount of transportation within their outdoor programme was a concern and that they were generally in favour of localising the pursuits within the programme. The following Table 22 (see page 151) draws on the similar and slightly different points they each made.

Mary, Mark and Luke also mentioned that within their outdoor programme they were continually looking at ways to reduce the amount of travel they did. For example, Mark said the programme was looking at ways to offset the amount of greenhouse emissions caused by travel, perhaps by planting trees and using renewable fuels in their vehicles. He also ideally wanted to see in the future the students calculate the
programme’s carbon footprint, so then they could quantifiably determine their impact and design policies to counterbalance their carbon use.

Table 22: Participants’ encouraging less travel for pursuit competency.

<table>
<thead>
<tr>
<th>Participants</th>
<th>Commentary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matthew</td>
<td>The rational that justifies travelling long distances, so that someone’s self-esteem can feel a bit better at the end of an outdoor experience, needs to be questioned - Matthew</td>
</tr>
<tr>
<td>Mary</td>
<td>Perhaps outdoor education programmes need to run pursuits that focus on what that city could provide. Then the programme would become localised and people would learn to enjoy more about what is available in their own area. It is a good argument for minimising travel and fuel consumption.</td>
</tr>
<tr>
<td>Mark</td>
<td>At certain times travelling long distances just has to be done, in particular for white water kayaking because students have to go where the water is flowing. However, the programme is looking at ways to offset the carbon emissions for this travel.</td>
</tr>
<tr>
<td>Luke</td>
<td>Having just a few paradoxes within the outdoor programme can sharpen students’ awareness. By removing them all completely, it could lose that ability to use it for teachable moments, therefore the programme is at two minds about whether to abolish these paradoxes completely or not.</td>
</tr>
</tbody>
</table>

Luke said the programme had already reduced its carbon impact a lot over the last few years. Presently, students and teachers ride bikes to local locations, or use public transport when and wherever possible, and the programme has relocated pursuit activities to local or closer areas. Luke said he recognised they will still drive within the programme, but suggested that these changes have been beneficial, particularly from an environmental education perspective for the students’ learning outcomes.

In the reviewed outdoor literature, no specific mention of decreasing the amount of transportation and/or reference to minimising transport for greenhouse gas emissions was found. The closest general argument was that outdoor education programmes needed to become more sustainable in their teaching and practices (O’Connell et al., 2005). Perhaps transportation has become a relatively new concern within outdoor education programmes. These teachers suggested that environmental education does pose some contradictions within the current interpretation of outdoor education, due to the programme’s key focus on developing students’ technical skills, which can mean travelling long distances across the country to acquire pursuit competency. In
the case studies the specific concerns of vehicle use within outdoor programmes by the participants were not identified within the literature and are therefore considered unique findings.

5.2.6 Incorporating traditional Māori customs into outdoor education.

The literature review and case studies identified traditional Māori perspectives as a means of engaging with the natural environment. The outdoor literature noted that integrating Māori cultural traditions into outdoor education programmes is a useful method for enhancing environmental awareness and beliefs in the outdoor experience, as well as being valuable in developing an environmental and a physical ethic for use in outdoors and awareness about New Zealand’s multicultural society (Abbott, 1990; Boyes, 2000). Three of the participants mentioned integrating Māori cultural traditions into their teaching and their comments have been summarised in Table 23.

Table 23: Incorporating tradition Māori customs.

<table>
<thead>
<tr>
<th>Name</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matthew</td>
<td>Outdoor educators may need to place more interest on what it means to live an adequate life and become mindful of the six generations to come. It may not be a bad thing to integrate indigenous cultural thinking into outdoor teaching and into the desired outputs of the education system. Whilst maybe placing a little less value on some other things such as lovely lifestyles and GDP.</td>
</tr>
<tr>
<td>Mary</td>
<td>As part of the environmental teaching, the students learn broad and basic information about the natural world, such as how the earth operates. They also learn about tikanga Māori, what the natural world means to Māori, as well as how Māori introduce themselves by presenting a mihi whakatau.</td>
</tr>
<tr>
<td>Luke</td>
<td>Outdoor education is a Pakeha based, middle class, white perspective, therefore outdoor educators cannot work with Māori groups with this perception in mind. Outdoor and Māori students are encouraged to work together to design a programme that would suit kura kaupapa but utilise outdoor students skills.</td>
</tr>
</tbody>
</table>

More specifically, the literature suggested that incorporating traditional Māori customs, such as their oneness of people, land and living things, has helped form New Zealand people’s environmental values and beliefs systems concerning land and natural places (Boyes, 2000). Similarly Matthew suggested education could utilise some of the teachings from a number of indigenous peoples and other cultures such as
Māori. Perhaps indigenous environmental values and beliefs could improve some people’s understanding of human-nature relationships, and this understanding could have an influence on how some people see, relate to and understand the natural world around them. Therefore Matthew believed education should be less focused on the GDP and more interested in what it means to live an adequate life, (What sort of lifestyle can we manage?), whilst being very mindful of the six generations to come (What can we reasonably expect to have and pass on to somebody?).

The outdoor literature also suggested that outdoor programmes were incorporating Māori customs such as awareness of edible plants and animals (Abbott, 1990). Likewise Matthew said in the environmental paper he teaches, a student taught other students about the edible plants and animals found in rocky pools on the coast and how the Māori would cook seaweed to eat it, (which the students did), as an example of outdoor environmental teaching. This demonstrates the legitimacy of incorporating Māori traditions in outdoor education as a medium for improving environmental awareness and knowledge.

The literature stated that a Māori environmental belief was a philosophy of unity as well as making adequate allowance for diversity and reasonable human activities (Patterson, 2000). Mary integrated Māori environmental philosophy as part of the students’ outdoor environmental education. Students learnt Tikanga Māori, presented a mihi whakatau, and learnt about what the natural world means to Māori. Learning about Māori traditional customs seems to be a valuable teaching medium for encouraging students to consider their own connections and relationships to the New Zealand outdoor environment. Another example of an outdoor programme integrating Māori is in Luke’s environmental paper where students were encouraged to use the outdoor activity as a medium for teaching kura kaupapa students about Māori culture. For example: some students integrated Māori legends, language and mihi into a climbing trip; during a canoeing trip other students reflected on how a river may have been during Māori population as well as learning the Māori names of particular plants.

The literature review identified that Māori folklore and environmental philosophy has helped form peoples’ beliefs and values for the New Zealand’s environment (Boyes,
2000). Matthew, Mary and Luke, provided teaching examples of how New Zealand outdoor educators have incorporated aspects of traditional Māori customs into the environmental learning in their outdoor programme.

In summary, in this study all of the participants in their own teaching and programmes address the MOE’s (1999) key concepts of environmental education, which included: interdependence, sustainability, biodiversity and, personal and social responsibility for action. In particular, each participant stated that they wanted to improve students’ personal and social environmental action. The study also suggested that these teachers valued encouraging and challenging students’ knowledge, connection, awareness, attitudes, skills and behaviours for and about the environment, which are similar objectives to those noted in the literature review by the MFE (1998).

5.3 How environmental concerns impact on the participants’ teaching

There are believed to be a collection of issues associated with an environmental crisis such as climate change, energy, population, ecological, extinction, resource and development (WCED, 1987). The literature suggests that humans may be facing a planetary emergency as greenhouse gas emissions rise and cause global warming and the earth’s climate changes (Flannery, 2005; Gore, 1992, 2006). Due to the worldwide concern for the environment, the participants were asked what their understanding of an environmental crisis was, and the following Table 24 (see page 155) identifies their commonalities and differences.

All the participants suggested that humans in various ways contribute to the impact on the environment, whether that was through increased carbon emissions, which are heating up the earth’s atmosphere, using up the natural resources at a faster rate than they can replenish themselves, polluting our waterways, or destroying most of the indigenous habitat. In particular, Jane and Mark suggested that there will need to be a shift in the way people think and behave towards the environment, in order to see a change from a business as usual approach. As the literature also suggested, there needs to be a shift in mindset away from the view that says natural resources are only a resource if they are usable by humans and the environment is here for use and has value only to the extent to which people can or do use it (Hartmann, 2004).
### Table 24: How environmental concerns have impacted on participants’ teaching

<table>
<thead>
<tr>
<th>Participant</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matthew</td>
<td>The idea of global warming it seems will have significant impacts on human life, whilst the earth will continue on and probably find a new point of stasis, in spite of human suffering. There is real potential for some turbulent times ahead, such as a food and water shortage, which will cause some major issues. Global warming and cutting back on human CO₂ emissions plays just a part of that. There is going to be change and for some people it is just starting to get their heads around that.</td>
</tr>
<tr>
<td>Mary</td>
<td>Humans are heating up earth’s atmosphere and using natural resources at a faster rate than it probably would if we were not here. For example, oil, which people rely on for a lot of things including the food we eat, which these days is covered in pesticides and herbicides. The list goes on really with landfills, nuclear waste, and the water pollution from the sewage.</td>
</tr>
<tr>
<td>Mark</td>
<td>For many people there is a smoke screen masking the urgency of environmental issues, therefore some continue a business as usual approach, consuming everything, driving anywhere and doing anything. This is a concern because humans have not existed on the earth for very long, compared to how long it has taken for things to be created in the world and how quickly we are using up these finite natural resources.</td>
</tr>
<tr>
<td>Jane</td>
<td>There was no easy fix for dealing with environmental issues. It will require a major shift in the way people behave and the whole way our society operates, for example, the amount of energy that we consume. People have been talking about their concerns for the environment since the 1960s so it is not a new phenomenon. Yet suddenly in terms of public awareness, it has spread to more people across the world, which can only be good.</td>
</tr>
<tr>
<td>Luke</td>
<td>New Zealand is not the clean and green utopia that it has marketed itself as. If anything we are the other extreme. Like many countries worldwide, New Zealand has cleared more land, destroyed most of the indigenous habitat and seen more extinction of its indigenous flora and fauna. There are beautiful landscapes but that is luck rather than people’s management, and because of this, unfortunately like many other countries, we could lose it all together.</td>
</tr>
<tr>
<td>Sarah</td>
<td>The environmental issues are just another part of the cycle of the world. It is not an environmental crisis, rather it is a human impact crisis. The world is bigger than people and that balance will be achieved somehow. At some point or stage, the crisis might reduce the population and small segments might survive.</td>
</tr>
</tbody>
</table>

Mark also thought there was a smoke screen that prevented some people from comprehending the impact of the environmental changes. He perhaps shared a similar belief that some people may be caught by those things that avoid the hard choices implied by politics, morality, ethics, and common sense, because it seems easier to reshape people’s lifestyles to fit a finite planet, than to attempt to reshape the planet to fit our infinite needs (Orr, 1994). Mark believed that people had: “a moral and ethical responsibility for our future and for the future survival of our species. We have a moral and ethical responsibility to care-take the environment we live in and the frustrating thing is that we could, but we don’t”. 
Matthew’s belief also related to the reviewed literature that suggested the earth would adjust to whatever the current environment is and adapt to whatever forms of life it carried. This was based on a belief that the earth is a physiological system that presently regulates the climate and the chemistry at a comfortable state for human life (Lovelock, 2006). Perhaps this is similar to Sarah’s belief that people are facing a human crisis, due to the necessary changes and our impact, rather than an environmental crisis because the earth will just continue to exist anyway.

Concern was expressed by Luke about how New Zealand markets itself, which he believed contradicted how healthy the New Zealand environment actually was. He would not be the first to question this image. For example, in the past New Zealand’s pristine image was tarnished when a New Scientist article claimed New Zealand was a poisoned paradise that had toxic waste seeping into soil and water (Szabo, 1993). Luke also expressed concern for the management of indigenous flora and fauna. The literature reviewed by Flannery (2005) also expressed concern, suggesting more attention was required to ensure environmental changes did not continue to impact on worldwide flora and fauna.

These environmental issues were not a new phenomenon, as mentioned by the participant Jane. Rather, during the mid 1960s and 1970s, there was general public awareness due to some environmentally influential people, which contributed to the environmentalism movement (Devall & Sessions, 1985).

5.4 How participants’ implement environmental teaching into their practice

There are increasing demands internationally for stricter environmental quality standards and generally people recognise that impoverishment of the environment anywhere is a threat everywhere (MFE, 1995b). Therefore one of the aims of the study was focused in learning if these outdoor educators’ understandings of the environmental crisis had impacted on their outdoor teaching. The findings, noted in the following Table 25, suggested that these participants’ environmental awareness had influenced their teaching to some degree.
### Table 25: How participants’ implement environmental teaching into their practice.

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Matthew</td>
<td>His environmental awareness had changed his practice as an outdoor educator. He felt as an outdoor educator he had the right to talk about environmental issues, and that he should be talking about what was happening and was going on metaphorically at times and almost directly in the curriculum as well. However, he believed outdoor education was really based largely on leisure rather than on the environment. Therefore, if it were not the idea of leisure, as we know it, then there would be no outdoor education.</td>
<td></td>
</tr>
<tr>
<td>Mary</td>
<td>Having an understanding and appreciation of environmental issues has influenced her to teach and be more passionate about environmental education, certainly more than she had done in the past. With her growing concern for the state of the environment, her teaching and experiences in the outdoors led her to realise that actually environmental education needs to be more important than stand-alone outdoor education.</td>
<td></td>
</tr>
<tr>
<td>Mark</td>
<td>Since becoming more aware of environmental issues, he now tries to inspire students environmentally and encourages them not use the outdoors as simply a backdrop. He admitted that integrating environmental education within his teaching was not easy, and held some big challenges for him. This was mainly because he had no formal training and had not come from a background of environmental science, but he felt it was important to try.</td>
<td></td>
</tr>
<tr>
<td>Jane</td>
<td>Since becoming more aware of worldwide and national environmental issues, she has become more aware and comfortable teaching about the concepts and the underpinning issues within her programme. She believed outdoor teachers were in a position of influence, and was therefore conscious of finding a careful balance that empowered students, otherwise it would not achieve anything, and the students would end up thinking that it is too hard to support or care for the environment.</td>
<td></td>
</tr>
<tr>
<td>Luke</td>
<td>Learning about the environment has become the sole driving force in his teaching. He admitted when he first began outdoor teaching it was very classic outdoor education pursuits education, a bit of instruction, facilitation, and perhaps a little of environmental education, but not very much, and he struggled to maintain motivation. However, now he enjoys finding ways to integrate environmental education within his teaching and practice. He encourages students to think about their own values, their own place in the world and what value they will add to their communities. It is important in his teaching that the students have global and local knowledge and awareness, and take local action.</td>
<td></td>
</tr>
<tr>
<td>Sarah</td>
<td>In her teaching and practice, she encourages students to think about the future, tries to address the serious issues that are happening and encourages them to learn ways in which they can deal with it. It is also important to her that students learn to give out a personal integrity that demonstrates that they enjoy the outdoor environment, that they are not exploiting it, but are aware of what the issues are and when they can do something positive or to protect it.</td>
<td></td>
</tr>
</tbody>
</table>

The literature noted that, during teacher training, the attitudes, awareness, and capabilities of student teachers will be important in increasing understanding of the environment and its links with their development. Therefore agencies must provide support for the relevant curriculum development in teacher training institutions (WCED, 1987). Perhaps there needs to be further investigation into how teachers
could be supported, such as Mark, who has become more aware of the environmental issues, and is trying to incorporate awareness into his teaching but admits it is challenging without formal training.

However, for Jane it seems since environmental education is now more integrated into the programme, she (like other teachers) is more comfortable about teaching environmental concepts and discussing underpinning issues. Similarly Mary and Luke stated their personal passion for the environment motivates them to teach for and about the environment, and that they try to integrate it, wherever possible, within the curriculum. For example, Luke stated: “I hold this positive vision, that I should do my best to push sustainability education and empower students to do the same”. Also, these three teachers and Mark suggest in their case studies, they would like to see environmental education further integrated within their programmes.

Compared with the other teachers in the study, Sarah seemed content with how environmental education was currently being implemented within her programme. However, like the others, in her teaching she thought it was important that students were encouraged to learn about the environment, think about the future, were engaged in the environment, respected it and took environmental responsibility/action when and if they could.

In Matthew’s case study, he suggested that his outdoor curriculum was still largely focused on leisure and pursuit acquisition, and environmental issues were incorporated as an elected subject for interested students. Recent literature suggested that because environmental education has never been compulsory within the curriculum, therefore it has often been perceived as an add-on, and many teachers are being trained without developing any understanding of environmental education or education for sustainability (PCE, 2004). However, Matthew still believed, as an outdoor teacher, he should and had a right to teach for and about environment.

The literature reviewed suggested that the environment and human development were inseparable, and that the attitudes of teachers would be key in increasing students’ understanding of the environment and their links with human development (WCED, 1987). The study suggested among these teachers there was a desire to inform
students about environmental issues, and it was early stages for being integrated into the current outdoor curriculum. However, at the core of these programmes the leisure pursuit focus still remained dominant. Whether that needs to change or can change could perhaps be something for further study to address.

5.5 How participants’ ideally would implement environmental learning

The MFE (1998, p. 26) suggested “the effectiveness of environmental education in engaging environmental protection and management issues will depend largely on the extent to which providers develop some shared understanding of environmentally responsible behaviour, common environmental education goals and a cooperative approach to achieving them”. In this study the participants were asked, if they had no limitations, what they would do to enhance environmental educational considerations in their outdoor programme. The theoretical strategies suggested by these teachers were to; (1) reconsider how and where students learn, (2) localise and simplify outdoor activities, (3) promote sustainable programmes and facilities, (4) experience climate change through conservation work, (5) align compartmentalised programming with sustainable education, and (6) strive for small staff/student ratio and amalgamate outdoor theory/pursuit learning. The following section describes these ideas in further detail.

5.5.1 Reconsider how and where students learn

To improve and enhance students’ environmental learning Matthew said he wanted the students to make a connection with that place out there (the outdoors or the environment) and back here, because he believed that it was in the urban environments where there are lots of people and lots of mixed messages telling people to do x, y, and z. He wanted the students to understand that what they heard in the media was a reflection of interested parties’ desires and the discourses they are subjects of. As an educator Matthew thought in order to develop ways to teach students how to be critical of their own assumptions, it was important to understand how students learnt, what having knowledge meant to them, and how they behaved once they gained knowledge. Then he believed it would be possible to present students with alternative ideas and offer alternative ways of behaving.
Matthew also thought getting out of the institutional environment would improve student learning. In an environment away from the many distractions of the institutions, where there was less talking and students would have a chance to reflect and think. Not necessarily in the outdoors all the time but just spending more time out of classrooms, he suggested teaching at a beach or in a hut. He believed it was important to encourage students to learn how to deal with the new information themselves, by experimenting with teaching methods and learning to think about what they can do with their knowledge when they go out and teach.

5.5.2 Localise and simplify outdoor activities

Mary thought that institutes should restructure their outdoor activities according to where they were located and accordingly introduce simplified activities such as gardening, swimming, walking, tramping, and mountain biking to reduce the reliance on transportation. She believed this could encourage a connection with local environments as students learn more about local areas and the things that their city could provide, as well as take people out recreating in it.

To achieve this she suggested outdoor programme coordinators and teachers would need to work with the students to find ways to have adventures in the outdoors that did not involve going huge distances and using a lot of equipment. Some suggestions Mary had were that all the food eaten during programmes could either be collected in a sustainable way from the bush, from their gardens, local communities, or maybe even from a community garden designed at the Institute.

5.5.3 Promote sustainable programmes and facilities

Mark said to enhance environmental education within the outdoor programme, he would ideally like to see the whole institutional facility and all the outdoor programme being environmentally sustainable. For example, he suggested the institute could recycle water and use rainwater tanks; it could have land for a vegetable plot where students could plant and where organic waste would go; and the programme would use sustainable transportation such as biofuel.
Mark wanted to see the programme minimise the environmental footprint to the smallest amount possible and suggested staff and students could calculate and record the amount of natural resources being used in order to understand how much was being used. He also believed that staff needed to create a culture of environmentally friendly practices in all facets of the programme. He said making time would be essential, in order to develop these environmental strategies and create an environmental consciousness. Mark noted finding time in an already busy programme was difficult and that the programme would still need to maintain the outdoor “fun” factor in order to maintain appeal.

5.5.4 Experience climate change through conservation work

It was Jane’s belief that people need a certain readiness to want to make environmental shifts or changes. Therefore she thought students could work in conservation areas, not only to inspire them about conservation efforts within New Zealand, but also to teach them about the environment and how to take environmental action. For example students could go into wilderness areas for the purpose of working on some sort of flora protection or fauna protection - in terms of going down the Fiordland coast checking all the traps.

Jane suggested taking the students somewhere where global warming was really evident, having to actually go to see, experiencing it and then drawing the links (this is what is happening and this is what is causing this) then that was maybe a way of getting people to take it seriously. She thought that this kind of experience could have an impact on people if they could make some sort of emotional connection.

5.5.5 Align compartmentalised programming with sustainable education

Luke said his ideal environmental programme would be to try and break away from the compartmentalised programmes and the little block courses, and try to draw really strong links between them. For example, he suggested the students could work collaboratively with other groups outside of the institution, to perhaps gain other cultural perspectives. He believed sustainability education was about a broad social level and social change, and ideally wanted to incorporate sustainable education as part of the institute’s constitution. He wanted to see sustainability incorporated into
outdoor education teaching and into their programmes, on a percentage that increases each year and work within a framework that addressed current social values and attitudes. Luke also thought that an alliance between the tertiary institutions was important and said part of that alliance was dealing with sustainability, not physical sustainability but educational sustainability and structural sustainability.

5.5.6 Strive for small staff/student ratio and amalgamate outdoor theory/pursuit learning

If Sarah were to enhance environmental learning in an outdoor programme, she would only have a couple of staff working with six to eight students in certain environments, and integrate a lot of the ideas from the eight papers over the year. Sarah thought the outdoor programme could include all the papers whilst being in the outdoors: there could be a bit of theory, a bit of talking, a bit of doing, a bit of living, as well as a bit of socialising and mixing. For example; she suggested that the programme could incorporate a social environmental paper (which was capable of looking at the environment in more depth), an experiential learning paper, or some of the theories of adventure based learning (ABL), as well as, some business and safety papers.

She also suggested that perhaps the trips could be conducted for five days, with a few longer programmes included sometimes. They could travel into the slightly less urban environment, not too far away but not fully urban and industrialised but this could vary depending on the trip purpose. For example, some could be low key and others could be physically challenging or because they are walking into places, students might do a bit of rock climbing with a bit of mountaineering and tramping.

The strategies mentioned by these participants suggests there is room within current outdoor education programmes to reassess what the learning intentions and outcomes are, how students are learning in, for and about the environment, and how outdoor educators are teaching to implement environmental awareness and knowledge within their outdoor pursuits and theories.
5.6 Suggestions for further research

A participant in the study mentioned that there were not many other outdoor programmes role modelling environmental and sustainability education within their curriculum which could provide strategies for theoretical and practical application within their programmes. Perhaps some research could be conducted within New Zealand to find out which outdoor teachers and/or outdoor programmes are integrating and implementing environmental and sustainability education in their programmes. Also research could be done to find out what theory and practices have been most successful in providing some strategies for other outdoor practitioners and programmes.

In this study some participants suggested environmental education struggled to compete within an outdoor programme whose predominant focus was on students acquiring recreational pursuit competency. Perhaps future research could explore the advantages and disadvantages of implementing a balanced curriculum focus between environment education and outdoor pursuit within an outdoor programme.

Some participants in this study suggested that localising outdoor recreational pursuits improved environmental learning, because it encouraged students’ connection/awareness of local environments and reduced transportation emissions. Future research could perhaps explore the benefits and limitations of running locally focused outdoor education programmes, as well as exploring whether or not this enhanced students’ outdoor environmental learning and their engagement and connection with the environment.

Some participants in the study integrated environmental education early into their outdoor programme to begin developing the base knowledge of environmental education, with the intention to build up on this knowledge as the course advanced. Other participants believed it was important for students to first develop their outdoor skills and connection with the environment, before integrating environmental education learning. A useful direction could be to research the advantages and disadvantages of when to integrate environmental education into outdoor teaching and practices.
The participants applied various environmental education teaching and practices within their outdoor programmes. Further research could explore the students’ educational outcomes for particular teaching strategies, such as transformative learning, action orientated learning, and critical outdoor education, to find out how it influenced students’ environmental beliefs, values and practices.

This study could be replicated to explore the views of a larger percentage of New Zealand tertiary outdoor educators. This would increase understanding of how environmental knowledge and awareness is being currently implemented, and whether environmental education was considered important within New Zealand’s outdoor education programmes. This may provide some further strategies and understandings of how outdoor practitioners are implementing environmental education within their teaching, practices and programmes. Perhaps conducting a survey to collect data, instead of completing numerous case studies, could make collecting larger amounts of information easier and more effective. This would also enable generalisability.

Literature suggested that environmental education was still considered an add-on to educational programmes (PCE, 2004). Perhaps a comparison study could be conducted to explore how tertiary and secondary outdoors practitioners were implementing environmental education, which would indicate to what extent environmental and outdoor programmes were co-existing. Perhaps future study could also explore the difference and similarities between tertiary and secondary programming, as well as to examine their teaching and practices.

5.7 Summary

In summary, this study found that the participants all believed and valued environmental education within their outdoor teaching, practices and programmes. Even though they did not all share exactly the same environmental philosophies, the participants do, however, share some common environmental teachings and practices. In order to improve their students’ environmental awareness, behaviour and knowledge, all of the outdoor educators felt they had a responsibility to influence their students’ environmental learning and how they engaged with the environment.
Participants said when they started teaching outdoor education the environment was perceived as the background, a playground or gymnasium for the outdoor activity. However, in the last few years there seems to be a shift in outdoor teaching, practices and programmes, towards improving students’ environmental awareness, behaviour and connection within outdoor education programmes. However, they suggested that environmental education may still struggle to gain traction whilst the educational focus still remains predominately on students obtaining competencies in outdoor pursuits.

Implementation of environmental education varied in teaching methods. The teachers employed various teaching strategies to encourage the students to learn to engage and connect with the environment. Some participants believed role modelling positive environmental behaviour, utilising teachable moments and engaging in group discussion were important parts of environmental education. Others engaged their students in critical outdoor thinking, which encouraged them to critically reflect and examine the psychological, environmental, social and theoretical aspects of being outdoors. They challenged students’ assumptions, ideas, and behaviours, as well as introduced alternative concepts, ways of seeing and engaging, for example, this could be done by peaking students’ interests and awareness of relevant environmental issues about places they recreated in. Another way to improve students’ environmental awareness and connection was by initially getting them to feel familiar and comfortable with basic outdoor skills, and then building their environmental awareness and knowledge.

Some participants believed it was important to challenge students’ understandings of their environmental practices, and their use of certain environmental codes of conducts. This could be undertaken by challenging their understanding about how they could minimise their environmental impact, suggesting that sometimes certain traditional methods of camping could have less impact then some modern technologies. Some participants were also concerned with the environmental impacts of long distance travel within an outdoor programme, therefore favoured utilising the local environment. A different suggestion was to calculate the carbon footprint of the outdoor programme to quantify the impact and perhaps off-setting this impact by planting trees. The participants’ concern for long distance travel within the outdoor
programme was considered a unique finding, as it was not already noted in the literature.

All the participants suggested in some way that humans have contributed to worldwide environmental issues. They suggested it was important to see a social shift in mindsets towards the environment and in some people’s behaviour in order to see positive environmental change. There was the suggestion that the crisis was human rather than environmental because the earth would somehow find a new state of balance to regulate itself. It was also argued that New Zealand was not necessarily as clean and green as it was internationally marketed. Like many countries worldwide, New Zealand has seen many of its indigenous flora and fauna become extinct. Overall the participants believed that the environmental crisis related to increased carbon emissions, which were heating up the earth’s atmosphere. It was seen that humans were using up natural resources at a faster rate than they could replenish themselves, and with increased pollution of the environment, in particular the waterways.

The impact on the participants’ awareness of an environment crisis created a desire to inform students about environmental issues. They felt they were in a powerful position to inform students recreating in the outdoors about the environment, and to encourage an awareness and knowledge about the issues. It seemed even though these outdoor programmes incorporated environmental education already into their teaching and practices, they could be further integrated. A participant also suggested that a lack of formal environmental training made it challenging to incorporate this into the outdoor programme.

To provide some more theoretical suggestions for implementing outdoor environmental strategies, the participants were asked how they would ideally implement environmental education. These teachers suggested; (1) more teaching out of the classroom environment, (2) exploring alternative ways to recreate, (3) creating sustainable outdoor programmes and facilities, (4) students experiencing climate change through conservation work, (5) align compartmentalised programming with sustainable education, and (6) having longer outdoor trips with small groups.
Overall, the research findings show that these outdoor teachers believe in and value outdoor education for and about the environment. This focus has been prioritised because of the worldwide environmental crisis. The findings confirm that it is important that environmental education be an integral part of outdoor education programmes.
REFERENCES


REFERENCES


REFERENCES


### APPENDICES

**Appendix 1: Environmental education providers & contributors (MFE, 1998, p. 12)**

<table>
<thead>
<tr>
<th>Providers</th>
<th>Contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Formal Education Providers</strong></td>
<td></td>
</tr>
<tr>
<td>Pre-School: Kindergarten, Kohanga reo and Child-care centres.</td>
<td>Living skills, environmental concerns, sensory awareness, creativity, cooperation, role modelling.</td>
</tr>
<tr>
<td>Schools: Government and Non-government Primary schools, Secondary schools, and Kura kaupapa Māori.</td>
<td>Environmental education within the New Zealand Curriculum including outside the classroom for students.</td>
</tr>
<tr>
<td>Colleges of Education.</td>
<td>Teacher training.</td>
</tr>
<tr>
<td><strong>Non-Formal Education Providers</strong></td>
<td></td>
</tr>
<tr>
<td>Government agencies:</td>
<td>Coordinate and support policies through specific education programmes (e.g. MAF as part of its Sustainable Agricultural Policy). Coordinate and support policies developed under the RMA-target information, advisory services and education initiatives to priority areas. Needs and approaches vary from council to council.</td>
</tr>
<tr>
<td>• Central</td>
<td></td>
</tr>
<tr>
<td>• Local</td>
<td></td>
</tr>
<tr>
<td>Māori through pan-tribal and hapu-and iwi-based initiatives.</td>
<td>Waananga on resource management planning and whakapapa.</td>
</tr>
<tr>
<td>Industry training; on-the-job training.</td>
<td>Specific workplace focused education to enable industry to comply with regulations and be responsible environmental citizens.</td>
</tr>
<tr>
<td>Professional development: professional associations: private providers</td>
<td>Architects, Engineers etc. professional accreditation (e.g. NZ Planning Institute accreditation).</td>
</tr>
<tr>
<td>Crown Research Institutes</td>
<td>Translate research results into accessible information.</td>
</tr>
<tr>
<td>Community based adult education providers: community centres, evening and community colleges, community adult education centres.</td>
<td>Short courses, networks and activities, which develop individuals’ environmental management and participation skills, interests and capacities.</td>
</tr>
<tr>
<td>Unions: (those associated with building and development, agriculture, education, environment and health).</td>
<td>Policy: advocacy, green action/ bans/ protests/ occupational health and safety, education and training programmes.</td>
</tr>
<tr>
<td>Industry interest groups and associations (e.g. Federated Farmers, FOMA, NZ Fruit growers Fed, Woolgrowers, etc.).</td>
<td>Policy and advocacy, general advice and information.</td>
</tr>
<tr>
<td>Environmental interest groups.</td>
<td>Promote awareness, advocacy and debate, education material and information services, field and site specific activities, opportunities for direct community involvement in conservation.</td>
</tr>
<tr>
<td>Other community organizations, youth groups, church groups, service organizations</td>
<td>Developing concern, environmental responsibility and competency.</td>
</tr>
</tbody>
</table>
Appendix 2: Aims of environmental education (MOE, 1999, p. 10).
Appendix 3: Invitation

October 09, 2007

Dear [Participant],

Hi! I am a student at the University of Otago completing a Master Degree within the School of Physical Education. I am currently looking for people to participate in my research. My supervisor Dr Mike Boyes mentioned your name as an interesting person to interview.

My research question is:

What are the environmental beliefs and values of NZ outdoor education teachers and how are they implemented? How has the environmental ‘crisis’ impacted on their teaching and programmes?

We are interested in listening and learning from your unique experiences as an outdoor education teacher. Considering the current global awareness of environmental issues, this study is focussed on learning about the environmental beliefs and values of outdoor educators, and how the environmental crisis has impacted on their practices. This study will document your valuable experiences.

As an accurate method of collecting data, I would like to have a one-to-one, tape-recorded interview with you for about 45 minutes, at a time of your convenience. Your words, ideas and opinions will be transcribed to create a case study eventually making up a part of my thesis document. Your identity will remain confidential throughout the study.

It would be much appreciated if you would agree to be a participant. If you feel comfortable with that could you reply to this message and I will make contact with you to arrange an interview time.

I look forward to hearing back from you and hopefully meeting you in person sometime soon.

Yours truly,

Petra Pritchard
Student

Mike Boyes
Supervisor

School of Physical Education - Te Kura Akoraka Whakakori

PO Box 56, Dunedin, New Zealand.
Tel 64 3 479 8991 • Fax 64 3 479 8309 • Email physical-education@otago.ac.nz
http://physed.otago.ac.nz
Appendix 4: Information sheet

Te Whare Wānaga o Otāgo

October 09, 2007

Dear [Participant],

Learning about Outdoor Educators’ environmental beliefs and values, as well as, the impact of the ‘environmental crisis’ on their practices

Thank you for showing an interest in this project. Please read this information sheet carefully before deciding whether or not you want to participate. If you decide to participate we thank you and look forward to further communication. If you decide not to take part we respect your decision and thank you for taking the time to consider our request.

What are the aims and the interest of this case study?

Given the media coverage about the environmental issues the research interest is about learning what are the environmental values and beliefs of outdoor educators, as well as the impact the ‘crisis’ has on their practices. The research is interested in listening to your experiences, philosophies and practices in teaching outdoor education. The aim is to create several case studies that represent current outdoor educator environmental values and beliefs.

What types of participants are participating?

The participants approached to participate in this study are all currently working as New Zealand outdoor educators’ in various tertiary disciplines. This is a small study with no funding and requires six people to participate.

What will participants be asked to do?

Should you agree to take part in this study, you will be asked to participant in a one to one interview that will take approximately 45 minutes to an hour. The interview will be tape-recorded and later transcribed into a Word document. Tape recording is used because of its accuracy and then transcribed into data for easier reading. Your narrative will be written up as a case study and summarised in a cross-case analysis where all six case studies are viewed together in a final chapter. This study encourages you to bring along any material or curriculum data that you think can help explain your philosophies and/or programming.

Can participants change their mind and withdraw from the project?

You may withdraw from the study at any time. Participation is voluntary and we understand you have other commitments.

What are the questions going to be about?

The research question is:

What are the environmental beliefs and values of NZ outdoor education teachers and how are they implemented? How has the ‘environmental crisis’ impacted on their teaching & programmes?
The interview questions intended to unpack your thoughts on the environment based on your experience as an outdoor educator.

**What data or information will be collected and what use will be made of it?**

The information collected will require your gender, recognisable experience (qualifications or certifications) in the outdoor industry, and length of time working in the outdoors (not specifically at the location currently occupied). This is background information that will give authority to your experience and the opinions you expressed during the interview. It will also give depth to your personal beliefs and values documented in the study.

The information collected intends to maintain your confidentiality. The data collected during these interviews will only be heard and transcribed by the interviewer. All printed documentation will use pseudonyms to conceal each participant’s identity.

When the project is complete it will be available at the Otago University Library as part of the thesis requirement. It may or may not be published as a journal article at a later stage, but every attempt to preserve participant’s confidentiality and anonymity will be attempted.

The data collected will be securely stored in such a way that only the interviewer will be able to gain access to it. At the end of the project any personal information will be destroyed immediately except that, as required by the University’s research policy, any raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed.

You are most welcome to request a copy of the results of the project should you wish.

If you have any further questions about our project, please do not hesitate to contact us.

Yours truly,

Petra Pritchard
Student

Mike Boyes
Supervisor

School of Physical Education - Te Kura Akoraka Whakakori
PO Box 56, Dunedin, New Zealand.
Tel 64 3 479 8991 • Fax 64 3 479 8309 • Email physical-education@otago.ac.nz
http://physed.otago.ac.nz

DUNEDIN CHRISTCHURCH WELLINGTON AUCKLAND
Appendix 5: Consent form

Learning about Outdoor Educators’ environmental beliefs and values, as well as the impact of the ‘environmental crisis’ on their practices

I have read the Invitation Letter (and or Information Sheet) concerning this project and understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage.

I know that:

1. my participation in the project is entirely voluntary;
2. I am free to withdraw from the project at any time without any disadvantage;
3. I understand that I will be involved in a one to one, face to face interview and will be asked semi-structured open ended interview questions;
4. if at any stage I feel uncomfortable, I know I can stop the interview at any time or not answer that particular question;
5. the data (audio-tapes) will be destroyed at the conclusion of the project but any raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed;
6. the results of the project may be published and available in the library but every attempt will be made to preserve my anonymity;
7. I understand that reasonable precautions have been taken to protect data transmitted by email but that the security of the information cannot be guaranteed.

I agree to take part in this project.

.................................................. ..................................................
(Signature of participant) (Date)
Appendix 6: Approval letter

October 19, 2007

To whom it may concern

This is to confirm that Petra Pritchard is working on a research dissertation as part of the degree of Master of Physical Education with the University of Otago.

Petra’s work involves investigating tertiary outdoor educators’ environmental beliefs and philosophies and how they influence practice. Her research supervisor is Dr Mike Boyes who may be contacted on ph. (03) 479 8995.

Mike Boyes, PhD
Dean

Te Whare Wānaga o Otāgo

School of Physical Education • Te Kura Akoraka Whakakori

PO Box 56, Dunedin, New Zealand.
Tel 64 3 479 8991 • Fax 64 3 479 8309 • Email physical-education@otago.ac.nz
http://physed.otago.ac.nz
Appendix 7: Leave No Trace outdoor ethic (Leave No Trace, 2009)

The Leave No Trace Centre for outdoor ethics is an educational, nonprofit organisation dedicated to the responsible enjoyment and active stewardship of the outdoors by all people worldwide.

**PLAN AHEAD AND PREPARE**
- Know the regulations and special concerns for the area you'll visit.
- Prepare for extreme weather, hazards, and emergencies.
- Schedule your trip to avoid times of high use.
- Visit in small groups when possible. Consider splitting larger groups into smaller groups.
- Repackage food to minimize waste.
- Use a map and compass to eliminate the use of marking paint, rock cairns or flagging.

**TRAVEL AND CAMP ON DURABLE SURFACES**
- Durable surfaces include established trails and campsites, rock, gravel, dry grasses or snow.
- Protect riparian areas by camping at least 200 feet from lakes and streams.
- Good campsites are found, not made. Altering a site is not necessary.
  - **In popular areas:**
    - Concentrate use on existing trails and campsites.
    - Walk single file in the middle of the trail, even when wet or muddy.
    - Keep campsites small. Focus activity in areas where vegetation is absent.
  - **In pristine areas:**
    - Disperse use to prevent the creation of campsites and trails.
    - Avoid places where impacts are just beginning.

**DISPOSE OF WASTE PROPERLY**
- Pack it in, pack it out. Inspect your campsite and rest areas for trash or spilled foods. Pack out all trash, leftover food, and litter.
- Deposit solid human waste in cat holes dug 6 to 8 inches deep at least 200 feet from water, camp, and trails. Cover and disguise the cat hole when finished.
- Pack out toilet paper and hygiene products.
- To wash yourself or your dishes, carry water 200 feet away from streams or lakes and use small amounts of biodegradable soap. Scatter strained dishwater.

**LEAVE WHAT YOU FIND**
- Preserve the past: examine, but do not touch, cultural or historic structures and artifacts.
- Leave rocks, plants and other natural objects as you find them.
- Avoid introducing or transporting non-native species.
- Do not build structures, furniture, or dig trenches.

**MINIMIZE CAMPFIRE IMPACTS**
- Campfires can cause lasting impacts to the backcountry. Use a lightweight stove for cooking and enjoy a candle lantern for light.
- Where fires are permitted, use established fire rings, fire pans, or mound fires.
- Keep fires small. Only use sticks from the ground that can be broken by hand.
- Burn all wood and coals to ash, put out campfires completely, then scatter cool ashes.

**RESPECT WILDLIFE**
- Observe wildlife from a distance. Do not follow or approach them.
- Never feed animals. Feeding wildlife damages their health, alters natural behaviors, and exposes them to predators and other dangers.
- Protect wildlife and your food by storing rations and trash securely.
- Control pets at all times, or leave them at home.
- Avoid wildlife during sensitive times: mating, nesting, raising young, or winter.

**BE CONSIDERATE OF OTHER VISITORS**
- Respect other visitors and protect the quality of their experience.
- Be courteous. Yield to other users on the trail.
- Step to the downhill side of the trail when encountering pack stock.
- Take breaks and camp away from trails and other visitors.
- Let nature's sounds prevail. Avoid loud voices and noises.
Appendix 8: Environmental Care Code (DOC, 2007).

Protect plants and animals
* Treat New Zealand's forests and birds with care and respect. They are unique and often rare.

Remove rubbish
* Litter is unattractive, harmful to wildlife and can increase vermin and disease. Plan your visits to reduce rubbish, and carry out what you carry in.

Bury toilet waste
* In areas without toilet facilities, bury your toilet waste in a shallow hole well away from waterways, tracks, campsites, and hut.

Keep streams and lakes clean
* When cleaning and washing, take the water and wash well away from the water source. Because soaps and detergents are harmful to water-life, drain used water into the soil to allow it to be filtered. If you suspect the water may be contaminated, either boil it for at least 3 minutes, or filter it, or chemically treat it.

Take care with fires
* Portable fuel stoves are less harmful to the environment and are more efficient than fires.
* If you do use a fire, keep it small, use only dead wood and make sure it is out by dousing it with water and checking the ashes before leaving.

Camp carefully
* When camping, leave no trace of your visit.

Keep to the track
* By keeping to the track, where one exists, you lessen the chance of damaging fragile plants.

Consider others
* People visit the back country and rural areas for many reasons. Be considerate of other visitors who also have a right to enjoy the natural environment.

Respect our cultural heritage
* Many places in New Zealand have a spiritual and historical significance. Treat these places with consideration and respect.

Enjoy your visit
* Enjoy your outdoor experience. Take a last look before leaving an area; will the next visitor know that you have been there?
* Protect the environment for your own sake, for the sake of those who come after you, and for the environment itself.

Tutu te whanau / Leave the land undisturbed

For more information about caring for the environment visit the DOC website: [www.doc.govt.nz](http://www.doc.govt.nz)
Appendix 9: Luke’s wetlands project notes

“We have a big local wetlands here that is one of the most significant wetlands in New Zealand, and our programme has its own plot there. We have raised around $12,000 now to undertake habit restoration at the wetlands, and with this money we employ a person to run a habitat restoration instruction programme for our students. The council used to own the land and they sold it to developers. However, the sale of the wetlands caused such a controversy that council then had to buy the wetlands back from the developers at something like 4 or 5 times the cost that they sold it for. Now it is held in trust.

A lot of schools use the wetland to do environmental projects depending on where the ranger might be working at the time. I took my first group of students out there in 1999 and it really was an experiment to see how it would go and to see if it could fit in. I got some really good student feedback on it… So we have decided to try and keep the project. But the problem is that it is not attached to anything in the course and so we do not get any funding for it. Also I do not have and none of the programme instructors here have the knowledge to teach this stuff. So I applied to an external funding agency. It is a trust that attracts corporate funding directly related to helping students at the institution. I have had three grants now from the foundation.

This institution is the only organisation to have a dedicated spot at the wetlands which we have been working at. So the first year we have worked at a spot and then in 2000, the next year, we got our own spot and we have been working there ever since. When you go there it does not seem like a big spot.

Students do not just plant. Every time we go, they walk around and look at the different species that have moved in. We do quite a bit of orientation and learning about the ecology of the place. Each visit, out of the three or four hours they spend there, they probably spend the last two hours in our plot, clearing plants so weeds do not cover them anymore, and planting new plants depending on the time of year. We have got Ribbonwoods out there that have now got trunks that have diameters of 200 millimetres.

So there are big trees, and what was really lovely, was last year one of the graduates visited me, and said, ‘I took my family out to the wetlands to show them the trees that we have planted.’ It made me realise that the trees that we were planting were more than just learning about the ecological systems, but that the students have a tie to the land”.