

When men and mountains meet;

Rūiamoko, western science and
political ecology in Aotearoa/New
Zealand

A thesis submitted in partial fulfillment of the

requirements for the Degree of

Masters of Science in Geography

by Laura Jardine-Coom

University of Canterbury

2009



'Men and mountains' a plaque on a boulder in Kaitoke Regional Park

Contents

Acknowledgements	6
1. Abstract	7
2. Glossary	8
3. He kupu whakataki-Introduction	10
3.1 Mihi.....	10
3.2 Mihi tuarua.....	10
3.3 How to read this thesis.....	11
3.4 The geography of Rūiamoko; Ruapehu and the Taupo Volcanic Zone	12
3.5 Why study the Mt Ruapehu lahars?.....	16
3.6 Research ethics: A voyage of discovery	17
3.7 So what's in it for me?.....	20
3.8 Mahi te mahi	21
3.9 The direction of this thesis	23
4. The 'State of Nature'; Kaitiakitanga and colonial science in Aotearoa/New Zealand	25
4.1 The state of nature and the scientific enlightenment.....	25
4.2 Natural lore or scientific law?	28
4.2.1 The 'Romantic Savage'	31
4.3 Colonial theory and the colonisation of Aotearoa/New Zealand	32
4.4 Postcolonialism to neocolonialism in Aotearoa/New Zealand	34
4.5 'If this is your land where are your stories?' Oral histories and self- determination	37
5. Papa-tū-ā-nuku, mātauranga Māori and kaitiakitanga	41
5.1 Kaitiakitanga and Māori worldviews	41
5.1.2 Tikanga	44

5.1.3 Turangawaewae	46
5.1.4 Whakapapa.....	48
5.1.5 Kaitiakitanga	48
5.2 Te Tiriti; The Treaty of Waitangi.....	50
5.3 Tuwharetoa	52
5.3.1 Ngāti Hikairo Ki Tongariro Trust	56
5.3.2 Ngāti Manunui.....	56
5.4 Ngāti Hikairo.....	57
5.5 Ngāti Rangi	60
5.6 The ‘Gifting’ of the Peaks	63
6. At the interface of the human and the ‘natural’: Hazard management and response theory.....	69
6.1 ‘Natural’ or ‘social’? Emerging theories in natural hazard management	70
6.2 ‘Natural’ resource management: Examples of co-operation between indigenous groups and Governments.....	73
6.3 Indigenous people’s involvement in hazard management: An international overview.	76
6.4 Resource management in Aotearoa/New Zealand 2009: The current state of co-management. ...	77
6.4.1 The role of the Waitangi Tribunal in fostering co-management.....	79
6.4.2 The status quo; Legislative mandate for the inclusion of Māori worldviews in resource management	80
6.4.3 The Department of Conservation; Building good partnerships?	81
6.4.4 Iwi perspective on Crown/Iwi partnerships: the Iwi of the Central Volcanic Plateau and Whanganui River respond.....	84
6.5 Whakapapa for geothermal resources in Aotearoa/New Zealand	87
6.6 Differing perceptions of ‘natural hazards’ in Aotearoa/New Zealand	90
7. Tangiwai and the Whangaehu lahars.....	93
7.1 The 1953 Tangiwai rail disaster.....	93
7.2 Tangiwai lahar, 18 March 2007	95

7.3 Iwi response to the lahar risk	99
7.4 The Whangaehu/Tongariro bund.....	101
7.5 Lahar! The 2007 event.....	101
7.6 Post Lahar	102
7.7 Lahar press: media and the Mountain	103
7.7.1 Mediating the Mountain	104
7.7.2 Indigenous Media and Resistance.....	107
8. Claiming a dual heritage: resource management from a position of Tangata Whenua	110
8.1 Learning from Matua Ruapehu: lessons from the Lahar	110
8.2 Empowering the Waitangi Tribunal	113
8.3 Resistance as identity: Edward Said and self-determination.....	116
8.4 Indigenous Pakeha and ‘Tribal Envy’	119
8.4.1 From Māori/Pakeha to Tangata Whenua.....	121
9. Conclusion: When men and mountains meet.....	124
10. References.....	128

Acknowledgements

Thank you to Julia Becker, Rawiri Faulkner and Diane Bradshaw of GNS for taking me under their wings, driving me around, and buying me coffee on a regular basis.

To Julie Cupples, thank you for your enthusiasm and good grammar.

Kia ora to Garth Cant, someone who I can never thank enough, for the autograph and dinner with my hero, for being able to pop in to your office and catch up, for your unstinting interest in whatever was on my mind at the time, and your belief in me going forward into the future. I don't know what I will do without you next year!

To the other Masters students, I am proud to have been one of you.

And most importantly to my family for being my sounding board and putting up with the ups and downs, thank you.

Arohanui,

Laura.

1. Abstract

On the 13th of March, 2007 a failure of the tephra dam at Te-wai-a-moe, the Crater Lake of Mt Ruapehu in the North Island of Aotearoa/New Zealand, caused a lahar to travel down the Whangaehu River channel. The lahar event had been predicted after an eruptive event at Mt Ruapehu eleven years before. As a result of the early prediction, the lahar event and potential risk was well studied, and twenty four management options were proposed to mitigate risk. After a period of consultation with stakeholders, including local iwi, the Minister for Conservation ratified a non-intervention option which emphasised monitoring and prohibited engineering intervention on the mountain.

The media event associated with 2007 lahar event drew considerable attention to the 1953 Tangiwai tragedy which occurred following a similar lahar event at Mt Ruapehu. The 2007 lahar media event constructed Tangiwai as a site of risk that belonged to science, technology and Pakeha tragedy, dominating understandings of Tangiwai as an important spiritual place for local iwi and their relationship with Mt Ruapehu.

The lahar event also highlighted the dominant western science based hazard management paradigm and its interactions with matauranga Maori. Inherent in the dominant western science paradigm is the natural/social split born of the scientific Enlightenment and the removal of non-humans as actors. Bruno Latour (2004) calls for a move beyond the natural/social dualism and recognition for the importance of non-humans in contesting and recreating worlds; this thesis considers Charles Royal's tangata whenua paradigm as an answer to Latour's call.

2. Glossary

I have used certain kupu (words) as some key Te Reo terms don't translate well into English.

Below I provide definitions for terms I use the most. These are commonly accepted definitions; however, it is important to note that exact meanings can differ between iwi. For a more comprehensive exploration of these terms I would recommend Hirini Moko Mead's 'Tikanga Māori: Living Māori Values' (2003).

Hapu- extended family group

Hui- Meeting

Iwi- tribal group consisting of a number of hapu

Kaitiakitanga- environmental guardianship

Kaumatua- respected elder

Kaupapa- agenda

Kōrero- conversation, speech

Kuia- elder woman/grandmother

Mana- wellbeing, integrity, etiquette, state of rank.

Mana whenua- status, authority in relation to a piece of land.

Marae- the open area in front of the whareniui, colloquially used to refer to the marae and the buildings around it.

Mātauranga Māori- Māori Knowledge

Mauri- life force

Mauriora- life principle essence of being alive

Pakeha- New Zealander of European descent.

Rangitiratanga- authority

Rohe- territory

Tangi- to cry/mourn, colloquially used to refer to a funeral

Taonga- treasures, tangible or intangible

Tino Rangātiratanga- full authority, some times defined as chieftainship

Tīpuna/Tupuna- ancestor/grandparent

Waiora- life, existence and total wellbeing, also the purest form of water

Whakapapa- genealogy

Also I frequently mention the ‘principles’ of the Treaty of Waitangi. While the ‘principles’ of the Treaty are often referred to in formal writing in Aotearoa/New Zealand, rarely does any author try to define the principles. The most useful definition I have found is given below.

Bennion in closings for the Waimarino Block (2007) presents the principles of the Treaty of Waitangi as being:

- a) Partnership- Including a duty to consult Māori and to obtain full, free, and informed consent of the correct right-holders in any transaction for their land.
- b) Reciprocity-Māori...ceded the right of re-emption over their lands, on the basis that it would be exercised in a protective manner and in their own interests, so that the settlement of the country would then proceed in a fair and mutually advantageous manner.
- c) Autonomy-Inherent in Māori autonomy and Tino Rangātiratanga is their own customary law and institutions, and the right to determine their own decision-makers and land entitlements.
- d) Active Protection-Which includes as the Court of Appeal has stated the Crown responsibilities to ‘analogous to fiduciary duties’. Active protection requires honourable conduct and fair processes from the Crown, and full consultation with- and where appropriate, decision making by- those whose interests are to be protected.

e) Options-Māori choices, including the choice to determine when to engage with the new economy and its customs, were to be 'free and unconstrained.

f) Equity-The interests of settlers could not be prioritised to the disadvantage of Māori.

g) Equal Treatment- No one group of Māori were to be advantaged over another were circumstances are broadly the same (pg 30).

3. He kupu whakataki-Introduction

3.1 Mihi

Me mihi tonu tāua ki te hunga kua whetūrangitia.

Ka nui ngā taonga nā rātou i tuku iho ki a tāua, o te hinengaro o te ngākau.

Nō reira e ngā hoa, e ngā whanaunga, e te iwi nui kua mene atu rā ki tua o te āria

Haere atu rā. Whakawhiti atu i tēnei ao pāhekeheke ki t e ao pūmau.

Haere ki te kāinga tūturu, ki te okiokinga mō te ngākau.

Anei ōu tamariki, mokopuna, e rau atu ana i ōu tapuwae

Nō reira, haere, haere, haere.

3.2 Mihi tuarua

Tēnā koutou katoa

Ko Tauwi ngā iwi

Ko David Coom tōku pāpā

Ko Felicite Jardine tōku māmā

Kei Whakaraupo ahau e noho ana

Ko Laura Jardine-Coom tōku ingoa

Nō te whare wānanga o waitaha me GNS ahau

Nā reira, tēnā koutou katoa.

In the beginning there was Io, the great void, the nothingness, the endless night. From Io came Ranginui the Sky Father and Papa-tū-ā-nuku the Earth Mother. Rangi-nui and Papa-tū-ā-nuku loved each other and locked together in a tight embrace. As a result of this union, Papa-tū-ā-nuku gave birth to several sons, including Tāne-mahuta, Tangaroa, Tāwhiri-mātea, Tūmatauenga and Rūiamoko. The embrace of Ranginui and Papa-tū-ā-nuku was so tight that there was no room for their sons to stand tall in the light, the children grew to men crouched in the dark, crawling over their mother's body. When Rūiamoko, the youngest, was conceived the older brothers decided they had had enough of crawling in the dark, and that they would separate their parents. This caused disagreement between the brothers. Tāwhiri-mātea would not agree to his parent's separation. Tūmatauenga and Tangaroa tried in turn to push their parents apart, but with no success. Eventually Tāne-mahuta set his shoulders against his mother and his feet against his father and pushed with all his might, causing Ranginui and Papa-tū-ā-nuku to break apart. Tāne -mahuta is the god of the forest, of the tall trees that stand straight against the sky. Tāwhiri-mātea is the wind in the sky with his father, coming to earth to batter at the trees in revenge for his parent's separation. Tangaroa claimed the domain of the sea, while Tūmatauenga is the god of war and of mankind. Rūiamoko, the unborn child, forever trapped inside his mother by the forceful separation of his parents, makes his rage felt through volcanic and geothermal activity.

3.3 How to read this thesis

A Kaumatua once told me that an introduction should capture the imagination and indicate the level of thinking needed to engage with the writings. I hope the mihi tuarua I use here will indicate to Pakeha and Māori alike, regardless of whether they speak Te Reo, that the best reading of this thesis will be attained with a level of thinking that is prepared to respect and engage with Te Ao Mārama (the world of light, the physical world) as well as the spiritual world. It is important to the reading of this thesis that both the physical and spiritual world are present.

I have always felt a spiritual connection with the environment of Aotearoa/New Zealand. I was born here and have spent most of my life immersed in this landscape. I have always had a sense of the land as a living organism, Papa-tū-ā-nuku; with Ranginui above and Tāne-mahuta, Tangaroa, Tāwhiri-mātea, Tūmataunega and all the Pantheon of Māori Gods. As a keen environmentalist and with an undergraduate degree in Biology and Geography, it makes sense to me that all living things are kin, after all evolutionary science teaches us we are not so far removed from the non-human as we might think. I had never considered that others might struggle to reconcile a kinship or indigenous based approach to the environment with a western scientific approach, as taught in schools and at University. It was only in my first year at University that I became consciously aware of conflicting environmental views through opting to take a new course entitled 'Science, Māori, and Indigenous Knowledge'. This was in 2005. About the same time I became aware of the threat of a lahar at Mt Ruapehu, and some of the controversy in the media about the place of Māori spirituality in the management of the lahar. This really interested me as I saw no reason why Māori concerns should not be included in the lahar management. Surely, under the Treaty of Waitangi Māori environmentalisms were just as important, if not more important, in resource management as western science. Likewise I didn't understand why Māori environmental knowledge could not be science. If western science is just one culture's way of categorising and making sense of the world around us, why is the western way regarded as 'scientific' and other ways are not? These were all questions I wanted to answer in postgraduate research. The lahar event gave me a focus through which to examine the interaction of the two knowledges.

By maintaining that Māori environmental knowledge is one of many sciences, and that the spiritual has a place in resource management, I seek to challenge the status quo of the western scientific establishment. I do not see this challenge as undermining the scientific establishment, rather encouraging science to engage constructively with non-traditional forms of western science.

3.4 The geography of Rūiamoko; Ruapehu and the Taupo Volcanic Zone

The Taupo Volcanic Zone (TVZ) consists of a number of active volcanoes stretching from Ruapehu in the south to White Island in the north (Fig 1.). Geothermal power stations have been developed at Wairakei, Ohaaki, Rotokawa and Mokai within the TVZ (Fig 1.). The TVZ has a long pre-colonisation history of geothermal activity, and was a very important resource for local iwi, with several different iwi living in and around the zone. Geothermal activity was often attributed to Rūiamoko, deity

of earthquakes and volcanoes, as well as various Taniwha (Stokes 2000). The extraction of geothermal resources since colonisation has led to changes above and below ground including land clearance, subsidence, and loss of existing geothermal resources.

Mt Ruapehu is Aotearoa/New Zealand's most active volcano and has been active for over 250000 years, with the last eruption occurring on the 25th September 2007 (NIWA and GNS 2007). Since 1945 there have been 13 lahar episodes on Ruapehu, of which two were dam break events (Keys 2009). Recreationally, Ruapehu is a popular skiing destination, and both Whakapapa ski field (Fig 2.) and Turoa ski field are threatened by lahar events. As the consequence of the threat of lahars resulting from eruptive and dam break events DOC and GNS produced 'safe ski' posters in an attempt to educate the skiing community about the risk (fig 2).

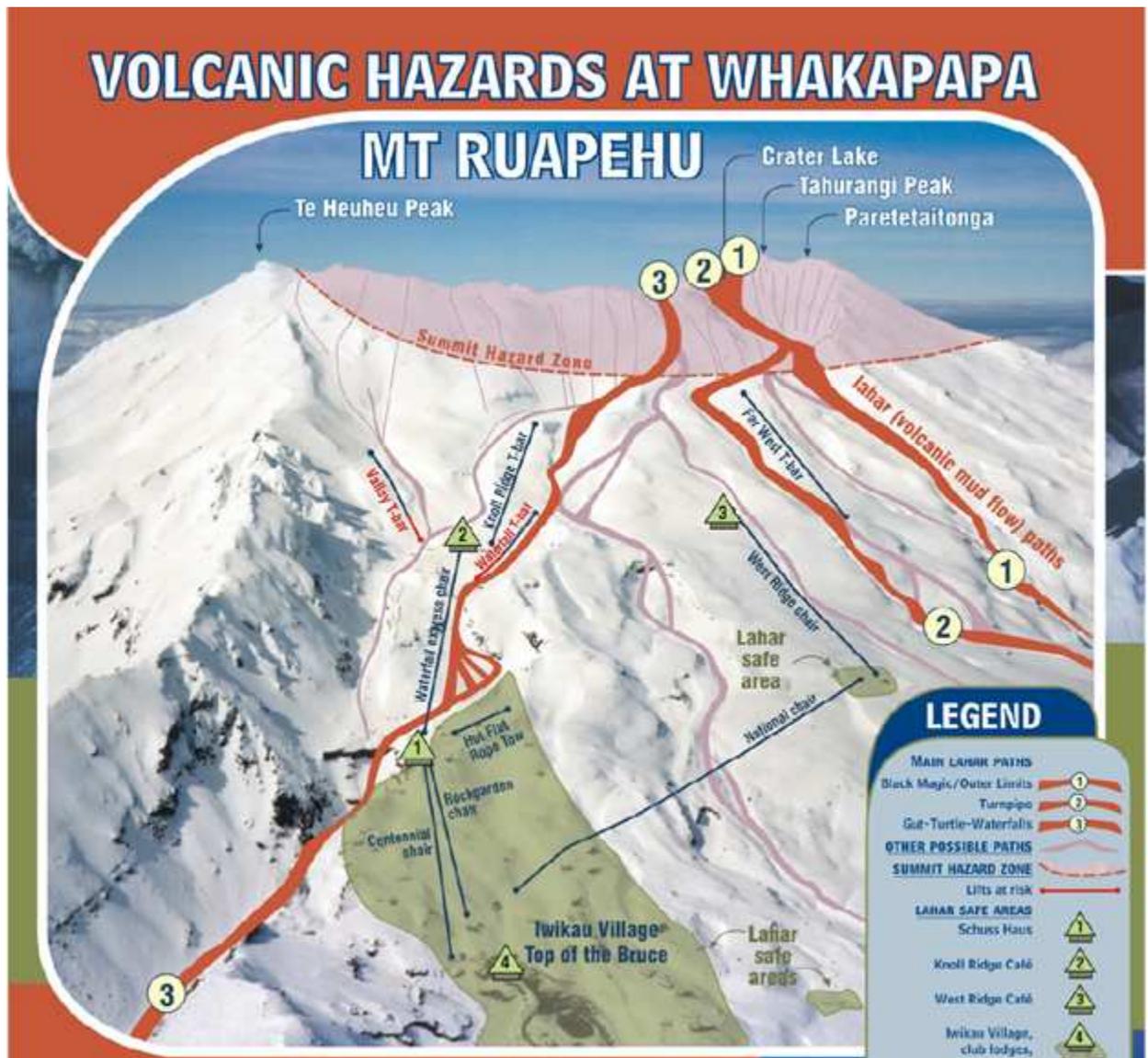


Figure 2. Predicted lahar path and safe ski area for Whakapapa ski field (Modified from DOC and GNS no date).

Mt Ruapehu is part of the Tongariro National Park which was awarded World Heritage status in 1990 and Cultural Landscape Status in 1993, and is currently managed by the Department of Conservation (DOC). The Tongariro National Park is one of the most visited national parks in the country, particularly popular for walking, skiing, and observing native flora and fauna (Keys and Green 2004). On Mt Ruapehu the area above 2250m (except within the ski area boundaries up to 2320m) is designated a 'Pristine Area' by DOC, in an attempt to avoid human intervention at the Crater and to offset more intensive development in the amenity areas in the Whakapapa and Turoa ski fields (Keys and Green 2004).

3.5 Why study the Mt Ruapehu lahars?

Environmental theory and research are important sites of struggle for indigenous people. Internationally there is a need for scholars with indigenous knowledge and understanding to critique western theory in a way which makes room for indigenous theoretical frameworks (Smith 2000). Indigenous environmental knowledge is currently significantly under-represented in governmental environmental policy and sustainable development worldwide (Jollands and Harmsworth 2007). Respect for the long term relationships and understandings indigenous groups have with the land is fundamental to a well balanced environmental policy; Western science alone cannot provide for the health of the ecosystem as in many cases the arrival of western science is a recent arrival to the land, being an import of colonisation (Jollands and Harmsworth 2007).

Traditional adaptations to environments and indigenous knowledge have been suggested as approaches to reducing disaster risk to lives and infrastructure (Hoffman and Oliver-Smith 1999). In the last twenty years criticism of the 'dominant' technocratic approach to hazard management has led to an increase interest in indigenous approaches (Haque 2007). While from a theoretical perspective there is interest in engaging with different knowledges, this interest has been slower to develop among the physical science community and policy makers. Certainly in the case of physical scientists, events are still seen as something to control, with nature bringing disorder to ordered society (Oliver-Smith 1996). This dominant paradigm of 'risk reduction' by control of natural events undermines indigenous relationships with their environment.

The 2007 Ruapehu lahar event made it clear that the majority of policy makers and physical scientists in Aotearoa/New Zealand are still operating in line with the dominant western science

technocratic paradigm. One of the reasons the lahar was such an important event for resource management in Aotearoa/New Zealand was that it was predicted over ten years in advance and a previous lahar in 1953 led to a large loss of life resulting in sad memories and strong feelings, some of which conflict with strongly held iwi environmental and cultural values (Keys and Green 2004). It was statements in the local papers (such as the ones below) that first drew my attention to the lahar event as a focus for the negotiation of indigenous knowledge in resource management:

National Party conservation spokesman Nick Smith said the Government had "sold out" to Māori spiritual concerns and political correctness by refusing to excavate the Crater Lake. "While environmental and cultural issues are important there is nothing as important as public safety." Removing the risk required only simple earthworks, he said. "It is a cop-out and they will have to bear the responsibility if there is any loss of life or if there is any damage to property as a consequence of what is a very predictable large lahar." Consultants hired by the Conservation Department suggested a trench could be excavated through the ash dam to drain the lahar (Watkins 2004 pg 2).

While there is reluctance among environmental scientists and policy makers to engage with indigenous cosmologies, Māori values and practices have the ability to create a unique understanding and perspective within resource management practises (Ginn 2008). With current suggested changes to the Resource Management Act (1991) it is more important than ever that these problems are recognized before we make a decision that moves further away from honouring Māori relationships with the land and the Treaty of Waitangi.

3.6 Research ethics: A voyage of discovery

When I set out to explore indigenous knowledge, western science and the lahar, one of the first challenges for me was to come to terms with a research ethic which I could work to and believe in. As a student trained in a western science institution, I quickly found the notion of objective, rational 'western science' being challenged. As it is widely acknowledged in the social sciences, the term 'western science' reflects the cultural and historical roots of modern mainstream science. Western science has been described by some amongst the social science community as a knowledge system composed of conceptual and methodological presuppositions embodied in broad paradigms (Roberts 1998). To me, this definition of western science is a useful one, as by defining western science in terms of a

'knowledge system' it becomes easier to understand indigenous knowledge systems as a type of science, of which western science is simply an alternative, no better or worse.

While 'science' has a debatable definition, the term 'research' is for many indigenous groups inextricably linked to European imperialism and colonisation. Many indigenous communities have come to feel that research is worthless to them as it only creates power and prestige for those who conduct it (Smith 1999). Dominant research practices have also alienated indigenous participants by perpetuating an ideology of the cultural superiority of the researcher that excludes power sharing and diverse cultural epistemologies and cosmologies (Bishop 1996). In response to this exclusion there is a movement within the social sciences in Aotearoa/New Zealand that seeks to assert the central importance of ethics in research practices. Critiques of research have argued that all social research is bound up within complex networks of power/knowledge and researchers must be aware throughout the research process of the ways in which their research has the potential to reinforce colonial power relationships (Duran and Duran 2000). Undertaking ethical research requires an on-going appreciation of how ethical problems infuse every stage of the research (Kindon and Latham 2002). Certainly for me ethics and the ethical implications of my choices have been important to me and my relationship with the communities in which I have worked.

By being conscious of power relations in research and through devolving power and control over the research, we as academics can help to promote the self-determination of the research participants (Bishop 1996). Historically, research into Māori lives has misrepresented and simplified Māori knowledge. The work of the European anthropologist Elsdon Best is a classic example of misrepresentation. Best's research into Tūhoe has long been taken as a definitive work on all Māori, without acknowledging significant differences between iwi, hapu, and whanau. By operating in a culturally appropriate fashion researchers are challenged to develop cultural competencies in order to position them in a kaupapa Māori practice (Bishop 1996). Self-determination calls for Māori and non-Māori to reposition themselves in relation to the aspirations of Māori people for an autonomous voice (Bishop 1996).

A growing number of Māori say kaupapa Māori should be led and undertaken by Māori people only; power and control must rest within Māori cultural understandings and practises and non-Māori must position themselves accordingly (Bishop 1996). During the course of my research I was told that if individuals are not taught by Kaumatua and Kuia then they cannot truly understand Māori knowledge and that kaupapa Māori should in the first case only be undertaken by Māori. One individual I spoke to

about ownership of mātauranga said that Māori do not want scientists to be able understand mātauranga, and that they see this as a desirable end goal of research is the enabling of Māori to work with scientists. However, there is an awareness that many Māori communities do not have the capacity to meet their own research needs, and in this case if the kaupapa is set by the community, with the community retaining power, control and most importantly ownership of the research while they build their own capacity, it is accepted by most communities that outsiders may carry out research. In my case I set the initial kaupapa, however by asking for permission and support for the kaupapa, my research has become a kaupapa Māori as it has been ratified and fits into existing needs identified by appropriate Māori communities.

While research capacity may be an issue for some communities, Russell Bishop (1996) presents two further reasons why non-Māori should be involved in Kaupapa Māori research. Bishop reasons firstly that there is a highly skilled body of bi-cultural researchers who are willing to work within a Māori context; secondly that if non-Māori do not participate in Kaupapa Māori research they risk failing their responsibility as Treaty partners (Bishop 1996). Traditional knowledge was regarded as tapu; students had to belong to the iwi or the hapu before being admitted. There remains a reluctance to share the heritage of the iwi with outsiders (Mead 2003).

To some extent ethnic minority voices are also more likely to be heard if channelled through outsiders. To an outsider audience, insiders may be too subjective, too biased, to tell their story. The same account told by an outsider has the appearance of objectivity and is therefore more credible. While we must guard against careerist, profit-motivated and neo-colonial appropriation of culture, life and voice, we must be open to acknowledging the different authenticity of respectful outsider observations. Insider audiences are also susceptible to seeing the accounts of fellow insiders as inauthentic or exaggerated, and themselves may prefer outsider accounts (Alia and Bull 2005). Rosemary Mckechnie's (1996) work on the Isle of Man on insider/outsider conflict in research points to expertise as being a fluid state of identification and negotiation based on the 'ground rules' of a local cultural geography. Mckechnie (1996) found the boundaries which define 'science' and 'public' are constantly shifting, dissolving and being recreated. Processes of identification maintaining internal and external cultural boundaries in the face of social and political changes have important consequences for local interpretations of expertise and authority. My own experiences of working with a variety of different organisations, both iwi and western scientific has been in line with Mckechnie's work. My identity as a researcher constantly moved between insider and outsider, scientist and member of the

public. On one particular occasion I attended a kaupapa Maori research hui, and the only non-fluent Te Reo speaker present, this inability to speak Te Reo and my association with a University defined me as an outsider and a researcher. Later in the day the hui was interrupted to attend a tangi (funeral) at a neighbouring Marae. The attendees of the hui all went onto the marae where the tangi was held together, and as I was with them I became an insider as the group moved into a new geographic location.

At the same hui, the importance of iwi maintaining intellectual property rights over their matauranga was raised. Certainly this is an issue that has come up regularly over the period of my research as one of the most important ethical issues for the people I worked with. This is a concern shared by indigenous groups world wide (Mercer et al. 2007; Alia and Bull 2005). I encountered a lot of bitterness towards researchers stemming from previous experiences of 'knowledge stealing' in the communities I visited. The academic practice of acknowledging knowledge sources in a bibliography or reference list is seen as meaningless by many people. It is only in the academic community that referencing has any importance attached to it. Occasionally the academic's ability to acknowledge the owner of the information in text is restricted by the ethics committee at the academic's institution. Ethics committees can set strict regulations on how the research participants are acknowledged and represented in the work; while restrictions are set for the protection of the participant, they can, if too restrictive, prevent the research community from determining their own level of representation.

3.7 So what's in it for me?

The distrust of academics, research and institutions by indigenous peoples is well founded and relates to a history of hurt, humiliation and exploitation that has been perpetrated by some institutions and academics, with disastrous outcomes for some people. The problem is that this distrust is also directed at indigenous academics. Rather than dismissing all intellectual contributions as being unworthy and problematic, we should be seeking out those whose work is supportive and useful and ensuring they are able to contribute to the struggle with appropriate support and guidance from the community (Smith 2000). The ethical issue that came up during the course of my research for which I was least prepared occurred when I was asked by participants 'So what's in it for me/us?' Until that moment I had failed to think about my research in terms of immediate, individual benefits for members of my research community, and had fallen into the trap common to scientists, where I assumed people would be willing to participate for 'knowledge's sake'. As a researcher it is easy to become so involved in

potential benefits to society at large from your research that you fail to consider direct implications for individual participants. As a result many researchers are often faced with a series of questions, to determine intent and value to participants of the proposed research. Questions such as: Whose interests does it serve? Who will benefit from it? How will it be disseminated? These questions are a challenge to the researcher to think outside the dominant research paradigm, and beyond the dominant attitude that all research is inherently beneficial to everyone by adding to a sum total pool of knowledge (Irwin and Wynne 1996).

3.8 Mahi te mahi

Mahi te mahi- doing the work, refers to the question of methodology. Questions of methodology and of ethics are often intertwined in research. David Morley (2007) suggests 'behaviour' is a better word for the process than 'methodology', as so much depends on how the researcher acts as an individual, how they interact with other people, rather than what methodological process they are following. As Morley puts it:

You could have the best theoretical methodology in the world, but if you walk into someone's house and behave like a prat, you're going to get nowhere (Morley 2007, pg 72).

The actual process of research is very uncertain; however, there is pressure on researchers through ethics committees and institutions to present methodology as fixed and certain. There is pressure on researchers to present methodology in a clinical way and that research should be a rational scientific process (Morley 2007).

Certainly my experience was one of changing plans, unexpected hitches, and sudden turns. While I originally planned to conduct focus groups and one on one interviews with key individuals, I had not anticipated that the communities I wanted to work with were in the process of hearings for the Waitangi Tribunal Inquiry into the Whanganui River. This completely changed my methodology. While I was not able to conduct the interviews I planned, I was able to follow the Tribunal hearings for the Whanganui River Inquiry and to some extent the National Park Inquiry, which gave me a wealth of information I would never have thought to look for by myself.

By attending hearings, tangi, and various hui, I became familiar with Marae protocol and aspects of tikanga. An important part of practicing a kaupapa Māori is having some understanding of tikanga.

Tikanga Māori is informed and mediated through Te Reo and having an understanding of Te Reo gives a different meaning of tikanga than English (Mead 2003). Without a knowledge of tikanga an individual moves uncertainly through Māori culture. Part of my research method therefore was to expand my knowledge of Te Reo to help me work to a kaupapa Māori.

Russell Bishop's work 'Collaborative Research Stories: Whakawhanaungatanga' (1996) is one of the definitive works on kaupapa (agenda) Māori research. Bishop defines kaupapa Māori as being grounded in a philosophy of Māori resistance to hegemonic Pakeha discourse, seeking to challenge the prevailing ideologies of western cultural superiority that pervade educational and research institutions in Aotearoa/New Zealand.

Dr Henrick Moller and Te Tiaki Mahinga Kai is a research group based at Otago University in Aotearoa/New Zealand that works to a kaupapa Māori research protocol. Moller (2008) defines seven kaupapa principles for research:

1. Mannaki I te tangata: host responsibility, generosity and sharing with others.
2. Kaua e māhaki: don't show off.
3. Titiro, whakarongo, kōrero: look, listen, (then) speak.
4. Aroha ki te tangata: love and respect for all people.
5. Kanohi kitea: the importance of face to face interactions, the 'face seen'.
6. Kia tūpato: act with caution.
7. Kaua e takahi I te mana o te tangata: do not trample over the mana (the humanity, the personhood) of the people (don't belittle people) (Moller 2008, pg 28).

For me Kanohi kitea 'the seen face' or kanohi I te kanohi 'face to face' – the importance of being seen, of showing your face, has been a very important part of my process. Meeting face to face has a very different dynamic to email. Face to face cements your membership with the community in an ongoing way and is part of how one's credibility as a researcher is continually developed and maintained (Smith 1999).

Sharing knowledge is a long term commitment. It is much easier for researchers to hand out a report and for organizations to distribute it than to engage in continuing knowledge-sharing processes

(Smith 1999). From the start academics who work with indigenous research groups have told me that I have a long term commitment to the people I research. They have helped me and now I owe them a debt, which does not go away. Through sharing sensitive knowledge we have a bond, and by getting to know these people and their stories I cannot discard them once my use for them is through. This has been reinforced by community's representatives imparting their frustration to me in building up trusting relationships with outsiders, in fact training outsiders to work with them, simply to have these individuals move away from the community or the role. As one person told me, 'they can leave us, we cannot leave them, we will always be here'.

3.9 The direction of this thesis

To understand the 2007 lahar event and its interactions with, and implications for matauranga Maori and western science in Aotearoa/New Zealand, I have divided this thesis up into chapters concerning: the state of nature and the origin of western science, Maori worldviews and kaitiakitanga, hazard management theory, an overview of the 2007 lahar event, and resource management from a position of tangata whenua. This thesis has a large theoretical component, which I believe is essential to a comprehensive analysis of the lahar and associated media event. The first chapter 'The 'State of Nature'; Kaitiakitanga and colonial science in Aotearoa/New Zealand' introduces post enlightenment western science, the arrival of western science with British colonisers in Aotearoa/New Zealand and the subsequent subjugation of Maori environmental knowledge. In the next chapter 'Papa-tū-ā-nuku, matauranga Maori and Kaitiakitanga' I further explore Maori environmental knowledge and worldviews and briefly introduce the Treaty of Waitangi and the iwi I work with during my research. In 'At the interface of the human and the 'natural': Hazard management' I explore current hazard management theory on an international stage, and then look at hazard management in Aotearoa/New Zealand and the contribution of the Waitangi Tribunal Inquiries to environmental hazard co-management. Following the exploration of hazard management theory, I introduce my case study, the 2007 Mt Ruapehu lahar event. I explain the nature of this event in detail, and also explore the media event that occurred in conjunction with the lahar event. The final chapter in the body of my thesis draws on the work of Edward Said and Te Ahukaramu Charles Royal to look at a new biopolitical identity for Maori and Pakeha in Aotearoa/New Zealand in response to Latour's (2004) call for an identity that includes the socialisation of non-humans. In conclusion I draw together Royal's tangata whenua identity paradigm with Latour's (2004) biopolitics and the lessons drawn from the 2007 and lahar event to offer a solution

to nature/social split and the separation of non-human from the recreation of worlds. Drawing on a body of theory, from western and indigenous authors both locally and globally, enables me to make conclusions about the lahar event from both a theoretical and practical perspective. This thesis is a personal journey, part of my ongoing experience as a researcher and as someone who calls Aotearoa/New Zealand home, and I have written myself into my thesis as I believe by sharing my experiences I make more ethical and accurate research.

4. The 'State of Nature'; Kaitiakitanga and colonial science in Aotearoa/New Zealand

This chapter introduces some of the dominant theory and history underlying natural resource management practices in New Zealand. By exploring the beginnings of western science and its arrival in Aotearoa/New Zealand through colonisation I seek to set the scene for a discussion of current resource management.

Modern thinking about the natural environment is characterised by the belief that nature can be managed or governed through the application of the scientific principles of ecology. Rutherford's (1999) article on 'The entry of life into history' in Darier's *Discourses of the Environment* presents environmental governance in advanced liberal societies as being far more dependent on the role played by scientific expertise in defining and managing environmental problems than the more traditional state-centric notions of politics and power would suggest. Scientific ecology has become a political resource that in important respects constitutes the objects of government and, at the same time, provides the intellectual machinery essential for the practice of such government. Rutherford postulates modern ideas of ecology and environmental management can be regarded as expressions of Foucault's 'biopolitics', as environmental management operates on the basic concerns for managing the continuous and multiple relations between the population, its resources and the environment. Under this suggestion the environment becomes a dimension in biopolitics, equal with social body and the biological body (Rutherford 1999).

4.1 The state of nature and the scientific enlightenment

The end of the Seventeenth Century saw a rise in the belief that the natural world was separate from the social world; this was marked by the publication of the work *Leviathan* by Thomas Hobbes. Hobbes postulated that only the artificial man-state (represented by the commonwealth and sovereignty) could end the savage state of nature and create civil society. The artificial man-state was total and eternal. Rebellion against the man-state broke society's basic covenant and it was the duty of the sovereign to protect their subjects from a return to this original state of nature (Youngblood Henderson 2000). Hobbes's views on the separation of the natural world and the social world became the foundation of modernism, under which representation of non-humans (nature) belongs to science, while representation of humans (man-state) belongs to politics (Latour 1993). After Hobbes made this

distinction between the state of nature and civil society, the state of nature became the starting point in Eurocentric discussions about government and politics. The state of nature was the assumption upon which the idea of the modern state of civil society was constructed (Youngblood Henderson 2000). In 1690 John Locke published *two treatises of Government*; in it Locke opposed the Hobbesian view that the state of nature was 'solitary, poore, nasty, brutish, and short' by presenting the state of nature as a happy and tolerant one (Youngblood Henderson 2000). This perception of nature as 'happy and tolerant' was the beginnings of the 'romantic savage' postulation. Locke argued that the 'savage' indigenous nations were closer to nature, and lacked European institutions and desires, which he took as universal indicators of a civilised, political society (Youngblood Henderson 2000). By the early Eighteenth Century, the origin of the state, or 'civil society', had constructed an original state of nature in which primitive humans lived on their own and were subject to neither government nor law (Youngblood Henderson 2000). The principal legitimation in a natural society was of families or households, whereas in the civil society it was consent; indigenous peoples who legitimated leaders through genealogy were closer to the natural state and Europeans, who elected leaders, technically from any background, were 'civil' (Youngblood Henderson 2000). The theory that indigenous people were primitive and lacked law had self-serving implications for European colonisation. If people had nothing resembling European law, then they had no government until they allied themselves with a European Crown (Youngblood Henderson 2000). Englishmen looked upon their own laws as the most rational, efficacious, and perfect in the whole world; they were initially uncritical of any proposals to impose English legal traditions on indigenous societies. This way the rise in the artificial state accompanied the rise and development of colonialism.

Ladyman (2002) in *Philosophy of science* introduces the separation between man and nature as heralding a move from nature as a state of God to nature as a state of science, giving rise to the Enlightenment of the late Sixteenth and Seventeenth Centuries. Ladyman suggests that this was the beginning of 'modern' western science and witnessed theoretical developments in fields such as astronomy, physics and medicine, with the work of scholars such as Galileo Galilei and Isaac Newton. As scientists began to search for new methods of producing and categorising knowledge, the debate about scientific methods became more important. Ladyman also presents the Enlightenment as seeing the rise of empiricism- empiricists believe that knowledge can only be obtained through the use of the senses to find out about the world, not by the use of pure thought or reason; the way to arrive at justified beliefs about the world was thought to be through making observations or gathering data. Empiricists believe science should be repeatable, recorded by instruments that measure according to a standard definition,

and that the perception of the individual performing the experiment would not affect the outcome. Empirical scientific observations should be made in a variety of circumstances, recorded impartially and then induction is used to arrive at a general law; as a result science was seen to be firmly rooted in experience (Ladyman 2002).

The age of 'Enlightenment' was characterized by a profound optimism about what could be achieved by humans if they could only learn to organize themselves as a society based on the scientific goals of rationality and logistics. For many European scientists the Enlightenment was an opportunity to move away from the control of the Church¹. The Enlightenment assumed that with the creation of rational and objective knowledge, the power of religion would automatically decline in favour of science (Morley 2007). However this was not necessarily the case, many 'half-secularised' forms of Christian tradition continue to appear in the public institutions and rituals of western societies (Ladyman 2002; Morley 2007). Religion is still present in scientific society, even though secular faiths of the pre-Enlightenment are in retreat (Morley 1996). Modernity is, from an Enlightenment perspective, the consequence of a process of rationalization, by which the social world comes under the domination of secularization and claims of instrumental rationality and scientific objectivity. Post Enlightenment, modernity spread with western colonial imperialism in the Sixteenth Century and the dominance of capitalism in northern Europe in the early seventeenth century, leading to widespread acceptance of Enlightenment scientific procedures (Morley 1996, pg 52).

While the scientific is influential in framing the social, it is important to recognise the influence of the social in creating a framework for science. In the public domain, scientific knowledge embodies assumptions about the social world. Scientific knowledge uses social processes of trust and credibility to create a discourse of superiority of scientific worldview, and subsequently reflects social interests and assumptions (Irwin and Wynne 1996). Bruno Latour and Steven Woolgar's *Laboratory Life* (1979) was one of a number of works to show how the construction of scientific knowledge is inherently social. Scientific knowledge is socially grounded, conditional and value laden, scientific credibility is influenced not so much by what is said directly as in the way it was institutionally and intellectually organised

¹ Bruno Latour in his book *We have never been modern* (1993) refers to the creation by Locke and Hobbes and their followers of the 'crossed-out God'. By distancing god from the dual scientific states of society and nature God could exist in human hearts with out having any influence over their external affairs. God remained outside these states as a higher force to appeal to in conflicts between nature and society (pg 32).

including lack of recognition of its cultural and institutional biases- its own social body language (Wynne 1996).

4.2 Natural lore or scientific law?

It is impossible to understand products of science, without placing them in the context in which they are produced. Under the Hobbesian state and modernity, representation of non-humans belongs to science while representation of humans belongs to politics, enforcing a complete contextual separation between the natural and social worlds (Latour 1993). As a result of this divide Bruno Latour in his work *We have never been modern* (1993) postulates modernism as based on two nature/society paradoxes. The first paradox: nature is not our construction, it is 'transcendent and surpasses us infinitely'; society is our free construction. Second paradox: nature is our artificial construction in the laboratory; society is not our construction, it is 'transcendent and surpasses us infinitely' (pg 32). Under Latour's modern framework science is an intermediary to understanding and controlling nature. Hybrids that exist at the intersection of nature and society, such as climate change and the hole in the ozone layer challenge the modernist separation of states (Latour 1993). Like Latour, Ginn (2008) sees western science belief about nature as based on a series of paradoxes:

Western science claims nature is complex but knowable, non-linear but manageable, outside culture but endangered by culture and that Western rationality can save it (pg 6).

Modernity's reinforcement of the perceived divide between society and nature, civilised and savage, creates an 'us and them' mentality (Latour 1993, pg 97). This divide between the West and the 'other' represents the divide between cultures that took nature into account and those that did not. The West differentiates absolutely between nature and culture, between science and society; where as indigenous people, the 'other', tend to have more fluid divisions (Said 1987; Latour 1993). Western science also perceives nature as docile; where nature is not docile, it must be disciplined and made to fit within neat spatial and temporal categories and linear history (Ginn 2008). This categorisation has consequences for societies that fail to map neatly on to the great divide between people and nature, especially indigenous peoples (Thomas 1984; Livingstone 2003). There is an unspoken assumption that western science and its practitioners are superior to indigenous knowledge and its practitioners, and that western science is the ideal against which all other forms of knowledge are measured and should strive to emulate (Ginn 2008).

One of the ideals held by western scientists that they believe set them apart from other knowledge systems is objectivity. Objectivity is a process that has its base in physical observation and measurement. If something is not measurable then it is not scientific; anything subjective is not measurable and therefore not scientific; this way of thinking leads to the conclusion that only physical objects and processes are measurable. Objectivity results in an emphasis on materialism; objectivity concerns itself with quantity not quality (Little Bear 2000). This inherent assumption of objectivity is inbuilt into western scientific practice. Implicit in this attitude is the belief that the merit of indigenous knowledge, especially traditional ecological knowledge, lies only in the extent to which it can be validated and utilized by mainstream science; this view is held by many scientists (Roberts 1998). Latour (1993, pg 9) said:

the West thinks they can save their people and their country by destroying the rest of the world and reducing its people to abject poverty ...the West thinks it has escaped third world problems and believes it has lessons for others as it leaves the earth and its people dying.

Every society has deep-rooted beliefs and implicit assumptions about life and reality. On this basis, assumptions about western science are inherently reflective of western society. These assumptions are the guidelines for interpreting laws, rules, customs and actions. It is these deep-rooted and implicit assumptions upon which attitudes and beliefs are based and that make a person say 'this is the way that it is'; it is these assumptions that make it hard for a person to appreciate alternative ways of thinking and behaving (Little Bear 2000). Practitioners of individual sciences are not necessarily equipped to deal with other forms of knowledge (Severne 2009). For indigenous groups struggling to make Western scientists understand their relationship with the land, misunderstandings can be an issue of semantics. For example a person might state that a mountain is sacred, which someone from a Western background might interpret as a religious belief; while religion is part of what is meant by sacred, it is not the entire or even dominant meaning. This lack of understanding results from using one culture's terms for another culture's concept, and from the reluctance to express sensitive knowledge in a public place (Toupal 2003). Although the world of tradition is usually counter posed to that of the Modern science and technology by reference to the supposed irrationality of traditional societies, many traditional forms of behaviour are deeply rational (Morley 2007).

Pre-modern cultures have a diffuse aspect of active or spiritual forces; pure matters, pure mechanical forces were not part of spirituality. Spirits and agents, Gods and ancestors, were blended in cultures at every point (Latour 1993). Indigenous knowledge systems are spiritually laden; in addition to

providing everyday knowledge about the environment necessary for survival, they also seek to provide moral rules and ethical guidelines which dictate proper conduct towards people and the environment (Roberts 1998). The moral function of spiritual knowledge in indigenous societies necessitates strict adherence to the law, ensuring individual safety as well as social harmony and stability (Roberts 1998). Indigenous knowledge and spirituality is specific or local, differentiating it from western science which is applied generically geographically (Roberts 1998). Indigenous knowledge and western science both seek to explain the place of humans in the world, they differ in the epistemological and ontological concepts upon which those understandings are based and the societies in which they operate. Each understanding is located within a different worldview and is validated within its own particular cultural context (Roberts 1998).

Knowledge derived from a non-western worldview is often referred to as 'lore'. In seeking to have their knowledge respected and validated by Western based systems, indigenous people often dispute the term 'lore' as it has mythic and folktale connotations. The question of whether Māori behavioural norms constituted 'law' or 'lore' is, for many people, an issue of definition (Mead 2003). When seeking to have their knowledge respected, indigenous people reject labels such as 'myth' 'legend' and 'folktale' often associated with their histories. As Little Bear (2000) puts it 'this is not a metaphor: it is real' (pg 78). This issue of definitions is the same in science. While European knowledge is given the term science, which inherently conveys respect; indigenous knowledges are often referred to as belief, myth, and Traditional Environmental Knowledge (TEK) all of which are terms that when applied to knowledge, place that knowledge below knowledge labelled as science. Traditional Environmental Knowledge is a term with which I particularly take issue. While I accept that often those who use the term do so in order to respect the history of observations upon from which this knowledge is drawn, by defining it as 'traditional' they inherently dismiss the importance of their knowledge, restricting its use to 'traditional' situations. By resigning knowledge to the past we resign its users to the past and deny groups the opportunity to determine the applicability of knowledge collected over multiple generations to modern situations. It is the holder of the knowledge who defines whether it is 'traditional'. New Zealanders calling Mātauranga Māori as 'traditional' inherently imply that it is pre-colonial, as European colonisers brought modernity born out of the Enlightenment to Aotearoa/New Zealand. The Māori way of relating with the natural world defies a western worldview and tests scientific rationality. Māori do not seek to reject European worldview; they ask their view not to be dismissed. Māori wish to have their worldview considered equally with western science in resource management processes and practise (Woods 2006). By acknowledging the relevance and continued

importance of Māori worldview in resource management we resist colonial attempts to define non-western sciences as less worthy than science born out of the European Enlightenment.

4.2.1 The 'Romantic Savage'

The Enlightenment posed Commonwealth and Sovereignty as important parts of civilised man-states. Locke describes the Commonwealth as based on general rules that are discovered by reason and preserve life by prohibiting activities that destroy life. Locke theorised that the 'treaty Commonwealth' is created by sovereign nations, on Eurocentric customs and values and became the product of diplomats and jurists looking for an alternative to war (Youngblood Henderson 2000). Treaties with indigenous nations were made to establish territorial claims and economic spheres of influence which would be respected by other European powers. By making treaties with indigenous groups the colonists sought to bring them into 'civil societies' (Youngblood Henderson 2000). The process of civilising Indigenous groups often involved the destruction of their identity, society and culture. Locke's assumption of the indigenous state as natural, happy and tolerant persisted in modern romanticism of indigeneity. Portrayals of indigenous people as 'romantic savages' stem not only from the Enlightenment, but from centuries of oppression, misrepresentation, misunderstanding and philosophical debate (Alia 2005). While many peoples regard the earth with respect, and limit the use of resources and their impact on the environment, combining local knowledge and adaptive land use, it is important not to over romanticise their connection to the land (Stevens 1997a). Indigenous people are often romantically portrayed as 'noble savages', admired for their costumes, appearances and skills, but dismissed as having lesser intellect and fewer accoutrements of 'civilisation'. This attitude is present in many parts of the world, especially where outsiders wish to appropriate resources for their own occupancy and profit (Alia and Bull 2005).

In Aotearoa/New Zealand, much has been written by the colonisers on Māori, creating a discourse of 'noble savage' through romanticism, mythmaking, fact, stereotyping, denigration and distortion of history (Walker 1987, pg 11). These works by Pakeha authors have included historical myths about Māori as bloodthirsty natives who needed the civilizing effect of the colonising Pakeha; as the savage race that exterminated the Mōriori; as the untutored people who had been 'washed up' on Aotearoa (Walker 2004, pg 25). In nineteenth-century Aotearoa/New Zealand romanticism of indigeneity was expressed through the representation of Māori as 'noble savages' and by the widespread belief that that they were a dying race (Alia and Bull 2005, pg 17). At the same time romantic colonial sentiment

towards vanishing indigenous culture prompted their symbolic appropriation by the Government as marks of distinction for the New Zealand colony (Ginn 2008). This romanticism comes into play in resource management, especially when considering historical grievances for Treaty of Waitangi settlements. Pakeha myths about Māori have in the past concealed events (Walker 1987 pg 29). Myths about land and land appropriation, such as the 'romantic tale of the noble gift (Te Heuheu's gift of the peak of Tongariro to the crown) has ingrained itself into the history of this country' and shape the way current land relationships are conducted (Te Heuheu 2007, pg 100).

4.3 Colonial theory and the colonisation of Aotearoa/New Zealand

Traditionally, colonisers believed that they were acting under a mandate from God; colonisers believed that their culture was superior and that they had a God given right to settle and develop a land they perceived to be unoccupied (Mulgan 1989). In European culture separation between spirituality and political state allowed the political state to exploit the natural world (Walker in Hill 2009). Destruction of native societies by Europeans was permissible in the name of political progress. Subjugation was also justified by the right of Christian rulers to dominate non-Christian people (Mulgan 1989). Christian missionaries believed that if the savages were taught to read and write, to dress like the colonisers and work at colonially approved occupations then they could be come tamed and civilised members of society, this was the civilising mission of Europe (Mulgan 1989).

Youngblood Henderson (2000) proposes 'treaty commonwealth' as an alternative to colonisation; by choosing colonisation incoming settlers created an artificial context for their own benefit using the negative aspects from Hobbes's theory of the state of nature. By taking the view that Indigenous people were 'savages' or 'barbarians' colonisers were able to justify refusing to acknowledge indigenous groups as sovereign nations. Relying on European fears of indigenous savages living in the state of nature, the colonial powers stressed the Hobbesian savagery of indigenous society in the state of nature. The colonisers construct alternative theories and artificial histories to justify colonisation and subjugation of peoples (Youngblood Henderson 2000). Colonisers deliberately circumvented and undermined the principle of 'treaty commonwealth' and imposed the state of nature on the indigenous nations. To maintain colonisation as the status quo, colonisation theories have been embedded in every conscious decision and work as routine or normal activities (Youngblood Henderson 2000).

Walker (2004) presents the coloniser, once embarked on a policy of exploitation, as being committed with no turning back by the coloniser, as the oppressors do not perceive their monopoly of having more as a privilege which dehumanises others and themselves:

They cannot see that, in the egoistic pursuit of having as a possessing class, they suffocate in their own possessions and no longer are; they merely have (Walker 2004, pg 151).

While experiences of colonisation are different everywhere, Walker (2004) suggests a universal explanation of indigenous subjugation by colonisation, in which the colonisers can feel justified in their actions if the natives die out, or survive and become assimilated. However, assimilation is not a real option, because the coloniser as the oppressor has created a dichotomy of white dominance and brown subjection; in creating that dichotomy the coloniser thinks he has created a unified society (Walker 2004). In an attempt to enforce unity of society colonisers create a land tenure system that promotes assimilation. Changes to the land tenure system, in colonial territories such as Aotearoa/New Zealand and Australia, were a central part of colonial subjugation. For indigenous people awareness of the progressive alienation of land by colonising forces was accompanied by awareness of cultural erosion and loss of indigenous identity (Walker 2004). Suppression of differing worldviews and loss of indigenous identity was an important for the maintenance of a singular unified society. Colonisation actively contested and created fragmented worldviews among Indigenous peoples in pursuit of unified society (Little Bear 2000).

The colonisation of Aotearoa/New Zealand by Britain was based on the belief in European racial, religious, cultural and technological superiority (Walker 2004). The assimilation of Māori land tenure into British Law in Aotearoa/New Zealand was part of the ideology of 'one people' a unified state. For Māori land is the very basis of identity as tangata whenua, this law was to have the most destructive effect on Māori identity and worldview (Walker 2004). The ideology of 'one people' is contradicted by the institutionalisation of racism in Aotearoa/New Zealand society. Part of resisting this racism is in the retention and promotion of Māori culture. The revival and vibrancy of Māori culture in the second half of the twentieth century contributed to the successful resistance of policies of integration and assimilation that dated back to colonisation. The 'cultural renaissance' heralded a new phase for Aotearoa/New Zealand where the general public perceived Māori and Pakeha could co-exist side by side in a symbiotic relationship. However many Māori see certain asymmetry in the relationship. To survive in the modern political economy, Māori feel they are impelled to learn and to function in two cultures.

Therefore, Māori are by definition bicultural. Pakeha, as the drivers of the political economy, are not subject to the same imperative and can function in a permanently monocultural state (Walker 2004).

Many forms of Māori knowledge are consistent with science and can be proven valid by science; many cultural practices and the knowledge developed through the interaction with natural ecosystems have been derived through observation, experimentation, trial and error, analysis, description and classification, objective thinking and logic, often followed by an organized and systematic process for creating, understanding, and applying knowledge. The examples highlighted show a systematic and organized means for collection, retaining and passing on knowledge (usually orally and manually) (Ulluwishewa et al. 2008).

4.4 Postcolonialism to neocolonialism in Aotearoa/New Zealand

The term 'postcolonial' arose from, and is positioned in neocolonial power. From the perspective of the colonised, colonialism is not so easily over. In modern society the economic and cultural forces of neo-colonialism can perhaps be more readily seen (Morley 1996). Colonial nation state ideas of 'national identity' and 'national greatness' are intimately bound up with imperial supremacy, tinged with racist connotations, and underpinned by a four century-long history of colonisation, world market supremacy, imperial expansion and domination of indigenous peoples (Morley 1996). Post colonialism is viewed by many indigenous people as an invention of the West, an invention which reinforces the West's power to define the world (Smith 1999). The term 'postcolonial' is claimed by some indigenous academics as a symbol of a desirable future that exists outside the current neo colonial reality (Battiste 2000). This 'postcolonial' indigenous thought has emerged in response to the inability of Western theory to deal with the complexities of colonisation and its assumptions; 'postcolonialism' as used by indigenous peoples rejects western colonial theory and its categories (Battiste 2000). Hawaiian academic Haunani Trask on hearing the term 'postcolonial' used for the first time said, 'Have they left?' (Walker 2004, pg 8). Many indigenous intellectuals actively resist participation in any discussion within debates about 'postcoloniality'. This is because 'postcolonialism' is viewed as the convenient invention of Western intellectuals which re-inscribes their power to define the world (Smith 1999, pg 14). It could be argued that modernisation theory presumes the viability of instituting cultural forms as hegemonic, worldwide and obliterating all vestiges of other cultures (Morley 2007). In Aotearoa/New Zealand after 1985, when the Waitangi Tribunal was given the power to consider historical grievances,

'postcolonialism' became a term increasingly used when discussing Māori-Pakeha relationships (Walker 2004). James Belich, Aotearoa/New Zealand historian, said in an interview with the Listener that:

while New Zealanders have a collective responsibility for the dispossession of Māori, we need to 'get over' the impact settlers had on Māori and on nature... Māori should pull themselves up by their own bootstraps, but they need to be given back their bootstraps first. There's a kind of pendulum where it's gone from this celebration of alleged Anglo-Saxon racial superiority to a denial of English precocity. This impression we get of our settler forebears is as being worthy but somewhat staid, hardworking farmers; of whalebone corsets and carefully walking down the streets so you don't get your skirts dirty. But in fact these settlers' cities are maelstroms... They're just growing so fast that the main economic game in town is growth itself/ it was like a great colonising crusade and the prime enemy is nature, and the incidental enemy is natives. But you cut through both like a knife through butter (Belich in Laugesen 2009, pg 19).

Belich also emphasised how long and how effectively Māori resisted settler rule, claiming that in some parts of the country Māori independence was not fully quenched until 1916. Belich proposes a change in thinking about indigenous people from victims to 'riders of the whirlwind' (Laugesen 2009, pg 22). Belich acknowledges that this thinking does not necessarily recognise the extent of Māori loss under colonisation:

It is kind of risky trope in that sense. But what's most worthy of remark- that indigenous peoples like the Māori were over-come by the biggest human tsunami in human history, backed by millions of pounds, thousands of troops and massive modern technology, or that they actually survived it? That is worthy of remark. Equally with the history of dispossession (Belich in Laugesen 2009, pg 22).

Belich is the latest in a series of Pakeha historians to comment on 'the Māori problem'. His easy dismissal of the legacies of colonisation for Māori- land alienation, poor health and education, point to the colonial mindset that is still present in some parts of society. This mindset is one of the consequences of the expropriation and transformation of Māori knowledge by Pakeha (Walker 2004). As Ranginui Walker recently said during a radio interview:

There are still parts of the colonial mind we have to expatriate. The present civilization is heading us into perdition (Walker in Hill 2009).

While Walker identifies 'neocolonialism' as still being very much part of society, he sees the potential for change. Walker thinks that Māori are defining a bicultural future for this country and some Pakeha accept the inevitability of this transformation:

now many Pakeha by descent, intermarriage and simply identification with the land of their birth can rightfully claim a dual heritage. With the passing of time it is inevitable that all New Zealanders will eventually make that claim (Walker 1987, pg 48).

It is difficult for Pakeha, as the dominant group in New Zealand, to see how poorly the status quo in society serves other groups. Institutional racism is a problem of the dominant culture's attitudes and behaviours towards its minorities (Walker 1987).

Institutional racism denies Māori self-determination, and restricts activity that promotes Māori identity. Separatism, segregation and apartheid are words commonly used by Pakeha New Zealanders to describe Māori self-determination activity (Walker 1987). Māori self-determination is threatening to the state as it rejects the 'one people' nation discourse. Those Pakehas who are fond of denying Māori identity also deny the existence of contemporary Māori culture; they dismiss Māori music and urban marae for not being authentic. This view traditionalises Māori culture, and denies Maori cultural dynamism and creativity. Māoritanga is expressed in modern and traditional ways; it is for Māori to define contemporary applications of their culture (Walker 1987). 'One nation' discourse denies the right of Māori to self-realisation, sense of identity and peoplehood within the existing institutions of the dominant society and assumes a common systems of values and cultural understandings (Walker 1987). Suppression of Māori identity and self-determination was thought by the state to be necessary in order to speed the process of Māori assimilation in to the nation of Aotearoa/New Zealand.

The principle of self determination is a very important part of resistance to colonial and neo-colonial domination. Self-determination arose out of the application of eighteenth century philosophical practices being applied to individuals rather than peoples (Mulgan 1989). Self determination is the capacity for rational thought and autonomous action, which were seen as central essential features of human beings, and places high value on individual freedom and consent ; When extended to whole peoples or nations, groups could be seen as living entities deserving their own autonomy and self-government (Mulgan 1989). Tino Rangātiratanga expresses the right of Māori to self determination and self-government. While suppression of self-determination has become institutionalised, many non-Māori are becoming more exposed to, and involved, in Māori tikanga and mātauranga; often drawn into

Māori customs by circumstances outside their control. There is debate among both the Māori and Pakeha community as to the value of disseminating Māori culture to non-Māori. Those who support non-Māori exposure see this as an inevitable result of partnership and as evidence of greater understanding among us and argue that the best way to nurture Māori custom is to have it widely supported and embraced. Those who feel that non-Māori should not be involved believe that only Māori can respect and maintain tikanga properly. Regardless of this debate there seems to be an increasing acceptability and popularity of tikanga Māori in the wider community, and evidence of this is the appearance of the term in more recent enactments of the Aotearoa/New Zealand Parliament (Mead 2003).

4.5 'If this is your land where are your stories?' Oral histories and self-determination

An important part of self-determination is the ability to retain and maintain respect for culturally specific knowledge. Knowledge is fundamentally social, meaningful and comprehensible only insofar as it is not taken as 'information'. Western knowledge production tends to be imperialistic and ethnocentric and deems certain types of knowledge to have high status; namely, rational, objective, scientific knowledge (Alia and Bull 2005). When scientists distil climate data or animal behaviour out of narratives they not only fail to understand the narratives, but they essentially displace the narrators (Morrow 2002). An important part of a community is the creation and recollection of shared experiences. As Indigenous people retell their narratives they recollect the experiences with those who originally shared them; they also include new people, at various levels and in different ways, in the telling. In the process of retelling, one person's discourse, experiences and recollections of experience intersect and shape another's (Royal 2005). Morrow (2002) recounts an occasion a non-native biologist prefaced an account of watching a lynx devour its prey by retelling a Native American story that he had heard or read about the lynx. The scientist introduced the Native American story as fictional, occurring in a mythical time when animals were able to talk. The scientist used the lynx narrative to demonstrate that First Nation peoples were keen observers of nature, just as biologists are. By constructing the lynx narrative as myth and the scientist has temporally and culturally displace the people to which that narrative belonged (Morrow 2002, pg 23).

Chamberlin (2000) recounts a tale First Nations people facing land confiscations: when told that their land belonged to the Government, the people replied 'If this is your land, where are your stories?' (pg 127). Similarly Aboriginal Australians talk of tulkur and tjukurrapa (song and dreaming) and Māori relate Whakapapa (genealogy) to illustrating their relationship with the land. As Chamberlin points out, the Indigenous groups are illustrating their ongoing relationship with the land, and that the land maintains their identity as a tribe through ancestry, stories, songs, and dreaming, it is not an ownership claim (2000). Subsequently oral history has an important role in indigenous land claims. Relationships with the land, pre-European arrival, were communicated orally and many still have not been written down, in an effort to protect sensitive knowledge and maintain ownership of stories. While oral history or information is valuable in its own right, it often helps highlight how records (be they written or oral) are not just people's memories of events but also memories of human experience (Baker 1999). Memory of human experience is some times excluded from written history, due to an emphasis on facts; the memories of an experience are just as worthy of study as the 'facts' of what happened (Baker 1999). Written history has often overly objectified the past in concentrating on the 'facts' and in the process has failed to recognise the interpretive, subjective nature of the past, which has potentially serious outcomes for those whose history is not represented in 'fact'.

Oral traditions also remain an important way in many indigenous communities of developing trust, sharing information, strategies, advice, contacts and ideas (Smith 1999). Information and a collective worldview is transmitted from the older to the younger generation through stories, consequently language is of paramount importance. Many indigenous languages allow for conversations with and between elements of the 'natural' world, an allowance not accorded in the European worldview (Little Bear 2000). Europeans have no tradition of kinship and conversation with the natural world; they cannot relate to these statements, and therefore place them in category of metaphor to avoid having to deal with the implications. 'Lore' 'legend' and 'story' are other terms Europeans use to categorise indigenous knowledge. Little Bear (2000) responds to categorisation of his knowledge that the 'Earth is our Mother' by following up his statement with 'this is not a metaphor: this is real' (pg 78). Little Bear is not alone in feeling the need to defend the validity of his knowledge, most indigenous peoples seeking recognition in colonial systems are still fighting to have their knowledge respected and accepted. The general western ignorance of other worldviews has shaped many contact processes. This

ignorance produces biased colonial histories, and any study of contact history that relies solely on written records and does not use oral sources is going to be misleading (Baker 1999).

Traditional knowledge in the form of oral histories, legends, myths and songs can be a cross-culturally appealing and effective way of delivering contemporary messages about warning systems and potential natural hazards (Becker et al. 2007). Becker et al. see one downfall of oral tradition as being that information about hazards may be held by only a few members of a community and not be shared widely. For example, for many Pacific Islands and in Aotearoa/New Zealand, particular information may be regarded as sacred or tapu/taboo and will not be widely dispersed amongst family or other community members. Only key people in the community such as elders or male members of families may hold this information within their own memories. In addition, oral stories about hazards are often not written down or recorded in any way, making them less accessible (Becker et al. 2007).

An example from Aotearoa/New Zealand of a contestation between 'lore' and 'law' comes from the story of Ngatoroirangi who claimed land for his descendents Ngāti Tuwharetoa. How this part of Tuwharetoa's history is understood was called into question in the Waitangi Tribunal setting, during the Central North Island Waitangi Tribunal hearings. Ngatoroirangi set off with his slave Ngāuruhoe to travel Aotearoa/New Zealand. They behold Tongariro (literally towards the south) and determined to ascend it to obtain a better view of the country. As they ascend Tongariro they suffered severely from the cold, and the chief shouted to his sisters to send him some fire. The sisters heard his call and sent him the sacred fire they had brought from Hawaiki. They sent it to him through two Taniwha Pupu and Te Haeata, by a subterranean passage to the top of Tongariro. The fire arrived just in time to save Ngatoroirangi, but Ngāuruhoe died of the cold and was given to the fire. The sacred fire still burns within the underground passage between Whakari and Tongariro (Waitangi Tribunal 2008, pg 1468). Ngatoroirangi is one of the key ancestors to most iwi for the central north island being the Tohunga of Te Arawa waka and an early explorer of the region.

The Ngatoroirangi evidence demonstrates Māori believe that there are fundamental linkages in the Ngatoroirangi story between the geothermal districts. The Ngatoroirangi story cements their relationships with the geothermal resources of the central North Island. In the Tribunal's view the customary evidence provides strong support for a finding that all the ingredients for the central North Island Māori claims to land with geothermal resources are present (Waitangi Tribunal 2008, pg 1493). The Tribunal recognises a consistency in western science and Māori approach to geothermal resources being connected, often through underground passages; Māori knew as much as any western scientist

about geothermal resources at the time of Pakeha arrival. Māori conceptualised geothermal systems the same way they conceptualised rivers; therefore, the same rights and responsibilities are associated with it (Waitangi Tribunal 2008, pg 1498). Geothermal taonga are conceptualised as Ngatoroirangi's legacy to some Māori. Geothermal taonga continues to be part of the cultural and spiritual identity of many North Island Māori.

The Crown contends that the story of Ngatoroirangi, reflecting the inter-linkage of the resource as a whole, is not sufficient ground for a treaty claim. The Crown also implied that any claim to customary ownership based on the story should be rejected as the Ngatoroirangi story is a blend of myth and legend. A claim to customary ownership requires proof (Waitangi Tribunal 2008). Mr Taylor, the lawyer for the claimants, argues that the story of Ngatoroirangi demonstrates that Māori knew the subterranean nature of the geothermal fields; Taylor submitted that it is a fundamental feature of the story that before Ngatoroirangi arrived the land was in place without the geothermal resources. Geothermal activity was therefore separate in creation of the land (Waitangi Tribunal 2008, pg 1479). At the time of the hearing the Crown was unwilling to engage with the Ngatoroirangi story as evidence, as it stated at the hearing it felt that it is too difficult to identify the nature and extent of customary rights to geothermal features such as those based on the many variations of the Ngatoroirangi story (Waitangi Tribunal 2008, pg 1481).

Historically whakapapa stories of the exploits of ancestors have been an important part of establishing customary rights to resources; the Native Land Court minutes deal extensively with people recounting their claims by reference to such stories of the ancestors, described by the Crown as legends. The notion that it is too difficult to separate customary law from the matrix of history, legend and memory as submitted by the Crown, is rejected by the Tribunal's judges, as they state in the Central North Island Hearings, it is not the historical certainty of the story that is important rather it is the use made of it over many generations (Waitangi Tribunal 2008). While the Tribunal judges agreed with the Crown that the Ngatoroirangi stories have changed over time and that oral traditions vary; the judges thought it remarkable is how widespread the knowledge of the Ngatoroirangi stories are in the central North Island. Variations in the stories by no means negate their significance as a way of claiming rights and interests to natural resources (Waitangi Tribunal 2008).

5. Papa-tū-ā-nuku, mātauranga Māori and kaitiakitanga

A culture's cosmology and worldview is the foundation upon which their relationship with the environment is constructed. This chapter gives an introduction to and overview of Māori worldviews with particular emphasis on relationships with the environment. It also briefly explains some of the implications of the Treaty of Waitangi for management of environmental Taonga. To illustrate change in Taonga management this chapter introduces some of the iwi with interests in the Tongariro national park and explores the 'gifting' of Tongariro which highlights some of the historically issues underlying current Māori and Pakeha relationships with the land.

5.1 Kaitiakitanga and Māori worldviews

A society's worldview is informed by the collective cultural codes that underlie the way the society functions and consists of a society's shared philosophy, values and customs. While each individual has their own personal interpretation of aspects of their culture, their worldview is rooted in the culture of the society in which they exist. Indigenous groups' traditions, laws and customs are part of the practical application of their collective philosophy and worldview (Little Bear 2000). The natural environment in which a society is situated is also a very important factor in constructing a culture's world view (Tuan 1974). Environmental knowledge specific to a particular indigenous group is generally a product of the groups' learning and adaptation to local environments, and has developed through centuries of relationships with place. As such it provides the basis for indigenous communities to meet their needs and wants from the natural environment from which they derive wellbeing and sustenance (Ulluwishewa et al. 2008).

Understanding what contributes to a culture's worldview and different worldviews gives a starting point for understanding the paradoxes that colonialism poses (Little Bear 2000). Colonisation, modern economics, and social change have contributed to the break down indigenous relationships with the environment, affecting the groups' collective knowledge (Ulluwishewa et al. 2008). Alienation from the environment has resulted in a declining use of custom and specific environmental knowledge by indigenous group's world wide. In the case of Māori in Aotearoa/New Zealand, the breakdown in iwi relationships with their environment, as a result of European colonization in the nineteenth century, and the introduction of capitalist economics and land use systems from Europe to Aotearoa/New Zealand New Zealand (Ulluwishewa et al. 2008).

One of the earliest attempts at a description of Māori worldview by a European, Elsdon Best's *Astronomical knowledge of Māori* (first published 1922) refers to Māori as a savage, barbaric people with a decadent, archaic belief system based on 'quaint concepts', many 'peculiar myths', 'superstitious' and with a 'certain amount of genuine knowledge' (Best 1986). While Best's description owes a lot to the time in which he was writing, his attitude to mātauranga (Māori knowledge) as 'quaint' and 'superstitious' has persisted in Aotearoa/New Zealand society long after Best himself is gone. Best's methods of collecting mātauranga were disrespectful and he would frequently collect data through bribery and coercion from Māori captured by British troops (Alia and Bull 2005, pg 121). His attitude and exploitative methods of knowledge appropriation are an example of one of the ways in which colonial subjugation and acquisition of knowledge can be closely intertwined.

The latter part of the twentieth century has seen an awakening of Māori consciousness in the Aotearoa/New Zealand population, followed by a revival of Māori culture and an ongoing struggle to overturn 'Bestian' attitudes and retain rights over mātauranga Māori. This awakening has encouraged a revitalization of Māori environmental knowledge (Ulluwishewa et al. 2008). Globally, there has been an awakening of indigenous consciousness in the twentieth century; Inuk leader Jose Kusugak said 'It's not revival; its respect-the traditions were never lost' (in Alia and Bull 2005, pg 152). However, in Aotearoa/New Zealand many iwi have had to come to terms with the loss of environment specific knowledge. Mātauranga Māori is largely passed down through generations in oral form, and it has been severely impacted by colonization and colonial laws. Modern records of traditional Māori mātauranga often rely on secondary sources, such as the work of authors like Best.

From the increasingly available information on mātauranga and Māori worldview it is possible to create a generic overview of the pre-European Māori worldview. Māori worldviews constructs all elements as being related and part of an integrated whole; the environment is an interacting network of related elements, each having a relationship to the others and to earlier common origins (Durie 1998). Māori are not above nature but part of it; humans were born out of the earth just as plants and animals were (Marsden 2003). Māori understand the physical realm as being immersed in and integrated with the spiritual realm (Henare 1988). All elements in the environment have a mauri (life force) and therefore a spiritual as well as physical presence; subsequently damage to an environmental resource has spiritual as well as physical consequences. Human and non-human all have a mauri of their own and in that sense have equal claims to a place in the order of things (Durie 1998). As a result, every act, natural phenomena and other influences have both physical and spiritual implications. All these

interactions are governed and influenced by supernatural forces (Henare 1988). As part of this belief in supernatural intervention, Māori do not accept the mechanistic western view of the universe as a closed system into which nothing can impinge from without. Western concepts which distinguish between the sacred and the world of the profane and create dichotomies between human and nature do not fit with the Māori worldview (Henare 1988). For Māori, the belief in the interconnectedness of the natural environment, the human and the spiritual world underlie all sustainable resource management, decision-making, and the development of monitoring tools.

Māori divided the phenomenological world into three states of existence: Te Kore (the void), Te Po (the dark) and Te Ao Marama (the world of light). Although Te Kore signified space, it contained in its vastness the seeds of the universe and was therefore a state of potential. Te Po was the celestial realm and the domain of gods. This was the source of all mana and tapu. Te Ao Marama is the world of light and reality, the dwelling place of humans (Walker 2004, pg 11). When Papa-tū-ā-nuku and Ranginui were separated by their sons, Tāwhiri-mātea was angry at this separation and vented his wrath on his brothers. Tumatauenga alone stood up to him. Tu was very angry at his brothers for not supporting him against Tāwhiri-mātea, and so sought utu (revenge or reciprocity) from his brothers. He attacked the children of Tane and through his actions converted them from Tapu (sacred) to Noa (common). In this way the basic dichotomy in Māori life between the sacred and the profane came into being. Tu's assertion of mana over his brothers was the rationale for the superior position of human beings in the natural order (Walker 2004, pg13).

Prior to European arrival, resources were usually managed on a hapu or iwi basis. Hapu is the term for a family group. Iwi are an alliance of hapu who remained together as mutually interdependent political unit and are generally a territorial entity. In many aspects of economy and social organization iwi were self-sufficient and self governing; iwi authority was vested in councils of hapu leaders, meeting according to the needs of the time (Henare, 1988). The history of the iwi is recounted in the recital of the prominent land marks and the significant ancestors who lived there. While political units constructed of kin groups around a common ancestor are found internationally, in Aotearoa/New Zealand, the waka of ancestral forebears is also a symbol for tribal identity, territorial ownership and political relations (Walker 2004, pg 28).

5.1.2 Tikanga

Tikanga Māori are the processes and practices that guide correct moral behavior in Māori society (Mead 2003). Tikanga Māori cannot be understood without making use of mātauranga Māori (Māori knowledge); all tikanga Māori are firmly embedded in mātauranga Māori. While mātauranga Māori is carried in the minds, tikanga Māori puts mātauranga into practice and adds the aspects of correctness and ritual support. Tikanga is the practice of Māori philosophy and the practical face of Māori knowledge (Mead 2003, pg 7). Tikanga Māori differs from one tribal region to another; there is always a need to refer to the tikanga of the local people (Mead 2003). In some rohe (tribal areas/territories) practices or protocols maybe called kawa, when this occurs the knowledge base is the tikanga Māori aspect and the practice that it informs is the kawa (Mead 2003). Tikanga Māori controls interpersonal relationships, provides ways for groups to meet and interact, and even determines how individuals identify themselves. Ceremonies relating to life -birth, marriage, sickness and death – are firmly embedded in Tikanga Māori (Mead 2003, pg 5). Tikanga is also ethics, and informs the right way of doing things. Correct use of tikanga involves moral judgments about appropriate ways of behaving and acting in everyday life (Mead 2003, pg 6).

One of the areas in which tikanga is important is ensuring sustainable environmental use through informing behavior and ritual (Ruru 2004). Tikanga are used as “guides to moral behavior’ and within an environmental context refer to the preferred way of protecting natural resources, exercising guardianship, determining responsibilities and obligations, and protecting the interests of future generations (Durie 1998). Rituals to the deity presiding over the relevant department of nature must be conducted to preserve mauri, and observance of tikanga ensured that nature was not treated in a wanton manner (Walker 2004, pg 23). Tikanga also can be gender specific, in an environmental sense this could mean different rituals for men and women and places that one gender is excluded from. Correct use of tikanga is important as damage to natural resources through incorrect behavior not only creates physical impairment but also causes spiritual damage. Incorrect use of environmental tikanga also impinges on the mauri of objects, including people; if crops do not flourish or fish are not plentiful, it is because their mauri is weak (Walker 2004, pg 69). Transgressions against tikanga can also bring on a state of ill health which, if not attended to by a tohunga, can lead to death. The belief that people can control natural processes by the power of incantation has historically pervaded much of Māori medical practice and social usage (Walker 1987, pg 137). Errors in recitation of Karakia are offensive to the gods and punishable by misfortune or death; likewise failure to respect nature can have negative consequences (Walker 2004).

While tikanga plays an important role in general Māori worldviews, specifics of use are dependent on individual iwi and hapu. Tikanga is inherently localised as it comes out of the accumulated knowledge of generations of Māori and is part of the intellectual property of individual iwi. Older individuals generally have a greater familiarity with and knowledge about tikanga because they have participated in tikanga, and have observed interpretations of tikanga at home and other tribal areas; these elders, the kaumatua and the kuia, are often the guardians of tikanga (Mead 2003, pg 14). Tikanga are often dismissed by outsiders as old wives' tales or as superstition. Much of the criticism of tikanga is based on tikanga as a traditional way of doing things, one that has no place in current Aotearoa/New Zealand society. Hirini Moko Mead, author of *Tikanga Maori: Living Maori Values* (2003) points out that often when outsiders express disbelief or disregard for tikanga, their attitude is seen as offensive to the holders of the tikanga. In my research experience I have often heard non Māori scoff at and dismiss tikanga. Certainly there was a lot of skepticism expressed by western scientists to Māori tikanga expressed about the lahar. Iwi local to Ruapehu had, previous to the lahar, maintained that other elements of the immediate ecosystem around Ruapehu, such as the Tuna (eels) knew when a lahar event was going to occur. This belief was generally dismissed by the local western scientific community, until, on the day of the lahar, GNS representatives witnessed the Tuna crawling out of the Whangaehu and up the banks immediately prior to the lahar occurring; one of the witnesses said they would never have had believed it if they had not seen it themselves. The lahar event is one example of the continued relevance of tikanga. Mead is an expert in the field of tikanga, and believes tikanga has as much relevance for today's society as ever:

Tikanga Māori are not frozen in time. There are some who think it is, to them Tikanga Māori has no relevance in the lives of contemporary Māori and that body of knowledge belongs to the not-so-noble past of the Māori. Individuals who think this way really have no understanding of what Tikanga are and the role Tikanga have in our ceremonials and in our daily lives. It is true however that Tikanga are linked to the past and that is one of the reasons why they are valued so highly by the people. What we have today is a rich heritage that requires nurturing, awakening sometimes, adapting to our world and developing further for the next generations. As a people we set aside many of our Tikanga, but today we are rediscovering and reviving much that was lost. Chances to learn and recover parts of our culture and relearn parts of Tikanga come as part of cultural performance. This sort of learning is exciting is personally enriching and is spiritually satisfying. It has the power to enrich and transform lives, and to change attitudes. It empowers the individual. Knowledge enables a person to participate in one's own culture, to

move within it in confidence, to meet other people who are following the same path and to enjoy being a Māori. It is a fundamental right of every person of Māori descent to enjoy his or her birthright and to feel good about it. Tikanga is part of the birthright. Tikanga Māori is no longer bound geographically, culturally or ethnically. Wherever Māori go we take our Tikanga with us (Mead 2003, pg 21).

Many non-Māori are becoming involved more and more in tikanga. This may be the result of increased partnership and greater understanding of different knowledge systems by Pakeha. There is division in the Māori community over whether the best way to nurture Māori customs is to have them widely supported and embraced, or whether Māori need to control tikanga and maintain them away from Pakeha (Mead 2003, pg 23).

5.1.3 Turangawaewae

Mead's work is also significant when considering turangawaewae (a place for the feet, a place to stand, homeland). For most people the traditional notion of homeland is an important basis of identity, Māori are no exception to this. The land and the environment in which people live become the foundation of their view of the world, the centre of the universe and the basis of their identity as citizens or as members of a social unit. 'Whenua' is the Māori term for the land and the placenta. The dual definitions of whenua emphasize that humans are nourished by the placenta while in the womb, just as they are nourished by the earth and is the basis for the high value placed on land (Marsden 2003). Land was the foundation of the social system, and the means of giving physical presence to the system in the forms of residences, villages, gardens and special resource regions.

Turangawaewae embodies the concept of land as giving identity. Identity is inherent in the concept of turangawaewae, a place for the feet to stand; where one's rights are not challenged, where one feels secure and at home (Mead 2003). Māori have consistently placed high value on ancestral land, land that they have a relationship with and specific tikanga for. Relationships with the land for Māori are not about owning the land and being master of it, to dispose of as the owner sees fit. The land has been handed down by ancestors, through the Whakapapa line from generation to generation and the descendant fortunate enough to inherit the land does not really 'own' it; that person did not buy it. The land cannot be regarded as a personal asset to be traded; it belongs to future and past generations (Mead 2003).

This sense of intergenerational continuity is amplified by Māori traditions of generations of occupation of dwelling places, tilling of garden lands and fighting to defend them against others. Historically, tribal wars served to demarcate territorial boundaries. The bones of buried ancestors and blood spilt in the defense of the territory reinforced the connection between ancestors and descendants through the land. Each generation was bonded to the land at birth by the custom of planting the afterbirth, also known as whenua, in the land. When a child's pito (umbilical cord) was buried with the placenta in the land, it was known as an iho whenua (Walker 2004). This act symbolized the connection between the child to the land that nourishes it. The iho whenua of a child of rank was marked by the planting of a tree; the tree was recognized as the iho whenua of that child and signified rights as well as connection to the land. The iho whenua was cited in any disputes over territory (Walker 2004).

The turangawaewae, the standing and identity of a people, was defined by their territory. In time the territorial boundary marks of prominent physical features such as mountains, rivers, lakes, streams and distinctive landforms, came to symbolize the chief and his tribe. For example Ngāti Tūwharetoa and their paramount chief Te Heuheu would be known by 'Tongariro the mountain, Te Heuheu the man', in the same way Ngāti Rangīwhakapapa to (descend from) Ruapehu, and Ngai Tahu in the South Island whakapapa to Aoraki. Distinctive landforms, especially rivers, often were home to Taniwha, many of whom would act as kaitiaki (guardian) for a particular area or resource. Crossing the territorial boundaries of another tribe was fraught with danger, not only because of past hostilities but because of dangers from local demons and kaitiaki. These had to be placated by rites of entry known as uruuru whenua (Walker 2004, pg 71).

With the arrival of European settlers and colonial notions of land ownership, the existing land tenure and territory system practiced by iwi and hapu was overturned by various acts of Parliament and through the Native Land Court. Prior to the instigation of a European land tenure system emphasising individual ownership, land was a communal resource, owned and defended by the collective efforts of the tribe. An individual's right to house plots and cultivated areas was recognized, but they could not be ceded or gifted to anyone else without the approval of the tribe and chief (Walker 1987, pg 43). Land could be taken only by conquest and occasionally transferred by gift; it was group property, held in trust by chiefs. The chiefs had no traditional right of disposal, since land allocation depended on tribal consensus; consequently there was no precedent for sale and individual ownership and land management (Salmond 1996, pg 23).

5.1.4 Whakapapa

While formal Māori cosmology distinguishes clearly between the divine and the human, locating the former in the heavens and the latter on the earth, Māori worldviews are more concerned with interrelationships between the spirit world and the temporal world, and the exchange between those domains (Henare 1988). The personification of natural phenomena in the Māori pantheon is fundamental to the holistic worldviews of the Māori (Walker 2004, pg 13). Kin ties between human and elements of the natural world and spiritual world through common ancestors are illustrated by whakapapa (genealogy) (Durie 1998). Whakapapa, myth and legend are all fundamental part of mātauranga Māori and help to form Māori worldviews (Marsden 2003). Whakapapa is a systematic layering of knowledge in form of genealogy in an orderly sequence of progression from the creation to the universe to the establishment of human institutions by cultural heroes of mythology and the stories of migrations to Aotearoa/New Zealand the culminated in the founding ancestors of tribal polities in the new land and right down to the individual level (Walker 2008).

One way in which mana is derived is from ancestors through an individual's or a group's whakapapa (Walker 2004). According to Ranginui Walker (2009) in a statement made at the Waitangi Tribunal Whanganui River inquiry at Putiki Marae, in Māori epistemology humans are a part of a chain of life, the whakapapa places them as children of Papa-tū-ā-nuku. Walker stated that whakapapa is often defined by scholars as spiritual, but it is greater than spiritual; spiritual is a Pakeha term which is used to inadequately describe a Māori concept. Walker said that whakapapa incorporates being in the environment, responsibility to the environment and iwi epistemology and values as well as spirituality. Whakapapa is also a tool for transmitting knowledge between generations as well for classifying the natural world (Marsden 2003). Mountains, rivers, lakes, phenomena and distinctive landforms are all part of whakapapa (Cashman and Cronin 2008). All volcanic interactions, regardless of their outcomes, are part of the long term cycles of reciprocity and equilibrium that link modern Māori to their ancestors and future descendents. On a genealogical time scale extending to the mythological time of the gods, historic events in Māori thought are as fresh in the memory as if they happened only yesterday (Walker 1987, pg 213).

5.1.5 Kaitiakitanga

A kaitiaki is a guardian or keeper, kaitiakitanga is generally accepted to mean the act of guardianship, and is usually used in relationship to the environment and resource use (Marsden 2003). Kaitiaki denotes the burden incumbent on tangata whenua to be guardians of a resource or taonga for future generations. Kaitiakitanga requires clear lines of accountability to whanau, hapu, or iwi and is more frequently associated with obligation than authority (Durie 1998). The Horizons District Council (2008, pg 4) defines kaitiakitanga as:

The concept of kaitiakitanga (the ethic of stewardship) is based on spiritual and physical guardianship met within the social norms and everyday practices of Tikanga. Recognition of the mauri held by particular resources also necessitates communication with the spiritual Kaitiaki (guardian) to whom that resource is dedicated. The physical responsibility of kaitiakitanga is met by the recognition of the interconnectedness of all elements- mauri and wairua, tapu, and noa, mana and Tikanga. Therefore, the ethics that underpin hapu and iwi responsibility to practice kaitiakitanga are based on spiritual and cultural practices and wise resource management to ensure a healthy environment for future generations.

This is an inherently controversial definition as it starts by defining kaitiakitanga as the 'ethic of stewardship'. The term stewardship implies that the land is being held in trust and administered on behalf of another whose claim to the land is greater. Māori on the whole reject the term stewardship, and prefer to use replace it with guardianship, which comes closer to an accurate acknowledgement of their claim, that they are kaitiaki for past and future generations.

Kaitiakitanga is used in legislation such as the Resource Management Act (1991) to define the responsibility Māori have to the environment. An important part of maintaining a resource is promoting the health of the mauri, an essential life force or spirit which sustains the quality and condition of all natural resources, ecosystems, and the wellbeing of Māori people. In environmental terms the kaitiaki approach is holistic and provides for restoration of damaged ecological systems, restorations of ecological harmony, increased usefulness of resources, and reduced risk to present and future generations (Durie 1998). As long as the mauri exists and is strong, plants, birds, fish and all other animals flourish. If the mauri weakens, the ecosystem has lost, or is losing, its life force creating imbalance and shifting towards degradation of the resource and the surrounding ecosystem. If mauri had been lost from a system, Māori can use kaitiakitanga to put into place immediate measures or actions to repair the mauri (Ulluwishewa et al. 2008). Measures can include taiāpure, māitaitai or rāhui, as ways of putting a ban on or reserving an area, and can be used to manage resource degradation,

prevent take during the breeding season of certain species, and keep people away after the occurrence of an event rendering the area tapu.

Application of kaitiakitanga is iwi specific, and in practising kaitiakitanga iwi, hapu and whanau have to find a way to sustain the mauri of a taonga while working within conservation legislation based on a western science understanding of the environment (Tutua-Nathan 2003). The meaning of kaitiakitanga also can differ between iwi as each iwi, whanau and hapu may have a different view on what kaitiakitanga involves as there is no single Māori perspective, every issue is subject to distinct tribal aspects (Roberts et al. 1995).

5.2 Te Tiriti; The Treaty of Waitangi

Until the arrival of Europeans, Māori had no collective name for themselves. People were defined by their iwi, hapu, and aspects of whakapapa. So they used the word Māori, which means natural or ordinary, to distinguish themselves from the white strangers (called 'Pakeha'). In 1840 the Treaty of Waitangi was signed by representatives of Queen Victoria and Māori chiefs throughout Aotearoa/New Zealand. The Treaty provides a template for environmental co-management, but discrepancies in the English and Maori versions and articles weaken its environmental management mechanisms (Coombes and Hill 2005). The principles of the Treaty are commonly understood to be those of partnership, respect, and co-operation (see definitions in chapter one for further detail). The politics of interpreting the Treaty of Waitangi has popularized the expression "Treaty partner" (Coombes and Hill 2005). The Treaty of Waitangi is the fundamental document for Māori/Pakeha relations in Aotearoa/New Zealand. However, the principles of the Treaty have not always been adhered to; subsequently history of Māori/Pakeha relations since the signing of the Treaty has been one of domination by Pakeha (Bishop 1996). For iwi whose ancestors signed the Treaty, respect for their status as tangata whenua is an important principle of the Treaty that has often gone unacknowledged:

Giving recognition to the principles of Te Tiriti o Waitangi recognises special obligations and rights that have a legal and moral force, and these rights may be essentially different from those that are acknowledged in western philosophical tradition (Henare 1988, pg 7).

The coming of the Pakeha dominated the worldview of the Māori with Christianity and the secular concept of land as a commodity to be bought and sold on the market place (Walker 1987, pg 57). Status of mana accrued by Māori through providing for and being acknowledged by others, and land

transactions were seen by many Māori as a way of establishing mana with Pakeha colonisers. The ongoing relationship with the land was more important than the immediate use, and the transaction was seen by many Māori as the beginning, not the end, of an association akin to a partnership. The relationship created through these transactions required that each party should respect the mana of the other and act in good faith while acknowledging each other's autonomy (Waitangi Tribunal 2008).

The principle of Tino Rangātiratanga is seen by many, Māori and Pakeha alike, as the overarching principle of the Treaty. It might be said that the Crown's failure to respect Māori Tino Rangātiratanga may be cast as the overarching breach of the Treaty of Waitangi. From that failure, all else flows, the wars, the loss of land and resources, and the undermining of culture: it amounts to the subjugation of iwi (Te Heuheu 2007, pg 28). The guarantee of Tino Rangātiratanga is in effect a guarantee of sovereignty and self-determination for iwi, because an inseparable component of this is mana whenua (Walker 2004, pg 93). As can be expected land is a very important part of any settlement with the Crown in remedy of Crown breaches of the Treaty of Waitangi (Mead 2003). When the chiefs signed the Treaty, they ceded Kāwanatanga (overall authority) to the British crown:

the chiefs ceded Kāwanatanga, not mana over the land. In the 147 years since the signing of the treaty, the confiscations of the last century and the land disputes at Bastion Point, Raglan, Ohinemutu, Paokahu, Coromandel and elsewhere have given rise to the charge that the Treaty is a fraud (Walker 1987, pg 43).

Iwi with interests in the Tongariro National Park stated, in the National Park Waitangi Tribunal inquiry, that they see the Treaty as covering all natural and physical resources and that the Treaty provides for continued iwi management of taonga by the original holders as long as it was their wish to do so; conservation measures must be applied by the Crown as a last resort (Waitangi Tribunal 2008, pg 1232). In the report on the same hearing, the Waitangi Tribunal endorses iwi right to the management of their resources, and the right to exercise Tino Rangātiratanga as it extends to taonga both tangible and intangible. The report on the National Park Hearing calls for the Crown actively to protect the exercise of Tino Rangātiratanga, including customary law and values in environmental and resource management as is consistent with the Treaty of Waitangi. The Hearing report also states that the Crown should be focusing on systems needed to actively protect Māori Rangātiratanga in resource management covering all matters of tangible and intangible values to Māori (Waitangi Tribunal 2008, pg 1245).

In addressing land issues it is important to realise that the Treaty of Waitangi is not a historical document frozen in time. The Treaty is seen by many as a current charter for power sharing in the decision-making processes of this country and for Māori Tino Rangātiratanga and their own destiny as the indigenous people of Aotearoa/New Zealand (Bishop 1996). The special provision of hapu and iwi as a Treaty partner is reflected in the specific provisions for Māori under the Resource Management Act (1991) according to Horizons District Council (2008); however the RMA (1991) only requires consultation, which is very weak co-management, and does nothing to build or maintain a management partnership, the spirit of partnership being one of the acknowledged principles of the Treaty. Therefore the RMA (1991) requires consultation, and leaves the individual Crown agencies to interpret this. In most cases weak consultation is used, and partnership is a long way off. While the Horizons District Council says it acknowledges the special relationship that hapu and iwi in the region share with the environment, it has a history of not acting to protect or promote that relationship (Horizons District Council 2008). This lack of consideration for iwi as tangata whenua is exemplified in the management of the Ruapehu Lahar in 2007. Leading up to the lahar the council actively supported and promoted a lahar management option that was in conflict with local iwi beliefs and submissions on management options.

To better understand and respect iwi relationships with Ruapehu and their position as tangata whenua, I have provided some basic information on key groups that submitted to the lahar management proposals. While I would like to have been able to present an introduction to all iwi kaitiaki of Ruapehu below, I am only able to offer an insight into groups I am familiar with, through my own personal interactions, or their submissions to DOC on the lahar issue.

5.3 Tuwharetoa

"Ko Tongariro te Maunga
Ko Taupō-nui-a-Tia te Moana
Ko Tūwharetoa te Iwi
Ko te Heuheu te Tangata"

Tongariro is the Mountain
Taupo Nui-a-Tia is the Lake

Tūwharetoais the Tribe
te Heuheu is the Man.

One of the descendants of Ngatoroirangi, the navigator-priest who explored the Taupo region and brought volcanic fire to Aotearoa/New Zealand, was Tuwharetoa, the eponymous ancestor of Ngāti Tuwharetoa. Through Ngatoroirangi, Tia and Tūwharetoa, Ngāti Tūwharetoa claim land rights to the Taupo region (Grace 1959). Tūwharetoa whakapapa back to the Te Arawa waka through Ngatoroirangi. Sir Hepi Te Heuheu, paramount chief of Ngāti Tūwharetoa, described Tūwharetoa's association with the central plateau volcanoes as follows:

To us they are symbols for which a true leader aspires-dignity, majesty and autonomy. Today we look upon them with deep respect and reverence, and a tinge of many other complimentary emotions- pride being certainly one of them. Proud that they are ours – 'te ha o taku maunga kotaku manawa' (the breath of my mountain is my heart). Our reverence for the mountains goes deeper, because all life originated from the same parents, Papa-tu-a-nuku and Rangi so that man and all other life forms are in harmony with one another in the bonds of kinship. Conditioned then by these ties, we look upon these mountains as ancestral and this relationship evokes memories of our human ancestors who once roamed and settled within its shadows centuries ago. By those memories the past and present mingle ensuring continuity. Today we sing or chant ancestral compositions. Paying them homage. The death of a chief is likened to the tip of a mountain having broken off. The stern anchor of the Arawa canoe, te Rangi Haruru or Toko turua, is firmly fixed on Tongariro with the plough anchor, Toko Parore firmly fixed at Maketu on the east coast of the bay of plenty. This gives rise to the saying 'Mai Maketu ki Tongariro; inferring its unshakable stability. All these are tributes paid to the mountains. To us, the mountains are symbols of the implacable authority of nature. As our ancestors saw them centuries ago, so do they now stand ageless, towering above all with sublime supremacy; immovable, immutable and impervious to the relentless march of time. Puny man in the face of such overwhelming evidence of the inevitable suddenly feels small and insignificant and so the reverence from these mountains go further deep (Te Heuheu in DOC 2001, pg 2).

While the majority of Tūwharetoa hapu whakapapa to Tongariro as their primary mountain in their mihi (introduction) the hapu of Ngāti Hikairo mihi to Mt Ruapehu. Likewise iwi from the upper

Whanganui River to the south of Lake Taupo mihi to Ruapehu (Grace 1959). In 1841 a group of Pakeha seeking to climb Tongariro were told by Te Heuheu, that Tongariro is his ancestor, and that Tongariro makes up part of the 'back bone of the Māori' (Stokes 2000, pg 57). Te Heuheu is a hereditary name passed down Tūwharetoa's senior ariki line (persons of high rank), with the chief's home marae being situated at Wahi on the shore of Lake Taupo. Due to the isolated inland nature of Tūwharetoa they were one of the last tribes to have contact with Europeans; as a result pre-European ways have persisted for longer. Early Aotearoa/New Zealand historians believed that as a consequence of their location there is a greater survival of pre-European knowledge and religion among Tūwharetoa than most iwi, and that their isolated location and poor condition of the pumice land for European farming resulting in Tūwharetoa remaining on their ancestral land longer than most (Grace 1959, pg 534).

Te Heuheu refused to sign the treaty of Waitangi in 1840 when a Government commissioner brought it to Rotorua. However, Te Heuheu's brother, Iwikau, signed the treaty and after Te Heuheu's death in 1846 in a landslide, Iwikau succeeded as paramount chief (Grace 1959). When Te Heuheu died his brother wanted to inter his bones on Tongariro as burial on the mountains for ariki is common throughout Tūwharetoa history (Grace 1959). Likewise ariki from other iwi were once buried on Ruapehu's peaks near the Crater Lake (Sperber 2003). These graves are now part of the Tongariro National Park. Tumu Te Heuheu, the current paramount chief of Ngāti Tuwharetoa, believes the acquisition of Tongariro and the National Park was an effort by the Crown to break up supporters of the Kingitanga movement, of which Tūwharetoa was one (Te Heuheu 2007). In 1987 Horonuku Te Heuheu (the senior chief of Tūwharetoa at that time) gifted the peaks of Tongariro to the nation, forming the nucleus around which the Crown built the Tongariro National Park; this story of the 'gifting' is commonly accepted by public and Tūwharetoa's alternative version of the gifting of the peaks to the nation is not well known. Tumu Te Heuheu told the Waitangi Tribunal that the 'gift' is a misnomer. Horonuku Te Heuheu made a decision to support Te Kooti against the Government and when Te Kooti's movement was crushed, Horonuku Te Heuheu surrendered and was held under house arrest and threatened with confiscation of Tūwharetoa's land. The Crown exerted pressure on Te Heuheu to ally himself with the Government and sign over the peaks as an act of good faith. Tūwharetoa told the Waitangi Tribunal that the Crown has actively sought to undermine their Rangātiratanga over their taonga by appropriating natural resources through force (Waitangi Tribunal 2008, pg 1229).

Tūwharetoa states giving away the spiritual fount of Tuwharetoa, the Tongariro mountains, was not in Horonuku (Te Heuheu)'s framework of reference. He would have rather suffered death than give them away (Te Heuheu 2007, pg 7).

Tūwharetoa believe that Horonuku's signing of the 1987 deed giving over the mountains, was a result of the Crown's campaign to crush the mana and Tino Rangātiratanga of Ngāti Tūwharetoa. In signing the deed Tūwharetoa feel that Horonuku Te Heuheu extended an invitation to the Queen to stand alongside his son, Tūkino Te Heuheu, in protecting Nga Maunga Tapu (the sacred mountains) imposing an obligation on the Queen to honour the terms on which the invitation was extended, the overriding one being to hold Nga Maunga Tapu inviolate;

The Queen did not honour that obligation. Instead, the Crown made itself the sole owner of the mountain and turned them into a 'recreational playground' for the rich (Te Heuheu 2007, pg 8).

At the Tribunal Hearings, Tūwharetoa made it clear they feel the current management of the National Park does not honour Horonuku Te Heuheu's invitation for joint management. Tūwharetoa believe that it is an insult to the mana of Tūkino Te Heuheu (Horonuku's son) by only having one seat for Tūwharetoa on the Tongariro management board. Tūwharetoa feel the Crown has not treated the mountains as they should; they feel the mountains should be revered, to be held inviolate, to have their mana, mauri and tapu respected. Tūwharetoa believe their tipuna, Tongariro, has been desecrated by the lack of respect shown by the hordes that swam on the slopes and that Tūwharetoa's relationship with Tongariro has been disregarded by the Crown;

Ngāti Tūwharetoa claim that they have suffered 'effective exclusion' from the Tongariro national park (Te Heuheu 2007, pg 9).

The management of the Tongariro National Park has been controversial for Tūwharetoa since its conception through the now debated 'gifting'. Tūwharetoa's official submission to DOC on the Mt Ruapehu Crater Lake lahar hazard report states that Tūwharetoa require that no machinery is to be placed on the area around the Crater Lake, known as the 'gift' area, and that the Department or its agent are not to remove or change in anyway the natural landscape of the Crater Rim area as the mana of Ruapehu is maintained in its unpredictability (Taiaroa 1999). However the Tūwharetoa Trust Board supported the building of a bund lower down the mountain flank as an option to remove threat to life (Taiaroa 1999). In the Waitangi Tribunal National Park Inquiry, Tūwharetoa asserted that the use of Ruapehu as a recreational and tourism centre has effected the mountain in both its spiritual and

physical sense; Tūwharetoa wish to see the ski field and associated infrastructure removed as they feel that it has an adverse affect on the mountain (Duncan 2007, pg 3).

5.3.1 Ngāti Hikairo Ki Tongariro Trust

A hapu is a kin group that can trace their descent from an ancestor; a hapu is made up of several whanau, and a number of hapu banding together for political and social reasons make up an iwi. Each hapu is distinguished by its own government, whose autonomy is fundamental (Henare 1988). Ngāti Hikairo Ki Tongariro is one of the hapu that make up the iwi of Ngāti Tuwharetoa; Ngāti Hikairo Ki Tongariro has a closer relationship with Ruapehu, rather than Tongariro, which is the dominant maunga in the majority of Tūwharetoa whakapapa. Ngāti Hikairo Ki Tongariro was a staunch supporter of non-intervention on Ruapehu from the beginning of the DOC consultation period on the Crater Lake hazard issue as Ngāti Hikairo Ki Tongariro were confident that the mitigation options of monitoring and warning systems were capable of preventing any threat to human life (Smith 2003). They were adamant that any manipulation in any way of the natural processes of the Ruapehu Crater Lake would be a ‘catastrophic’ non-observance of Ngāti Hikairo’s cultural and spiritual values (Smith 2003).

Ngāti Hikairo Ki Tongariro’s submission to DOC on the ‘environmental and risk assessment for mitigation of the hazard from Ruapehu Crater Lake’ states any action that interferes with the natural forces of Mt Ruapehu contradicts their beliefs as well as those of the international community that acknowledge the Tongariro National Park’s cultural heritage world status (Ham 1998). Ngāti Hikairo Ki Tongariro believe that there is nothing that humans can do to contain the natural forces of the mountain (Ham 1998).

5.3.2 Ngāti Manunui

Ngāti Manunui is another Tūwharetoa hapu which has a rohe that extends to Ruapehu. Ngāti Manunui were one of three Ngāti Tūwharetoa hapu that objected to the transaction between Te Heuheu and other Rangātira and the Crown concerning the ‘gifting’ of Nga Maunga (Tongariro, Ruapehu and Ngaruhoe) to the Crown (Taylor et al. 2007, pg 7). Ngāti Manunui operate independently from other hapu and while still acknowledging their affiliation to Ngāti Tuwharetoa, they do not recognize anyone else as speaking for them, so were not represented by Te Heuheu at the time of the ‘gifting’ (Taylor et al. 2007). The Rohe of Ngāti Manunui includes the north crater of Tongariro, the summit of Ngāuruhoe

and the Waikato peak on Ruapehu (Taylor et al. 2007, pg 8). The 'gifting' is a very important issue to Ngāti Manunui as:

Whenua is the most important thing to us. Without it our identity as Ngāti Manunui is diminished (Taylor et al. 2007, pg 10).

Ngāti Manunui oral traditions record of the gifting, that:

the transaction was described as 'whakatapu' or 'to make sacred'. We understood that this means that the whole transaction was not a gift in the Pakeha sense, but that Te Heuheu and those other Rangātira meant to protect the Maunga, because the Maunga could never be given away (Taylor et al. 2007, pg 19).

The gifting caused division among Tūwharetoa as Ngāti Manunui land was included in Tongariro National Park without Ngāti Manunui's consent. Ngāti Manunui feel that since the creation of the National Park they have been excluded from their land:

Regulations instituted by the Crown in the Tongariro National Park have prevented, and continue to prevent, Ngāti Manunui from exercising their customary rights, such as gathering food. Further, Ngāti Manunui as customary right holders in these lands were not, and still are not, involved in the management of the national park (Taylor et al. 2007, pg 21).

Consequently Ngāti Manunui resent what they perceive as DOC's habit of only consulting the Tūwharetoa Trust Board and Ngāti Rangī when making management decisions.

5.4 Ngāti Hikairo

Ngāti Hikairo iwi (not to be confused with the Tūwharetoa hapu Ngāti Hikairo Ki Tongariro) also did not sign the Treaty. Ruapehu, Tongariro and Ngāuruhoe also fall into the rohe of Ngāti Hikairo. Ngāti Hikairo feels that Ngāti Tūwharetoa history has been allowed to take precedence over the histories of other peoples within the National Park Waitangi Tribunal Inquiry District, and that history has been distorted by Ngāti Tūwharetoa who gained favour as a direct result of their close association with Crown agents (Te Nahu 2007). Ngāti Hikairo tupuna claimed rights in the Taupo region and had in the recent past challenged the right of Te Heuheu's line to continue to control access to and the fate of the mountain peaks.

The majority of Hikairo lands were alienated in the last part of the nineteenth century through the Native Land Court process. Like many other iwi and hapu, the loss of whenua, natural resources and the consequential loss of identity is considered to be one of the largest and most anguished grievances that they wish to bring to the Tribunal. Ngāti Hikairo feel they were denied Rangātiratanga as tangata whenua, and that their relationships and history with the land have been undervalued by the Crown, and to a lesser extent, other iwi:

The value of the land was not established according to the nature and the volume of resources or any other tangible element. The mountain peaks in particular, assumed an important place in the mātauranga of Ngāti Hikairo. Layers of connection were developed through naming of physical features, resource use, the spilling of ancestral blood, and burials. The sacred mountain was intensified by the spilling of blood of important tupuna on the land and the burial of Rangātira, a practice which also served to consolidate the relationship between Ngāti Hikairo and the peaks. The disregard for Ngāti Hikairo as the iwi of Tongariro affected not only responsibilities of guardianship but also the spiritual well-being of the people. The exalted spiritual status of the mountain and the consequences following the transaction between Te Heuheu and the Crown fundamentally tore out the heart of Ngāti Hikairo as the recognized and accepted protectors and guardians of such an esteemed taonga and symbol of Ngāti Hikairo mana (Te Nahu 2007, pg 37).

Hikairo feel that Te Heuheu's 'gift' was treated by the Crown as an outright transfer rather than the joint 'ownership' of the mountain as between the Queen and Te Heuheu:

The Crown's understanding of the gifting was by way of Pakeha concepts relating to a voluntary handover or transfer. Consequently, Crown officials were confused when constant reference was made by the people of Tūwharetoa to the peaks as opposed to the whole mountain (Te Nahu 2007, pg 42).

Hikairo feel that Te Heuheu's ill-fated association with Te Kooti and his decision to lead his people in support of Te Kooti discredited Te Heuheu in the eyes of the Crown. Although he escaped direct punishment, Te Heuheu's allegiance with the Crown was tainted hence Te Heuheu's motivation to reassert his mana (Te Nahu 2007, pg 43). Although this rationale seems possible, Hikairo feels in light of the tapu and the prized possession status by both Te Heuheu's forefathers and the Ngāti Tūwharetoa

iwi, it seems improbable Te Heuheu would forego these elements for indebtedness to the government (Te Nahu 2007).

In accordance with Māori kinship and Rangātira obligations, the possibility of allowing an obligation to the Crown to succeed over that of tikanga and loyalty to iwi and tupuna is implausible for Ngāti Hikairo; they feel that the intensity of Te Heuheu's association with the mountain and the paramount importance placed on the link to the mountain by Te Heuheu and Tūwharetoa deems the proposition of surrendering ownership to the Crown unconscionable (Te Nahu 2007, pg 45). The Crown assumption of full ownership of the mountain inevitably led to the implementation of Crown processes to govern and maintain the land. An absence of input from Ngāti Hikairo and other neighbouring iwi is evident (Te Nahu 2007, pg 46).

Management structures and plans for the management of the mountains and the National Park have served to come between Ngāti Hikairo and their taonga, the mountain. Ngāti Hikairo feel the management of the park and the mountain focuses on preservation and recreational development for visitors to the park that ignored totally the cultural associations to the maunga of local people that included those of Ngāti Hikairo (Te Nahu 2007, pg 46). The National Parks Act (1980) makes no reference to the Treaty of Waitangi and any Māori involvement in policy making was totally limited (Te Nahu 2007, pg 46). Hikairo feel, like Ngāti Manunui, that they have been excluded from consultation over the management of the park, while Ngāti Tūwharetoa and Ngāti Rangi are included. In the future, Ngāti Hikairo hope that they will be:

given the responsibility as Māori to undertake our duty of custodianship, stewardship and guardianship over our lands and taonga. The environmental aspects can not be separated from the economic, social and cultural dimensions. Nor can the spiritual be separated from the physical (Boast et al. 2007, pg 161).

Ngāti Hikairo wish to control all their natural resources, to regain mana over their whenua (Boast et al. 2007). Hikairo feel that by seeking the cultural listing of the Tongariro National Park, the Crown placed itself under an obligation to ensure that the perception it is portraying to the international community about the 'cultural landscape' of the park is consistent with what is happening on the ground. Ngāti Hikairo feel it is important that the Government is not merely paying 'lip service' to the cultural component of the park, and the involvement of Māori in the management of the park (Boast et al. 2007).

5.5 Ngāti Rangi

Ko Ruapehu te maunga

Ko Mangawero te awa

Ko Ngāti Rangi ngā iwi

Ruapehu is the mountain

Mangawero is the river

Ngāti Rangi is the iwi

Ngāti Rangi came down from Paerangi-I-te-wharetoka (Paerangi the house of stone) before the waka fleet that is associated with the migration of most iwi to Aotearoa/New Zealand; being pre-waka makes Ngāti Rangi an unusual iwi. Ngāti Rangi identify with a tupuna who arrived in New Zealand by means of the bird, Te Rau a Mōa. They emerged from the time of Maui as descendants of Ha, an ancestor older than Kupe. They were linked to the mountain region of the central plateau- Te Kāhui Maung and formed part of the tangata whenua- original inhabitants (Gray et al. 2007, pg 8). Paerangi-i-te-wharetoka's mokupuna tuwha, Rangituhia, Rangitea uria, and Uenuku-Manawa-Wiri are important tupuna for the identity of Ngāti Rangi as an iwi and their claim on their rohe draws from these ancestors (Gray et al. 2007 and Richards 2005).

Ngāti Rangi were an iwi that signed the Treaty of Waitangi. Toni Waho (2009), speaking at the Whanganui River Waitangi Tribunal Inquiry at Maungarongo marae, said that Ngāti Rangi in particular struggled with the European land tenure system, as they were a traditionally nomadic iwi, due to seasonal food gathering and the maintenance of relationships with neighbouring wānanga. European settlement imposed the European model of landownership on Ngāti Rangi, destroying Ngāti Rangi relationship with the land. The degeneration of this relationship had a significant effect on the transition of knowledge through the generations which in turn impacted on Ngāti Rangi's identity as an iwi. Ngāti Rangi at the same Tribunal hearing presented resource management grievances to the Crown, included

grievances over non-recognition of Ngāti Rangi values and tikanga in decision making and lack of participation of Ngāti Rangi in management decisions. As a result of the Crown's actions, Waho feels that the majority of his iwi:

don't know anything.... We don't know who we are (Waho 2009).

Ngāti Rangi feel the Crown did not consider them, or any of the groups that make up the Whanganui River Iwi Confederation which they belong to, when establishing the National Park; this has inhibited Ngāti Rangi from being able to fully maintain their traditional relationships with their rohe. Ngāti Rangi consider that no other community, Māori or Pakeha, share the same distinctive physical, metaphysical and spiritual relationship that they do with their ancestral rivers, streams, and springs (Woods 2006, pg 8). For Ngāti Rangi the meaning of the world lies in their relationships with the environment. In particular, sharing and mutual enhancement between Ngāti Rangi and the natural world is important, as it means that no one individual becomes wealthy (with personal possessions) at the expense of their kin, including kin of the natural world (Woods 2006). When their capacity to maintain relationships with non-humans is destroyed, Ngāti Rangi feel their intellectual, physical and spiritual well-being is also impaired. As an iwi Ngāti Rangi seeks to extend the environmental values base on which resource management decisions are made especially in the National Park, for the benefit of all mokopuna, of Ngāti Rangi and our wider community (Woods 2006, pg 8).

Ruapehu is the Maunga Tipuna of Ngāti Rangi therefore they seek the return of the summit and Crater Lake of Ruapehu to them under the Tribunal (Gray et al. 2007, pg 52). Ngāti Rangi state that:

these sites are of such significance to Ngāti Rangi that they require no less than the legal return to Ngāti Rangi of these wāhi tapu (Gray et al. 2007, pg 53).

If these sites are returned to Ngāti Rangi, Ngāti Rangi are confident that they can be protected under the maru (shelter) of their tikanga and kaitiakitanga. Ngāti Rangi feel the Crown must no longer be able to ignore the tapu and important nature of these areas in their decision making and management, currently the role and beliefs of Ngāti Rangi are rendered redundant in this management regime (Gray et al. 2007, pg 53). Only in the last 20 years have Ngāti Rangi had their interests in the National Park recognized by the Crown (Gray et al. 2007). Ngāti Rangi feel that recognition of the relationship Māori has with their taonga is not complete without the recognition of Tino Rangātiratanga; and that consultation is not recognition of Tino Rangātiratanga. Ngāti Rangi feels that actions that impinge on Tino Rangātiratanga include actions that have either a physical or a spiritual effect on iwi

and their ancient values and practices add unique understandings and perspectives to resource management practice and seek to:

enter into processes that capture the synergies of our Mouri kōrero and advanced technologies to ensure best practice in sustainable development, and to contribute to the restoration of a sustainable economy (Woods 2006, pg 9).

The Ngāti Rangi rohe extends to the highest point of Ruapehu. Iwi representatives made it clear in the Waitangi Tribunal Whanganui River Inquiry that Ngāti Rangi's position on the 'gifting' is closely aligned with Tūwharetoa's. Ngāti Rangi tupuna, many of which are the descendents of Paerangi-I-te-wharetoka their eponymous ancestor, are buried on the southern slopes of Ruapehu. The disconnection from this land through the 'gifting' has been very negative for the retention of the iwi's environmental knowledge. 'Te Reo o te Maunga' (the language of the mountain) is the Ngāti Rangi Te Reo dialect, and its name is indicative of the importance of Ruapehu to Ngāti Rangi's identity as an iwi, for Ngāti Rangi Ruapehu as a tupuna has a face and a spirit (Sperber 2003). While Ngāti Rangi acknowledge UNSECO status of their mountain, they are unhappy that UNSECO allows ski fields on Ruapehu (Che Wilson pers com. 2009). As Che Wilson of Ngāti Rangi puts it:

Prior to the 1990's we had no real relationship with our end of the National Park. Being raised in Ohakune, the National Park has never been a place that I would go. Other than for kai, rongoa and karakia, it was a no-go zone for Māori. You would go there for a purpose not just for the sake of it, not just a walk. It is a Pakeha thing to walk somewhere for nothing, like in National Parks. Although it is a National Park which comes with some restrictions, our people continued to go to the places they were culturally allowed to go in accordance with Tikanga, because there are some places that you just do not go. There are a number of Ngāti Rangi that have not been up the mountain because it is too tapu for them (Wilson 2006, pg 9).

In the build up to the 2007 Crater Lake dam burst lahar, Ngāti Rangi released a position statement saying that they unilaterally oppose any interference with the natural landscape of the peaks of Ruapehu and see it as a cultural affront and a major degradation of the sacred regard in which Ngāti Rangi hold their mountain peaks to even consider any option that would seek to artificially alter that mountain landscape (Ngāti Rangi 2001). Their statement also expressed their feeling that Pakeha are too slow to learn that nature cannot be contained and that it is safer to let it take its own course. Ngāti Rangi saw this issue as one that cuts to the very heart of their people, and made it clear that they would

accept no compromise. Ngāti Rangi also pointed out that geological research by the University of Massey showed that there have been lahars 10 to 50 times the size of the 1953 lahar (the dam break lahar previous to the 2007 lahar) the most recent 400-450 years ago and the University of Massey predict large volume lahars at a frequency of 1 every 315 years; Ngāti Rangi carbon dated back to 700 years, and believe they were here long before that. The Whangaehu River, which flows from the Ruapehu Crater and carried the dam burst lahars, is a significant awa for Ngāti Rangi (river). The 2007 Crater Lake dam burst lahar travelled down the Whangaehu river channel, at the time of the lahar Ngāti Rangi issued a press release celebrating the lahar and the gift from the mountain that Whangaehu carried to Ngāti Rangi (Che Wilson pers com. 2009). Keith Woods of Ngati Rangi told me:

Why should we ask the mountain to manage itself around us? We should manage ourselves around the mountain. The mountain was trying to share with the nation that these are natural processes (Keith Woods pers com. 2009).

5.6 The 'Gifting' of the Peaks

The gifting of the peaks is a very controversial and emotional issue for the iwi whose rohe are now included in the park, as the statements made to the Tribunal that I have quoted above show. To understand the relationships and underlying grievances between stakeholders in the National Park and lahar management, it is important to have an understanding of the 'gift'.

Towards the end of the nineteenth century, romantic colonial sentiment prompted public support for Government appropriation of symbolic land marks for the benefit of all Aotearoa/New Zealand (Ginn 2008). Land appropriation was aimed at Māori land because of the dominant colonial attitude at this time that Māori 'don't need or use the land' (Walker 1987, pg 59). The reservation of mountains for public use was a symptom of changing Pakeha relationships with mountains; while initially regarded as obstacles that needed to be conquered, mountains began to be perceived as places that should be protected from sale and private ownership and reserved for public recreation (Ruru 2004a). Tongariro National Park was seen as land that was useless for farming or development; however the Government of the day felt that the land could be used for tourism and recreational purposes (Pawson 2002; Ruru 2004). The National Parks Act (1980) and the Conservation Act (1987) ensure that the mountains of the Tongariro National Park are managed according to a 'protection for preservation' stance that runs contrary to conservation through sustainable use that iwi used to live among the

mountains (Ruru 2004a). Section 4 of the National Parks Act (1980) declares national parks are protected for intrinsic values, Jacinta Ruru (2004a, pg 117) in her article *Indigenous peoples' ownership and management of mountains* states that this recognition of the landscapes represents a step towards an alignment between Pakeha and Māori worldviews. However Pakeha notions of landscape 'protection' often infringe on sustainable use as practice for generations by iwi in these area.

Boast, Clark and Lang (2007) in their closing submission for Ngāti Hikairo, as presented to the National Park Waitangi Tribunal Inquiry hearing, give the most detailed account I have been able to come across of the 'gifting'. According to Boast et al. the acquisition and partitioning of land during the creation of the national park was part of a highly managed and manipulated process. The vesting of the peaks was one of a number of orders vesting land in the Crown in the period from 1886-7; in a space of 20 months the Native Land Court facilitated the vesting of 25 blocks of land (Boast et al. 2007, pg 20). It was at this time that Te Heuheu executed the document of conveyance gifting land to the Crown. As well as the gift block, six other adjacent blocks in Tongariro and Ruapehu were vested. Boast et al. point to a lack of documentation of the vesting in the Māori Land Court minutes book as evidence for the transfer being managed behind the scenes; they suggest that the transfer was managed by the Grace brothers, who had married ariki from senior Tūwharetoa lineages. As well as being married into Tūwharetoa, Laurence and John Grace had links to the Native Department and worked with solicitors on Māori land practice. The brothers were well acquainted with the Taupo region and were well-connected with Wellington (and the centre of colonial power); Boast et al. represented them as favouring and actively promoting Government land tenure policy, rather than Ngāti Tūwharetoa's interests. The third brother, William Grace, is alleged to have used the native land court to further his own land purchasing interests, supporting claimants from who he intended to purchase. William Grace is also accused of using the land court to reward those of Tūwharetoa who had supported the Crown, and to secure land as payment for Government cost incurred during surveying Taupō-nui-a-Tia (Boast et al. 2007).

Laurence Grace, Te Heuheu's son in law, Member of Parliament, advisor to Ngāti Tūwharetoa, and witness to Te Heuheu's signature on the deed, was the principal instigator in persuading Te Heuheu to make the 'gift' (Te Heuheu 2007, pg 116). At the National Park Waitangi Tribunal Hearing Horonuku Te Heuheu's descendant, Tumu Te Heuheu said that:

In entering into this inquiry, Ngāti Tūwharetoa made a conscious decision to bring forth evidence on the Tongariro maunga that has never been spoken of to the uninitiated within Ngāti

Tūwharetoa, let alone outside the tribe. The enormity of this decision should not be overlooked. It is a measure of what this claim means to Ngāti Tūwharetoa. It is a recognition that the mana of Horonuku Te Heuheu has suffered unjustly for what occurred. It is a hope that now, some 120 years distant, the Crown and the nation has matured sufficiently to try and understand that the gift has always been spoken of in a monocultural context that bears no relationship with the Ngāti Tūwharetoa paradigm (Te Heuheu 2007, pg 141).

Te Heuheu went from holding the mountains in joint title to acting as a management observer through the seat on the Tongariro National Park Trust Board granted to him by the Crown and his descendants have not been given the opportunity to have a meaningful input into the management of the National Park (Te Heuheu 2007, pg 179). John Grace, a descendant of the Grace brothers, wrote in *Tuwharetoa: A history of the Maori people of the Taupo district* (1959) that the peaks of Tongariro are haunted by supernatural beings, guardians of the mountain that punished those who violated tapu. Travellers across the Rangipo Desert were forbidden to prepare food or look at the volcanoes; offenders would perish in the desert (Grace 1959). In 1878 a representative of the Ngāti Waewae hapu wrote to the Native Land Court that:

maunga were sacred and that if Pakeha were to access the maunga death would result (Kane et al. 2007, pg 9).

In total 2630 hectares were gifted, including the peaks of Tongariro, Ngāuruhoe and Ruapehu. Government land purchases since the 'gifting' have seen the initial 2630 extended to 80,000 hectares, which now makes up the Tongariro National Park (Sperber 2003). Tongariro was the first site in the world to be given a 'cultural' listing by UNESCO (United Nations Educational, Scientific and Cultural Organisation) because of its cultural and spiritual associations (Boast et al. 2007).

The 'gifting' of the peaks is an important event that has ongoing ramifications for iwi-Crown relationships, and should be considered in the regional context of colonisation and land appropriation that was occurring at the time. Boast et al. believe the process of alienation of the peaks from Māori was a very carefully managed and controlled by the Crown in order to achieve its key objective, which were the extension of its sovereignty and the expansion of European settlement. Setting up a national park was a smaller part of a colonial programme of frontier expansion, railway construction, land acquisition, settlement, and the expansion of a tourist industry in Aotearoa/New Zealand. Due to the fast nature of the alienation and acquisition often even the iwi that occupied that area did not know

what was happening to the land (Boast et al. 2007). The 'gifting' occurred against a background of pre-emptive Crown purchases, where the purchaser had a monopoly and the ability to dominate and to drive the property market, and the government was made land offers under one third of the market value (Boast et al. 2007). The Crown had acquired the land around the 'gift' prior to Te Heuheu signing the deed; the Crown had been 'stealthily' acquiring the land around the mountains and by September 1887 much of the region was in the Crown's hands already.

Te Heuheu Tūkino IV, also known as Horonuku supported Waikato in land feuds against the Pakeha and also supported Te Kooti in his campaign against the Crown. In 1887 Horonuku Te Heuheu signed over the peaks to become the Tongariro National Park. In a land court hearing in 1886 many tribes came and claimed part of the land surrounding Lake Taupo; Te Heuheu's European son in law thought that by siding first with Waikato and then with Te Kooti, Te Heuheu's mana had been diminished, and suggested that to maintain his land and his mana he should gift the peaks to the Crown as a national park (Grace 1959, pg 498). Che Wilson in his brief of evidence to the Waitangi Tribunal National Park Inquiry said:

my understanding is that Te Heuheu was hiding Te Kooti from the Crown at Rotoaira and that Te Heuheu was caught during the Crown's pursuit of Te Kooti and put under house arrest. The gifting of the maunga came out of the time Te Heuheu spent under house arrest (Wilson 2006, pg 7).

The Native Land Court at the time of the 'gifting' only acknowledged Te Heuheu's claim to the mountains, and denied other iwi and hapu rights to the area (Boast et al. 2007). Records from the Land Court show the 'gift' was given by Te Heuheu in the Native Land Court at 10am on 23rd September and that Te Heuheu gave the peak blocks as a gift from himself for the purpose of a national park; the court accepted the 'gift' and vested the six blocks in the Crown in a 'state of freehold' (Boast et al. 2007, pg 37). Following the 'gifting' there were many widespread applications for a rehearing; five applications were lodged objecting specifically to the peak blocks on behalf of iwi such as Ngāti Kahukurapango, Whanganui, Ngāti Waewae, Ngāti Tama, Ngāti Wi and Ngāti Marangataua (Boast et al. 2007, pg 42). All applicants sought to object to Te Heuheu's claim on the peaks. The applications were heard at Cambridge in January 1888, and the applicants were supported by Judge Brookfield, one of the original judges on the hearing who felt that the case was heard unfairly as it was not publicly notified and scheduled at a time that conflicted with other land hearings for many of the interested parties. However the court dismissed the rehearing applications. The creation of a Tongariro National Park was supported

by many people as it was seen as a way of preventing the thermal areas from falling into private hands and promoting tourism development in the central North Island (Boast et al. 2007, pg 51). The Yellowstone National Park was the only other national park in existence at this time, and was a model for the set up of the Tongariro National Park; the Yellowstone National Park is also known for its thermal springs and volcanic features.

While Ngāti Tūwharetoa has always acknowledged the gift is a myth that conceals a more painful truth, the Waitangi Tribunal National Park Inquiry in 2007 was the first time that Ngāti Tūwharetoa decided to say publicly 'it was not a gift' (Te Heuheu 2007, pg 100). The myth of the 'gift' is seen by Tūwharetoa as inextricably linked to the steady unravelling of their mana and sovereignty as the Crown extended into the interior of the North Island (Te Heuheu 2007). Horonuku Te Heuheu was forced into a position where the most palatable option was to make the 'gift' and the story of the 'gift' epitomizes, to Tūwharetoa, the cultural chasm between the Crown and Māori. Ngāti Tūwharetoa claim that the Crown imposed upon them its own conception of the 'gift' and was in breach of its Treaty duties when it failed to give meaningful effect to what Ngāti Tūwharetoa were seeking to achieve. Ngāti Tūwharetoa feel the use of the term 'gift' has to describe the transaction has shaped perceptions of what it was truly about. They feel that is an inevitable consequence of using an English word that has particular legal connotations, and it should not be overlooked that the document signed by Te Heuheu did not refer to the transaction as a 'gift', and the deed of conveyance described the transaction as giving the Crown 'nominal consideration' which is very ambiguous (Te Heuheu 2007, pg 101).

In pre- European times Māori recognized three forms of land title: prior right of discovery, ancestral right and right of conquest. Ancestral right was validated by genealogical recitation back to the founding ancestor of the tribe and in time became inseparable from the right of discovery (Walker 1987, pg 44). This is why stories are important, the Whakapapa and accounts of settlement from Ngāti Rangī and Tūwharetoa given so far are Māori land title to the Tongariro National Park. While the 'gift' has been explained by Ngāti Tūwharetoa's paramount chief and various iwi members over the years, DOC only now feel they understand the different perceptions of the 'gift' that exist among the National Park claimants (Green 2007, pg 28). The fact that Tūwharetoa is only now starting to challenge the myth of the 'gift' shows that previously they have not felt that this knowledge would be appropriately received and respected. It is possible that they have only begun to speak of it now because they wish to address this issue in the National Park Waitangi Tribunal Inquiry. If Tūwharetoa did not feel comfortable enough to clarify this important issue with DOC previously, it suggests the relationship has not been as

supportive as DOC realises or acknowledge publically. Other reasons the 'gifting' and the relationships with the mountain have not been publically discussed before is because it is sacred knowledge, not for public consumption, and for some iwi it:

challenges the very being of our people to relate these things in the Pakeha world (Richards 2005, pg 9).

The issue of the 'gifting' is fundamental to the iwi of the mountains. The 'gifting' has and will play a role in all relationships with DOC and government organisations, not just management of the park. As the iwi's accounts point out, the mountain is not just a feature of the natural landscape, it is a taonga and it is essential to the identity of several iwi.

6. At the interface of the human and the 'natural': Hazard management and response theory

What is an active volcano? A risk? A god? A natural event? Perception and classification of natural hazards are filtered through an individual's worldview and culture. For Central North Island iwi living on the volcanic plateau, volcanic activity is part of their identity. Colin Richards (2005) of Ngāti Rangī identifies with the active volcano Mt Ruapehu through his Whakapapa-genealogy:

I often heard our old people speak of the streams and springs that flow from our Koro Ruapehu, as toto (blood). They were referring to the life essence that flows in our ancestral streams and rivers, from the mountains to the sea. And if we look into the depth of that, they were referring to the life force that provides all living things with their life sustenance (Richards 2005, pg 2).

Volcanic events, such as the eruption of Mt Ruapehu, are often referred to as 'natural' events or hazards. When talking about 'natural' hazards, it is important to note the contested understandings of 'nature' after the work of authors such as Bruno Latour and Steven Hinchliffe. One of the key points both Latour (2004) and Hinchliffe (2007) make is that non-humans are dynamic participants or 'actors' in the creation of worlds. In Hinchliffe's theory of politics of nature (2007) nature is made up of many different practices, all of which are implicit in the continual shaping of those natures. According to Hinchliffe, nature often seen as either 'out there' unsullied by humans and politics or a constructed place within society. Hinchliffe refers to these alternate constructions of nature as a:

choice between a crude natural realism and a crude social idealism. Both tend to produce a mute, inanimate nature, one that either provides fixed bedrock to truth or one that simply gives in to human volition. Either way, nature is not up to much (Hinchliffe 2007, pg 35).

With the Maori worldviews of nature that I have outlined in chapter 3, that of whakapapa and kin relationships- active and interrelated nature as an alternative to the 'mute, inanimate nature' described by Hinchliffe, I seek to challenge the 'natural' in 'natural hazard'. This chapter introduces hazard management and co-management theory on an international scale, before focusing on the current situation in New Zealand and key policy that informs the 'natural' resources sector.

6.1 'Natural' or 'social'? Emerging theories in natural hazard management

'Natural' events that impact negatively on humans are commonly termed 'natural disasters'. This term is misleading as it fails to acknowledge the human aspect of 'natural disasters'. No disaster is 'natural', 'natural hazards' and 'natural disasters' inherently exist at the interface of human and environmental systems; it is through interaction with human activity that events become disasters (Hoffman and Oliver-Smith 1999). By looking at 'natural hazards' and 'natural disasters' as events that are positioned at the human/nature interface, we empower ourselves to accept responsibility for negative outcomes of natural events. Hinchliffe (2000) believes:

Any description that attempts to purify this mixture by labelling it 'nature' is either a poor description or it is one that is attempting to take someone or something out of the frame of responsibility. Attributing an event to nature can therefore be a political move (pg 149).

In this way labelling an event a 'natural disaster' can politically benefit some groups and disadvantage others. Hinchliffe also suggests that nature is 'blamed' for disordering society; 'natural disasters' are often seen as causing society to move from ordered state to a disordered one:

To label something a 'natural' disaster is to start to sort through the stories told in the wake of a disaster, and to absolve politics and politicians from taking matters seriously. It is to excuse the failure to address all the contributions to suffering (Hinchliffe 2000 pg 45).

Rather than seeing disorder being imposed on society, disorder is already there, lurking in the landscape, well before the actual 'event' or 'disaster'. In this way events can be viewed as disasters waiting to happen, in which case the blame has to be distributed more widely; blame can not rest upon the event itself and we need to take responsibility for disaster (Hinchliffe 2000 pg 123).

The construction of 'natural disasters' as an event with a human component is relatively recent. Historically disasters were seen by many cultures as acts of God, and subsequently mortals were at the mercy of nature and the divine. By perceiving disasters as divine activity we encourage a general acceptance of disasters as external, inevitable events, over which we have no influence (Smith 2004). By acknowledging humans as a factor in disaster construction we resist this traditional 'external, inevitable'

positioning, and empower ourselves to not only take responsibility for disaster causes, but to work towards avoidance and mitigation of negative impacts from environmental phenomena. The acknowledgement of human factors in disaster has given rise to a 'hazards based viewpoint': an emerging scientific framework that uses a blend of structural and non-structural measures to consider hazard events (Smith 2004, Hoffman and Oliver-Smith 1999). By acknowledging the human in a hazard event, 'hazards based viewpoint' allows us to consider factors such as colonial legacy and economic dependency when determining hazard vulnerability (Schele 2000, Mercer et al. 2007). While this paradigm allows for the consideration of social and cultural factors, the dominant western science based hazard management, like most western science disciplines, still prefers to contain nature rather than work with it. This dominant interventionist approach resembles an 'ambulance at the bottom of the cliff' response, as by seeking to contain nature we often exacerbate the risk rather than allow the natural event to proceed. Critics of the current dominant approach have called it materialistic and deterministic, reflecting an undue faith in technology and capitalism to mitigate natural hazards (Smith 2004, Haque and Etkin 2007, Mercer et al. 2007).

'Natural disasters' are born from spatial multiplicity; just as the causes are neither purely natural nor purely social, the effects are also co-productions and therefore management also needs to be. The inclusion of social and cultural factors in disaster management has, in recent years, drawn increasing attention to cultural systems that promote a non-interventionist natural hazard response. Human societies and their environments are fundamentally inseparable, engaged in a continuous process of mutual constitution and expression (Huppert and Sparks 2006). Many societies contrive to overcome the challenges of their environments enabling their continued existence on a day-to-day basis. Local communities generally show great understandings of their environment, and all too often disaster intervention from outside the community, based on less-than-holistic research disrupts and diminishes local environmental relationships, rather than augmenting disaster recovery (Hoffman and Oliver-Smith 1999). Communities in hazard zones generate ideologies and strategies to enable their lifestyles and explain their local environmental circumstances (Hoffman and Oliver-Smith 1999; Morrow 2002).

One way in which a community adapts to specific environmental conditions is through their perception of risk. This risk perception is linked to the worldviews and values that guide a group's interaction with the environment and affect their judgement (Hoffman and Oliver-Smith 1999). While a common worldview may lead to a common risk perception, different factions in a society can lead to

differing evaluations and perception of hazards. Therefore, hazard perception and construction, risk calculation and even the definition of calamity, and the way these concepts are contested, increasingly figure in the social and cultural study of disasters. Matters of risk perception are methodologically difficult to study because they address theoretical questions about the cultural construction of reality. Particularly pertinent to the study of risk construction is how a natural event is framed as a disaster, who dominates the frame, and consequently takes command of the risk perception (Hoffman and Oliver-Smith 1999). Modern communications, especially non-stop news coverage, means that risk and framing of the dominant perception feature regularly in newspapers and on television screens throughout the world as disasters are reported (Smith 2004). The media plays multiple roles in education and communication about risk, and can be a powerful mechanism for persuading politicians to act and communities to take notice of information. However, the media can also be sensationalist and only become interested in natural hazards when negative impacts such as death and destruction have already occurred (Huppert and Sparks 2006).

It is critical that hazard managers work with social and cultural vulnerability as well as environmental setting in understanding disaster. For hazard managers one of the biggest issues is enabling communication of information between stakeholders in hazard situations. While there is a considerable body of hazard science available, communication of science in a way that it is accessible to non-scientists is limited (Wynne 1996; Huppert and Spark 2006). Scientific knowledge is, in many cases, shrouded in a mantle of 'technical impenetrability' which can prevent local communities undertaking good risk evaluation (Alexander 2007). While hazard managers have some responsibility to disseminate relevant science to at-risk communities, they also have a responsibility to these communities to make scientists aware of the needs and issues in the locality that contextualise the hazard creating it as a unique event. Facilitation of good communication between hazards stakeholders can be very problematic for hazard managers, as the individuals who produce scientific results for dissemination tend to come from a hazards science background. Very few scientists write with multiple non-science stakeholders in mind; in part this is because it is not easy to develop the parallel skills of writing for scientific, political and public audiences (Alexander 2007; Rozakis 2007).

Communication issues can be particularly problematic for hazard managers when trying to translate information across different worldview or epistemological boundaries. Issues of epistemological differences are particularly pertinent when working in Indigenous Protected Areas (IPAs) or land that is managed under a non-western science regime. Recognising and respecting

different epistemologies can be challenging for hazard managers trained in a culture of western scientific superiority, increasingly there is international recognition of 'traditional indigenous knowledge' in the hazard management discipline, as exemplified by Becker et al.'s work in tsunami warnings in the USA (2007). However, this recognition of non-western scientific hazard knowledge is relatively new to the international hazard management community, and there is a notable resistance by many practitioners to engage with it. Toupal (2003) postulates that traditional management approaches under western science struggle to engage in a meaningful way with different cultural knowledges as the dominant resource management paradigm relies on biophysical sciences to understand resources, and on social sciences to understand cultural resources (pg 2). This management approach restricts the ability of resource managers to understand resource context and interactions, especially interactions with human systems.

6.2 'Natural' resource management: Examples of co-operation between indigenous groups and Governments.

The dominant western science hazard management paradigm struggles to engage with environmental knowledge produced by other cultures. To be able to engage a wide range of stakeholders, hazard management needs to understand and work with the needs, objectives and cultures of the other participants in the process (Alexander 2007). Ginn (2008) identified reluctance among environmental scientists to engage with indigenous cosmologies, and hazard managers are no exception to this. Despite this reluctance there is an increasing move by resource managers to incorporate indigenous knowledge into environmental management and planning processes internationally (Boast et al. 2007). Indigenous knowledge is increasingly recognized in forums such as the United Nations as a form of rational and reliable knowledge developed through generations of intimate contact by native peoples with their lands. This model accepts that indigenous knowledge has equal status with western scientific knowledge (Mauro and Hardison 2000). Despite efforts made by international organisations like the United Nations, there is an ongoing lack of support for local hazard research that takes into account indigenous knowledge (Mercer et al. 2007). It can be argued that respect for cultural diversity and the treatment of indigenous knowledge as coequal and complementary to western scientific knowledge is fundamental to holistic resource management (Mauro and Hardison 2000).

Internationally, resource management has become an integral part of many indigenous peoples' struggles for self-determination (Ruru 2004a). National parks and protected areas are often managed in a way that promotes western values, such as: preservation of scenery, recreation and tourism development and scientific research sites, with indigenous values forming a secondary consideration. Globally national parks have become a major tool in efforts to preserve endangered species, habitats, ecosystems, and valued landscapes (Stevens 1997b). Many of these protected areas are the homelands of indigenous peoples. While protected area status for indigenous land can alienate the original occupants, positive outcomes of protection include opportunities for legislated indigenous management or co-management, parks that support indigenous peoples in their endeavour to maintain their rights to land, subsistence and self-determination. Designation as a protected area also can benefit indigenous claimants by protecting landscapes from destructive development and assisting local efforts to maintain cultural continuity and relationships with nature. In recognition of these positive outcomes, some indigenous groups are themselves proposing the establishment of protected areas (Stevens 1997b, pg 14).

The dominant model upon which western national park management is based was developed out of the Yellowstone National Park in the United States of America. With the formation of Yellowstone, national parks became areas in which settlement is prohibited and both subsistent and commercial uses of natural resources are banned, promoting preservation (Stevens 1997b, Toupal 2003). Under the Yellowstone model First Nation Americans have been prevented from participating in the governance of areas they have historically inhabited (Toupal 2003). While the Yellowstone preservationist model is prevalent throughout the West, resistance to this form of management is present in the creation of protected areas that allow for relationships between natural resources and indigenous communities. Internationally there have been a number of different approaches to creating protected areas that recognise indigenous land claims. These approaches have included: financial compensation for loss of land, resettlement programs for displaced groups, development outside park boundaries to decrease reliance on park resources, access to subsistence resources within parks, declaration of 'traditionalised' zones within parks and inclusion of enclave communities within parks (Stevens 1997b).

The Yellowstone model has been very influential in national park creation in Australia. Like the First Nations in America, indigenous groups in Australia have been prevented from participating in

national park management by their unfamiliarity with western science based management structures, lack of financial resources and time, geographical isolation, language differences, and alternative social structures (Lloyd et al. 2005, pg 408). While participation is in general limited for indigenous groups in Australia, Northern Territories has lead the way in inclusive co-management. In particular the management of the Kakadu and Uluru-Katu Tjuta parks have drawn international attention as positive examples of indigenous management of national parks.

Kakadu was the first Aboriginal inhabited national park to be established in the Northern Territory of Australia in 1979. The Kakadu area was traditionally part of the homeland of the Gagudju and Jawoya Anangu peoples. Kakadu Park is widely regarded internationally as one of the best co-operative national park management examples (Lloyd et al. 2005). The Kakadu joint management plan requires the local Aboriginal community and the state appointed director to work together and establish plans for managing Kakadu and balancing the interests and values of the Aboriginal community with the preservation of the natural and cultural values of Kakadu. Of the fourteen members that comprise the Kakadu management board, ten represent the interests of the traditional owners, one represents each of the directors of national parks and Parks Australia, and one is a prominent person in conservation and tourism respectively (Te Heuheu 2007, pg 203). After the establishment of Kakadu, nine more Aboriginal-inhabited national parks were developed on lands that are wholly or partly Aboriginal owned and are leased to the government for use as national parks. The national park leases negotiated during this period of park establishment in the 1980s contain conditions establishing safeguards to ensure respect for the Aboriginal owners land use rights and cultural concerns and their participation in park management (Stevens 1997b).

Another of the Australian parks established during the same period as Kakadu is the Uluru-Katu Tjuta Park. The conditions of the Uluru-Katu Tjuta lease include provisions giving Aboriginal owners a majority of seats on the management board that shares authority with the chief administrator of the national park and the Federal Government. One important requirement of the lease states that meetings are to be held in the local language (Stevens 1997b, pg 51). Of the twelve members of the Uluru-Katu Tjuta Board, eight Aboriginal members are nominated by the Anangu traditional owners, and the remaining members are nominated by the Federal Minister responsible for tourism, the Federal Minister responsible for Environment, the Northern Territory Government and the Director of National Parks; each of these appointments have to be approved by the Anangu (Te Heuheu 2007, pg 203).

6.3 Indigenous people's involvement in hazard management: An international overview.

Long associations with specific places and environmental relationships give indigenous groups unique local environmental knowledge. Recognition and inclusion of local indigenous knowledge into resource management is important both in supporting the maintenance and use of non-western knowledge systems and indigenous self-determination, and also in promoting the perspective that groups with a long association with a place have a better understanding of environmental events and risks. Indigenous knowledge of local events and phenomena can consequently be very important to effective local hazard management. Hazard managers are increasingly seeking to engage with non-science communities when planning for natural events. Participation of local communities has been successfully tested in hazard programs around the world (Aldunce and Leon 2007). Indigenous communities are important stakeholders in the environment as they often have a high level of environmental knowledge that can include knowledge of local hazards. As researchers we need to be wary of romanticising indigenous connection with the earth, while respecting and acknowledging each group's unique identity that draws from the environment. Clark (2008) in his work on fire management by Aboriginal Australian groups makes the point that groups that have lived for long periods of time in a dynamic and in Clark's case study, fire prone environment, have lived with the challenges of that particular environment. Clark makes the case that indigenous groups have evolved along with their environment and have knowledge of local resources, and can tell when resources are threatened. Infrequent events or 'hazard' events, like the bush fires Clark describes, are part of indigenous groups' environment and history.

Traditionally indigenous knowledge of hazard events has been ignored by western science, hazard and disaster science has tended to be deterministic, individualized, reactive and with limited acknowledgement of social and cultural context (Schlehe 2000). As hazard studies begin to engage with different worldviews, scientists are publishing studies that trace myths and legends back to natural phenomena. Several case studies of disaster management practices based on indigenous groups in a traditional economic and social context have also been published. Example of this is the King, Goff and Skipper's (2007) article *Maori environmental knowledge and natural hazards in Aotearoa/New Zealand* and the Becker et al. (2007) article *Use of traditional knowledge in emergency management for tsunami hazards: A case study from Washington State, USA*. Indigenous hazard and disaster knowledge is

increasingly accepted in scientific communities resulting in increased recognition in government policy and planning. For example discussions between First Nations and Washington State in the United States of America have resulted in improved hazard knowledge and evacuation plans (Becker et al. 2007).

The Indonesian island of Java is another site of hazard contestation. Western trained hazard management exists alongside traditional Javanese hazard knowledge. As a result of this co-existence, western trained scientists have learnt that hazards are not always perceived negatively by local communities. Phenomena such as volcanoes are considered by locals as places of supernatural power, and continue to play an important role in Javanese spirituality (Schlehe 2000).

Environmental phenomena in Australia also have important spiritual and cultural associations for Aboriginal communities, many of which invoke mythology to explain natural disasters. The Yanyuwa people believe that a severe cyclone (Kathy) on 24 March 1984 was caused by European fishermen desecrating sacred sites on the Pellew Islands (Baker 1999, pg 210). Groups such as the Yanyuwa have an opportunity to engage in natural hazard management through initiatives such as the Australian Government Australian Indigenous Protected Areas program; this allows Aborigines and Torres Strait Islanders to enter into voluntary partnerships with the Australian Government to promote conservation initiatives on indigenous owned land. This program promotes conservation as well indigenous knowledge and cultural values associated with the environment (Okeroa 2009). Through the IPA the Australian Government sought to create a system of national parks that were more representative, comprehensive and adequate (Okeroa 2009).

6.4 Resource management in Aotearoa/New Zealand 2009: The current state of co-management.

Co-management is a term frequently used when discussing Maori/Pakeha relations in Aotearoa/New Zealand. The use of the term in discourse, legislation and policy is problematic as co-management can cover a huge range of participation levels. Co-management can mean everything from consultation and informing stakeholders, through to shared management based on achieving mutual goals. Decision making authority does not reside directly with local residents when local participation in protected area planning is limited to consultation, although it may be held by a management board, committees or protected area administrative staff that include indigenous members. In many cases,

consultation is conducted on an informal ad hoc basis. At its strongest form consultation is an ongoing process which infuses all dimensions of management with indigenous perspectives, knowledge and concerns (Stevens 1997c). Co-management in the strongest sense is based on formal structures and power sharing.

Strong co-management is an effective way to integrate the interests of indigenous peoples with national needs in a way that will ensure continuing conservation of natural and cultural diversity (Sneed 1997). Co-management between indigenous peoples and governments can both foster effective conservation and support indigenous sovereignty, land rights and self-determination (Stevens 1997c). Full indigenous management is likely to remain relatively rare in the global sense; experience to date suggests that governments prefer to retain at least co-management authority.

International indigenous communities are increasingly active in the criticism of the conservation movement. Indigenous leaders like Tumu Te Heuheu of Ngati Tuwharetoa highlight the disparity between how conservation is portrayed and the reality for local communities. Historically the conservation movement in New Zealand has tended to reflect Pakeha values, there is currently pressure on DOC from iwi groups to explore the inclusion of Māori values into natural resource management. Parks like Kakadu Indigenous Protected Area in Australia, set international precedence for a Māori managed National Park in Aotearoa/New Zealand. Joint management by Māori and the Crown of a national park would be significant for hazard management as a large proportion of Aotearoa/New Zealand's 'risk' areas are contained in national parks. Joint management of national parks also creates an opportunity to consider the potential for joint management of other natural resources important to iwi groups.

Natural hazard management in Aotearoa/New Zealand should be sensitive to Māori culture and resource management objectives, as hazard managers are facing a future in which being inclusive of mātauranga Māori will be integral to conducting good natural science. Hazard management has not fully embraced this; in fact Aotearoa/New Zealand remains behind other nations that are striving to provide for a joint management model that takes into account the rights and needs of indigenous people (Te Heuheu 2007, pg 202).

Under current Crown 'natural' resource management paradigms the most valued landscapes in Aotearoa/New Zealand are those that are deemed untouched. Conservation thinking, like landscape value, remains overwhelmingly preservationist, and only engages with indigenous knowledge when its

serve the goals of the conservationist. Iwi are often seen as making trouble by demanding acknowledgement of their sovereignty over 'national treasures' (Ginn 2008). Natural resources are inherently part of sovereignty and self determination for iwi; consequently it is hard to separate issues of environmental management in Aotearoa/New Zealand from Treaty of Waitangi issues. Natural phenomena, such as lahar, are taonga (treasure) to many iwi. The Aotearoa/New Zealand Government, through agencies like DOC, has long regarded natural hazard management and natural resource management as separate issues. This separation is problematic for iwi, and as a result the Waitangi Tribunal Inquiry frequently deals with iwi grievances over DOC's management of natural resources. Over time DOC has come to accept the need to work with iwi to create resource management partnerships. Local authorities, on the other hand, have adopted a minimal interpretation of their responsibilities under natural resource management law to 'take into account' the Treaty of Waitangi, denying iwi the opportunity to be actively involved in determining the future of their natural environment (Durie 1998). As Jacinta Ruru (2004b, pg 244) puts it:

It is timely to consider the role of the Treaty of Waitangi in conservation management for while other countries, such as Australia and Canada, are advancing environmental management rights for their indigenous peoples. New Zealand has indicated a pending retreat.

Jacinta Ruru is a Māori lawyer who has published significant work on indigenous knowledge and environmentalism in Aotearoa/New Zealand. Historically Māori disconnection from natural resources has been ensured through 'monocultural' legislation premised on western scientific cultural values. Ruru feels that while present legislation somewhat remedies the cultural bias of past law, there is still a lack of recognition of Māori rights to own, or participate in the management of natural resources in accordance with their own worldview. Ruru believes that landscapes have the potential to be employed as a means for Aotearoa/New Zealand to move towards a Māori/Crown partnership, giving effect to the Treaty of Waitangi (Ruru 2004a, pg 117). Ruru feels that Māori and Pakeha association with the natural world can co-exist through giving effect to the principles of the Treaty of Waitangi (Ruru 2004a, pg 130).

6.4.1 The role of the Waitangi Tribunal in fostering co-management

Ruru is optimistic about the Treaty of Waitangi, and the Waitangi Tribunal's inquiry into treaty grievances, as a force to promote Crown/iwi partnerships. However, the power of the Tribunal depends on the Crown's willingness to act on Tribunal recommendations. From evidence presented in Waitangi

Tribunal Inquiry hearings to date, it is clear that iwi and the Crown have a history of talking past each other. While the Tribunal can recommend that certain discussions take place and bring information to the fore, it is can do little to change the underlying culture of mistrust and ignorance that persists on both sides. Due to the historical nature of the grievances and the long term impacts of bad relationships, it was never going to be possible for the Waitangi Tribunal to completely change attitudes of mistrust. However the Tribunal can empower groups to engage with a more positive and trusting outlook by highlighting some of the fundamental misunderstandings that lead to bad relationships between iwi and Crown partners. Doris Johnstone of DOC policy acknowledged at the Whanganui River Hearing at Putiki Marae that attending Waitangi Tribunal hearings has been good for relationships, and has increased DOC awareness of relevant issues and the strength of feeling in the communities it works in.

6.4.2 The status quo; Legislative mandate for the inclusion of Māori worldviews in resource management

Fundamental differences between Crown and iwi are inherently epistemological, being drawn from two different worldviews. Iwi see a need for the Crown to take an approach to the protection of natural resources that provides for Māori cultural and spiritual relationships with the environment (Waitangi Tribunal 2008, pg 1232). To date the Crown has taken the position that the current environmental legislation adequately provides for Māori cultural and spiritual relationships, as well as providing opportunities for environmental justice to be considered in resource management decisions. The Crown feels that in respect of Central North Island iwi the current status quo for is sufficient for the provision of cultural and spiritual relationships with taonga and the natural environment (Waitangi Tribunal 2008, pg 1245).

The National Parks Act (1980) and the Conservation Act (1987) promote a preservation stance that is contrary to Māori sustainable use resource management. Section 4 of the National Parks Act (1980) declares national parks are protected for intrinsic values. While Ruru feels this recognition that landscapes and resources contain their own value represents a small first step towards an alignment between Pakeha and Māori world views, preservation of landscape for 'intrinsic value' does not recognise the spiritual and cultural use of the landscape (Ruru 2004a, pg 117). Currently, recognition for Māori interest in natural resource management is promoted in a tokenistic fashion in both acts. The Conservation General Policy , 12 (c) states: 'Mātauranga Māori and tangata whenua interests in research and monitoring on public lands and waters, species and resources should be recognised and may be

supported by cooperative agreements’; likewise the General Policy for National Parks, 2(b) states ‘Partnerships, to recognise mana and to support national parks, should be encouraged and may be sought and maintained with tangata whenua whose rohe covers any national park or part of a national park. Such partnerships will be locally appropriate.’ Neither of these statements are strongly worded, and the inclusion of ‘should’ and ‘may be’ as opposed to ‘must’ or ‘will’ allows the interpretation of the statement and the degree to which it is engaged with to be determined by the individual.

While the intention of these policies may be to provide for active Māori engagement in the management of natural resources, the wording of the statements show little policy support or incentive for active engagement and co-management. Ruru (2004a) believes that any expression to give effect to the Māori environmental ethic of kaitiakitanga is absent from DOC. Likewise hazard managers working with natural resources under these acts show little evidence of recognising these policies as directives to engage with iwi. From my own interactions with hazard managers across Aotearoa/New Zealand, there are presently only token efforts being made to address iwi issues in hazard management. From my experience at the Waitangi Tribunal Hearings, a major barrier in creating co-management partnerships is the differing epistemological background which informs different natural sciences. Tumu Te Heuheu (2007) of Ngāti Tuwharetoa, feels that western trained scientists are unwilling to accept oral histories as law or science; they do not accept oral accounts as ‘proof’ of ‘fact’ on which to base management decisions. For Māori, conservation through sustainable resource use tends to be incorporated into everyday living, as opposed to something distinct and independent, and is often maintained inter-generationally through oral retelling (Te Heuheu 2007). In submission to the Tongariro Power Development Scheme resource consent hearing, Keith Woods of Ngāti Rangī, was told that the conservation concerns of iwi were ‘not relevant in the modern world’ (Woods 2006, pg 9).

6.4.3 The Department of Conservation; Building good partnerships?

There is a general discontent between Māori and DOC as a result of perceived alienation by the Crown of Māori from natural resources. The Waitangi Tribunal Inquiries provide an interesting insight into the culture of DOC and the historical and modern grievances that are preventing trust and partnerships between iwi and the Crown. DOC’s mandate under the Conservation Act to ‘give effect to the principle of the treaty’ is a strongly worded direction for engagement. As a result of this mandate DOC has developed ‘Te Kete Taonga Whakakotahi: A Conservation Partnerships Toolbox’ which DOC uses to promote the involvement of tangata whenua in the management of conservation in accordance

with its responsibilities as a Crown representative, to give effect to the principles of the Treaty of Waitangi in its work (DOC 2006a).

Four senior DOC staff (Doris Johnstone, General Manager of DOC policy group; Damien Coutts, Conservator for the Whanganui area; Dr Nick Peet, Whanganui Area Manager; and Paul Green, Tongariro/Taupo Conservator) presented evidence on DOC's relationship with iwi to the Waitangi Tribunal Whanganui River Inquiry (Wai 903) at Putiki Marae (1/03/09). The evidence of the four senior DOC staff members made it clear that engagement with iwi is still very dependent on the willingness of individual staff members together with the attitude of the Conservator (Regional Manager) giving rise to very different experiences of DOC for iwi groups nationally. From this evidence it seems there is little 'top down direction' on the part of DOC for levels of engagement with iwi. However it was encouraging to hear Doris Johnstone state:

Engaging with Māori is part of how we do our work and creates better conservation (Johnstone, Putiki Marae, 1/03/09).

This suggests that there is an expectation by DOC that staff will engage with iwi nationally in the policy area. Doris Johnstone also made it clear in her evidence that DOC recognises the need for ongoing consultation with Māori, and that while DOC is not currently prepared to put in place policy to encourage iwi/Crown partnerships, DOC believes partnerships will arise out of these day-to-day engagements. From the perspective of encouraging partnerships, it is interesting that DOC chooses to emphasise consultation, as opposed to co-operation or co-management, as consultation is generally acknowledged as a weak form of engagement, and has negative connotations for iwi groups trying to engage the Crown over natural resources.

From the evidence of all four DOC staff at Putiki Marae, it was apparent that preservationist, tourism focused conservation was still the status quo for DOC in managing natural resources. When challenged by Judge Wainwright, DOC admitted that it was still working to overcome a 'middle class-pakeha-male' institutional culture. DOC's culture and focus on preservation inherently set it at odds with iwi. DOC made a point in the collected evidence of acknowledging inherent epistemological differences between the department and Māori generally, and Dr Peet gave evidence on inviting Kuia and Kaumatua to inform DOC staff about kaupapa resource management issues, in an attempt to create an 'on the ground' understanding of local differences.

One of the major issues preventing an improvement in relationships between DOC and iwi is the way in which DOC are positioned as a representative of the Crown. From the evidence given at Putiki Marae, DOC sees itself solely as administrators of land. However, from an iwi perspective DOC is the face of the Crown, and subsequently iwi see DOC as having a role in addressing iwi grievances with Crown land management. Johnstone's responded to questions about DOC's role as the face of the Crown by saying that it is 'not DOC's job to be at the forefront of Māori/Crown relationships'. However, DOC realises that it sometimes ends up in this role, but that it would rather interpret its role in communities as one of building iwi/DOC relationships and further consultation. The department involves tangata whenua in the management of conservation in accordance with Section 4 of the Conservation Act (1987) responsibilities to give effect to the principles of the Treaty of Waitangi in its work (DOC 2006a). Judge Wainwright feels that DOC is currently working to a 'take into account level' rather than a 'give effect to' level as mandated under the Conservation Act (1987):

DOC is a walking treaty instrument and should give effect to the treaty-not just work on building up relationships (Judge Wainwright, Putiki Marae, 1/03/09).

Section 4 of the Conservation Act (1987) is very interesting for natural resource managers as it is the most strongly worded acknowledgement of the Treaty of Waitangi in natural resource management legislation. The wording 'give effect to the principles of the Treaty' gives DOC a mandate for creating partnerships with iwi in which iwi and the Crown are equal. Equal partnership between iwi and the Crown is generally accepted to be the main principle of the Treaty of Waitangi in the case of natural resource management. When considering DOC's emphasis on consultation, a weak co-management strategy, which certainly does not create equal DOC/iwi partnerships, it is easy to feel DOC is not fulfilling its mandate. DOC's expressed belief that partnership will flow naturally out of day-to-day interaction, with no policy assistance or encouragement, seems overly optimistic when considering the inherent differences and historical land management grievances that underlie current iwi interaction with DOC.

DOC as a Crown entity also has a mandate under the Treaty of Waitangi to treat tangata whenua as partners, and recognise tangata whenua interests in natural resources as being greater than that of the general public. One of the grievances put before the Waitangi Tribunal is that DOC does not do this. DOC responded to this grievance by stating they feel they made a greater effort to consult with iwi than general public, furthermore that they do try to provide greater opportunities for iwi involvement in natural resource management. DOC state that they are unwilling to provide greater opportunities for iwi

management of natural resources under the present law, which vests responsibility for decision making and all accountabilities with DOC. DOC appear adverse to engaging iwi in management opportunities while this sole responsibility status exists.

At the Putiki marae hearing, Judge Wainwright made it clear that the current natural resource management paradigm in Aotearoa/New Zealand was unlikely to change until power relations between Crown and iwi groups change. At the same Tribunal hearing, Ranganui Walker stated that he feels that DOC have come a long way since conception and while they still have a long way to go, Walker sees DOC's engagement in the Tribunal process as highlighting the issues and encouraging positive change. The chief executive of Te Puni Kokiri, Dr Ngatata Love, also has gone on record stating that DOC has made positive changes towards co-management. Dr Love feels that DOC provides services that are inclusive of Treaty principles and the wider development of Treaty-based practises in relation to resource management (Te Puni Kokiri 1998, pg 3).

6.4.4 Iwi perspective on Crown/Iwi partnerships: the Iwi of the Central Volcanic Plateau and Whanganui River respond

The Turangi/Taupo conservancy of DOC has responsibility for the majority of the Central North Island Volcanic Plateau, with the Whanganui conservancy to the South of Ruapehu and the Waikato and Bay of plenty conservancies to the North. Turangi/Taupo conservancy actively encourages other Crown organisations to obtain consent from Ngāti Rangī, Tūwharetoa and Ngāti Hikairo before engaging in work in the Tongariro National Park. For a Crown Research Institute (CRI) such as GNS Science (GNS) working in the park, iwi consider consent to be an essential element of an on-going relationship, as much of GNS's research is conducted on and around sites of significance to iwi/Māori on Ruapehu. As a Crown company GNS Science considers working with iwi on mutually beneficial outcomes as best practice. To assist GNS with identifying research opportunities of relevance to iwi/Māori, a matauranga Māori advisory group has been established. The role of this group is to identify opportunities in earth sciences and work with GNS staff during the development of new research proposal (R Faulkner pers com 2009). From my personal experience of interacting with the advisory group, they recognises the need to engage with western trained scientists coming from a different epistemological background, and actively seeks to have scientists involved in hui around kaupapa Māori. Another CRI, National Institute of Water and Atmospheric Sciences (NIWA) currently has a Māori Environmental Research

Centre attached to it; NIWA has accepted at a senior executive level that that they need to be respectful of both Māori and Pakeha knowledge systems (Severne 2009).

Iwi see western trained scientists as unwilling to step outside their discipline and engage with different environmental knowledges (Keys and Green 2004, pg 2). For the iwi of the Central Plateau area, being able to use their cultural knowledge to make decisions with respect to their rohe and taonga is an important part of self determination, and a significant part of their Treaty claims. Many iwi believe DOC, as a Crown representative should be working to empower iwi to actively manage their traditional natural resources. Ngāti Hikairo, one of the iwi whose rohe traditionally included part of the Tongariro National Park, feels that efforts to engage them in the management of their natural resources by local authorities have been tokenistic (Te Nahu 2007, pg 51). Management structures and plans for the management of the mountains and the national park has served to distance Ngāti Hikairo from their traditional resources. Ngāti Hikairo see the Resource Management Act (RMA) (1991) as an alternative legislative instrument to the General Conservation Act (1987) and National Parks Act (1980). They perceive the RMA (1991) as creating increased mandate for the consideration of Kaitiakitanga in resource management decisions (Boast et al. 2007a). The Resource Management Act (1991) is currently under revision, with the stated intention of reducing the process so that decisions are made more efficiently and development is not hindered, a potential by-product of this move is the reduction in scope for consultation. Many iwi are resistant to this possible change, as they believe consultation will suffer, and indigenous knowledge must be incorporated into decision making processes and planning framework under the RMA (1991) as it currently stands. At the same time there is a feeling among some that the current RMA (1991) does not go far enough to ensure the incorporation and respected of indigenous knowledge equally alongside western concepts of science and the environment (Boast et al. 2007a, pg 104).

Like Ngāti Hikairo, Ngāti Rangī feel their role and beliefs in natural resource management are rendered redundant by the current DOC regime (Gray et al. 2007, pg 53). Keith Woods, of Ngāti Rangī, identifies Government department relationships with Ngāti Rangī as dependent on the attitude of an individual and the funding available at different times, with no consistent approach to iwi engagement. Woods also feels that most management is reactive and that Ngāti Rangī want the opportunity to proactively manage their resources (Woods 2009). Woods also raises concerns about the proposed legislative changes to the RMA (1991), believing that these proposed changes to fast-track development will mean that any input by tangata whenua input will be lost (Woods 2009). Che Wilson (2009), also of

Ngāti Rangi, believes that district councils are racist in their dealings with iwi and see tangata whenua as a burden, neither the district councils nor DOC being prepared to make room for mātauranga Māori in their plans.

A third iwi of the Central Plateau that has significant interest in the Tongariro National Park is Ngāti Tūwharetoa. Tūwharetoa state that they are excluded at a practical level from practising their culture within the national park. They are not legally permitted to carry out practices like picking native rongoa or taking birds, Tūwharetoa believe that they are part of the environment of the national park, but this relationship is not recognised by DOCs preservationist determination (Te Heuheu 2007, pg 197). Tumu Te Heuheu, paramount chief of Ngāti Tūwharetoa expressed the disconnection of Tūwharetoa with their environment to the Waitangi Tribunal as:

Ngāti Tūwharetoa have become conservation refugees (Te Heuheu 2007, pg 197).

Interestingly Hollywood has also played a role in positioning iwi of the Tongariro National Park as 'refugees' from their rohe. Mt Ruapehu became internationally famous as the filming location for Mordor in *The Lord of the Rings* film trilogy. *The Lord of the Rings* filming concession was made between the Aotearoa/New Zealand Government and the film company, with no consultation with iwi. The Tongariro/Taupo Conservator (from DOC) contacted Tūwharetoa and Ngāti Rangi in an effort to exclude areas of concern and the mountain peaks from being filmed (Green 2007, pg 24). Despite the Conservator's attempts to address what DOC identified as a potential concern for local iwi, DOC failed to make contact with several other iwi in the area who have interests in the Tongariro National Park, and was subsequently unable to address a general concern by local iwi about the lack of respect shown to this important spiritual and cultural place. Colin Richards of Ngāti Tūwharetoa felt the issue of *The Lord of the Rings* filming exemplified DOC's tokenistic attitude towards iwi consultations. Colin Richards in evidence to the National Park Waitangi Tribunal Hearings said:

A concession was required for filming on our maunga and both Ngāti Tūwharetoa and Ngāti Rangi objected to the proposals for cultural reasons. Senior DOC staff indicated that because it was permissible under the various plans, there was no legitimate reason for it to be declined and it was approved to go ahead. I am sure significant pressure from head office also swayed the decision and some of the better looking locals got parts as 'orks'. However, the process did not work for us as tangata whenua (Richards 2005, pg 19).

The management of geothermal resources is also a contentious issue for the iwi and the Crown. The Crown has not asserted ownership of the geothermal resources is because it believes geothermal resources are analogous to water, and thus should be subject to the same legislative framework (Waitangi Tribunal 2008, pg 1550). The Crown feels that geothermal resources should be used and managed for the general public, with no specific allowances for iwi; at the same time the Crown accepts in principle it has some treaty responsibilities to protect customary use of geothermal resources by central North Island Māori (Waitangi Tribunal 2000, pg 1551). Geothermal resources are generally perceived to be the property of individual landowners. For some iwi the Crown's attitude to geothermal boundaries and restrictions is:

drawn like lines in the sand instead of recognizing that like... the fluidity of water, boundaries are carried in the bloodlines of the Uri (Hawira 2007, pg 6).

An important part of iwi connection to geothermal resources is Whakapapa, which is part of what regulates customary use and defines iwi boundaries.

6.5 Whakapapa for geothermal resources in Aotearoa/New Zealand

The Whakapapa of geothermal resources begins with the separation of Ranginui and Papa-tū-ā-nuku, and the impact on their unborn son, Rūaimoko. Rūaimoko, also known as Ruaumoko or Whirotipua, is the god of volcanoes and earthquakes. Ru is the Māori word for earthquakes, also referred to as 'Kumekumearuaumoko' (the pulling of Ruaumoko) (Reed 2004). Rūiamoko was the youngest son of Papa-tū-ā-nuku and Ranginui. When Rangi and Papa were separated, Rūiamoko was left by his brothers to comfort Papa with the warmth of volcanic fire. Later Rūiamoko joined with one of his brothers to avenge the separation of Rangi and Papa, Rūiamoko used Puna-te-warō (volcanic forces) to wage war on the rest of his brothers (Stokes 2000, Pg 18).

The individual volcanoes, their personalities and actions, are also important parts of the geothermal Whakapapa. The volcanoes of Te Ika a Maui (the North Island) Tauhara, the three volcanoes of Tongariro that now stand on the edge of the Rangipo desert (Ruapehu, Ngāuruhoe, and Tongariro) Taranaki, and Putauaki once all sat together. Slightly separate from the volcanoes was the mountain Pihanga, who was very beautiful. All the volcanoes desired her for their wife, and they fought for her love. Tongariro emerged victorious, and took Pihanga as his wife; Tongariro also became the most sacred mountain where departed souls rest on their way out of this life. The defeated volcanoes took

themselves away from Tongariro to find their own domains to rule. Taranaki took the path of the Whanganui River away from Tongariro, but he wants revenge, and one day may rise up and take a direct path back to Tongariro and Pihanga (Grace 1959, Pg 508).

An alternative story explaining the distribution of the volcanoes goes as follows: Ruapehu was married to Taranaki, and one day when Taranaki was away, Tongariro paid court to Ruapehu, Taranaki came back and surprised his wife in the embrace of Tongariro. Tongariro and Taranaki battled over Ruapehu, and Taranaki lost, and like in the previous story, was driven out to the coast, leaving the Whanganui River channel in his wake. Taranaki still loves Ruapehu, and the mist which drifts eastward from Taranaki is a sign of his love for her, while Tongariro, despairing of ever winning Ruapehu again, smokes and smolders in anger (Reed 2004, pg 15).

Matiu Marino Mareikura gave a different volcanic creation story in his brief of evidence to the Māori Land Court.

Maui fished up the north island his brothers carved Ruapehu out of the fish. Ruapehu was given the supreme mana to call on the gods. Ruapehu asked Ranginui for some companions, he was given two tear drops, one was the Whanganui River, the other the Tongariro River. As time went on he asked for more companions, and was given the mountains Tongariro and Taranaki. This third request was for the female mountain Pihanga, and Ngāuruhoe to be as a servant to the mountains. All the mountains lived in one area. Pihanga was not as beautiful as Taranaki, and this made Tongariro jealous and in his fury he blew his top. Then Ruapehu said to Taranaki it is best you go to the west before you are contaminated by the women, and be the custodian of the setting sun. Ruapehu was the wise one, the first mountain. Ngāti Rangi were brought here before the migration, they are the custodians of Ruapehu. Ngāti Rangi are from another time, hence the name Ngāti Rangi-sky people. Their responsibility was from the beginning of time. They were the first presence in the area which in turn required that they be custodian of the mountain (Mareikura 1992, pg 4).

Volcanic energy was brought to Aotearoa/New Zealand by the Tohunga of Te Arawa, Ngatoroirangi. Ngatoroirangi set off with his slave Ngāuruhoe to travel to Aotearoa/New Zealand from Hawaiki. Not long after Te Arawa arrived, Ngatoroirangi beheld Tongariro and determined to ascend it to obtain a better view of the country. As Ngatoroirangi and Ngāuruhoe climbed Tongariro they suffered severely from the cold, and the Tohunga called to his sisters to send him fire. Ngatoroirangi's

sisters heard his call and sent him the sacred fire they had brought from Hawaiki. They sent it to him through two taniwha , Pupu and Te Haeata, by a subterranean passage to the top of Tongariro. The fire arrived just in time to save the chief, but Ngāuruhoe died of the cold and was given to the fire (Iwikau Te Heuheu as told to Hochsetter in 1859, and reported to the Waitangi Tribunal 2008, pg 1468).

Ngatoroirangi is one of the key ancestors to most iwi of the Central North Island being the Tohunga of Te Arawa waka and an early explorer of the region. Although the accounts of Ngatoroirangi vary between iwi, these stories have a consistent focus on Ngatoroirangi as the ancestor responsible for geothermal activity and energy in Aotearoa/New Zealand (Waitangi Tribunal 2008, pg 1487).

Ngatoroirangi is still venerated in mātauranga Māori and the paramount chief of Ngāti Tuwharetoa, Tumu Te Heuheu is directly descended from him. The Ngatoroirangi story cements the Whakapapa and relationships for Central North Island iwi with geothermal resources. Geothermal activity is an important part of Māori way of life (Waitangi Tribunal 2008). At the time of colonisation Central North Island iwi had an understanding of geothermal resources through day-to-day observation and use, on top of knowledge inherited over generations, which was likely to have been considerably in advance of that of most newly arrived settlers (Waitangi Tribunal 2008, pg 1473). Geothermal energy is their taonga, and where it emerged they lived or gathered, and when it moved they moved; this is the point that iwi of the Central North Island understand through their stories of Ngatoroirangi (Waitangi Tribunal 2008, pg 1467). Taonga are an important cultural link to the past as well as being of central importance to the community and their way of life. Central North Island iwi did not see geothermal taonga as being passed on when the land was sold (Waitangi Tribunal 2008, pg 1478). Land sales merely granted access to geothermal surface features, granting access did not diminish Rangātiratanga over the resource as often the grant of access to taonga will imply terms of permission or access under the control of Kaitiaki of the resource. Subsequently Central North Island iwi maintain that they should have a key role in the management of geothermal resources, based on whakapapa to Ngatoroirangi and traditional systems of land tenure. The Crown struggles to grasp the importance to iwi of the story of Ngatoroirangi, and feels that it is not sufficient ground for claiming a right to manage the resource; the Crown also feels that any claim to customary ownership based on the story should be rejected, as it feels the Ngatoroirangi story is a blend of myth and legend and a claim to customary ownership requires proof (Waitangi Tribunal 2008, pg 1481).

The inability of the Crown to grasp the importance of whakapapa as defining kaitiaki for geothermal resources could have serious implications for future Tribunal Hearings. As the Waitangi

Tribunal has shown through the National Park, Central Plateau and Whanganui River Inquiries, the Waitangi Tribunal is sympathetic to iwi grievances over the management of geothermal resources, and sees validity in whakapapa as evidence for a claim. Unless hazard managers can come to terms with whakapapa, and engage with it respectfully, there is potential for grievances over hazard management to keep occurring.

6.6 Differing perceptions of 'natural hazards' in Aotearoa/New Zealand

People view hazards, calculate risks, and assess what a disaster is in various cultural and individual ways. Among factions within a society, perceptions are sometimes uniform, sometimes critically diverse; accordingly hazard perception and construction, risk calculation and even the definition of calamity, and the way these concepts are contested also figure in the social cultural study of disasters (Hoffman and Oliver-Smith 1999, pg 8). The perceptions of risk are linked to the values and prioritizing of values that guide a group's behaviour and affect their judgement as well as anxiety about the unknown and unfamiliar environments that beyond the borders of social control (Pawson 2002, pg 138).

Traditionally 'natural' disasters were seen in western culture as acts of the god, suggesting that disasters were seen as divine punishment for human misbehaviour, rather than a consequence of human interaction with the environment. By perceiving disasters as divine there is a general acceptance of disasters as external, inevitable events (Smith 2004 pg 4). If disasters are a direct result of our actions we can internalise responsibility for them. In a culture that views hazard events or 'disasters' as a communication, positive or negative, from an ancestor, then disasters are once again constructed as external, and beyond the control of the community.

As geothermal resources and the creators of those resources are ultimate ancestors for Māori, many natural bodies, such as volcanoes, are part of kin networks. Ngāti Rangi and Ngāti Tuwharetoa, two central North Island iwi that reside on the flanks of Ruapehu, refer to the mountain as tupuna (ancestor) tipuna (grandfather) and as part of their family. The mountain is a living person for many, with many of the physical attributes of a human. For Ngāti Rangi the lahar was an event to celebrate, as it was a communication within the family, from the mountain (the ancestor) to its descendants (Ngāti Rangi) (Che Wilson pers comm.). The mountain and its processes are a natural part of the world in which they inhabit, a part of the ecosystem, and the lahar was part of the ecosystems cycle of renewal. This

knowledge is part of Ngāti Rangi environmental science, scientific knowledge that they feel has always been considered subservient to western science and has always been devalued; Ngati Rangi feel they knew as much about the environment as any western scientist in the field at the time of Pakeha arrival (Richards 2005, pg 16). Māori conceptualised geothermal systems in the same way they conceptualised rivers (Waitangi Tribunal 2008, pg 1498). Therefore same rights and responsibilities associated with it. Geothermal taonga are conceptualised as Ngatoroirangi's legacy to some Māori. Geothermal taonga continues to be part of the cultural and spiritual identity of many north island Māori.

The last time I visited Ruapehu, a Kuia told me that when she was little Ngaruhoe erupted regularly, and they never thought anything of it. Her mother used to be bothered by the ash on the washing, but her family would never have thought of moving unless the Marae decided to move, where the Marae went they went. She felt the eruptions were a heart beat- part of the mountains and the people who identified with them. Geological research by Massey University predict large volume lahars (the size of the 2007 event and larger) at a frequency of 1 every 315 years; the last major event before European colonisation being approximately 420 years ago (Wilson 2006). Ngāti Rangi have had fire pits carbon dated back to 700 years, and believe they where here long before that; Ngāti Rangi have lived with lahar events for much longer than Pakeha colonisers.

Che Wilson of Ngāti Rangi has never felt at risk from Ruapehu lahar events. He said of the 2007 lahar:

The maunga was just letting off his hat and sweating. Cooling off if you like. We communicated with the maunga and our Kaitiaki to ask what we needed to do and we did it. We had Karakia and left out tupuna maunga, Koro Ruapehu, along when required (Wilson 2006, pg 14).

Colin Richards, also of Ngāti Rangi, says of his relationship with Ruapehu:

I often heard our old people speak of the streams and springs that flow from our Koro Ruapehu, as toto (blood). They were referring to the life essence that flows in our ancestral streams and rivers, from the mountains to the sea. And if we look into the depth of that, they were referring to the life force that provides all living things with their life sustenance (Richards 2005, pg 2). If we disturb that life sustenance then we have upset the balance, and if we have upset the balance then there is retribution. We have seen that not only in this country but throughout the world. Each living thing has a mauri, a life force, and if we upset the life force then we have caused an imbalance in the world (Richards 2005, pg 2).

In 1953 a lahar event caused by a dam burst at Mt Ruapehu's Crater Lake dislodged a rail bridge, causing the bridge to collapse under the weight of the Wellington to Auckland express train, leaving 151 people dead. The Tangiwai disaster, as the rail accident is known, is one of the worse disasters in terms of loss of life in New Zealand memory, and as a result many negative connotations are associated with Ruapehu lahars. However there is another view of Ruapehu lahars present in our society that are not often given public voice. For iwi that have lived around Ruapehu for over 600 years, lahars are a positive thing. Tangiwai was not a disaster created by the lahar, but by human interaction with a natural event. By having a better understanding of, and actively engaging with, positive discursive frameworks that surround events traditionally constructed as negative, scientists in Aotearoa/New Zealand can communicate more effectively with different stakeholders in the community. This is especially important for iwi groups, as the land is mana whenua, and is fundamental to their identity as Tangata Whenua. The next chapter will examine the lahar event further.

7. Tangiwai and the Whangaehu lahars

The 1953 Tangiwai lahar disaster is one of the greatest tragedies in terms of loss of life in the Aotearoa/New Zealand's recent history. In 2007 a similar lahar event occurred, this time no lives were lost. The Mt Ruapehu lahars are examples of events that are constructed by many as 'natural' disasters and with closer examination are shown to be events with complex social and cultural foundations. The 2007 event was surrounded by controversy due to management and media coverage running up to the event.

The 1953 train wreck, commonly referred to as the Tangiwai disaster, created a strong emotional response in the Aotearoa/New Zealand population; it was a tragedy that touched the nation, and has resulted in Mt Ruapehu lahars and the Whangaehu River at Tangiwai having negative connotations in Aotearoa/New Zealand culture. These negative connotations associated with the lahar events are in conflict with the strongly held environmental and cultural values of Mt Ruapehu by local iwi (Keys and Green 2004).

I will use this chapter to explain some of the historical context behind the response to the 2007 lahar event, as well as the planning and management of the 2007 lahar. The lahar event as a case study allows me to explore issues of co-management, recognition of indigenous science, and environmental management from contrasting worldviews in Aotearoa/New Zealand. The lahar is also a particularly interesting case study due to the extensive national media coverage and the way in which the event was constructed and reported by the mainstream media. It was this media coverage that first drew my attention to the lahar, and so I will end this chapter with some analysis of press clipping and media statements I collected from that time.

7.1 The 1953 Tangiwai rail disaster

On the 24th December 1953 a tephra barrier at the Crater Lake of Mt Ruapehu failed, causing a lahar to flood the Whangaehu River Channel. In the five days after the barrier collapse, 476 000m cubed of water came down the Whangaehu, causing the river to rise by 5m at the peak of the flood (Stewart 2003). Several after the dam break on the 24th the Wellington to Auckland Express train fell through the bridge crossing the Whangaehu River. Of the 285 people onboard, 151 were killed and 20 bodies were

never recovered (Sperber 2003). The force of the lahar flood carried the train carriages over 2km downriver from the rail bridge.

A government inquiry into the disaster found that the bridge had been critically weakened by lahar floods in 1925 and 1946. The 1953 lahar dislodged the piers of the Whangaehu bridge only hours before the train arrived, and the weight of the train crossing the bridge caused the bridge to collapse (Stewart 2003). Following the inquiry, the rail bridge was rebuilt and strengthened with this tragedy in mind (Keys and Green 2004).



Figure 5 Undercarriage from the 1953 Tangiwai disaster exposed by the 2007 Lahar.



Figure 6 Memorial to the 1953 Tangiwai disaster victims.

7.2 Tangiwai lahar, 18 March 2007

Fifty two years after the Tangiwai disaster, Mt Ruapehu underwent a series of eruptions that sent water from the lake over the crater edge, forming lahars which narrowly missed ski field structures. Similar eruptive lahars in 1969 and 1975 had damaged ski structures with no fatalities. During the 1995/1996 eruptions, ash was also deposited at the Ruapehu Crater Lake rim. This ash formed a tephra dam, which the lake then filled up behind over a period of years. This dam was like the one that burst in the 1953 Tangiwai disaster. Unlike a lahar caused by an eruption, a dam break lahar offered little threat to the ski fields, however there was confusion amongst the central plateau communities about the threats from different lahar events (Brad Smith 2009 pers com). With the build up of the tephra dam as a result of the eruptive period, there was a threat of an event similar to the 1953 tragedy and the local scientific community quickly became aware of the risk. Work by GNS and DOC at the Ruapehu Crater Lake produced a comprehensive picture of the tephra dam and created predictions for the timing and velocity of a lahar event, which were subsequently used to assess potential risk to life and

infrastructure. In 2000 DOC released an environmental risk assessment which considered options to avoid, remedy or mitigate against a dam burst lahar event (Sperber 2003).

The environmental risk assessment tabled 24 options for managing a lahar event. Options considered included: bulldozing a channel through the tephra dam to release water at a manageable rate, removing the dam all together, building a bund to prevent lahar overflow into the Tongariro River, and monitoring the Crater Rim and the river through ERLAWS (Eastern Ruapehu Lahar Alarm Warning System) (Taig 2002). The proposed pre-emptive engineering measures were seen by some as a direct result of the 1953 disaster (NIWA and GNS 2007). Geological and Nuclear Sciences (GNS) was involved in the creation and use of ERLAWS, but the decision of which option to action was an issue solely for DOC, with the final decision coming from the Minister of Conservation.

At the time the options were first tabled, GNS was supportive of pro-active intervention; they would have liked to see the dam height lowered, and subsequently made pro-intervention submissions to DOC. The end of 2001 saw support for intervention rise to include Taupo District Council, Whanganui District Council and Rangitikei District Council (Keys 2007, pg 4). Likewise, DOC at first favoured bulldozing the dam, allowing for a slow release of the water (Monahan 2007). As DOC's stance on intervention changed, DOC felt that the councils had not given enough consideration to the National Park and World Heritage Values in deciding to support intervention (Keys et al. 2001, pg 6).

As part of a DOC review of the potential lahar event, the Minister for Conservation (Sandra Lee) had considered proposals to undertake engineering work at the Ruapehu Crater Lake, and ultimately decided against taking action. Ms Lee felt there was more danger to staff undertaking work at the crater rim than risk to safety from a lahar (Folster 2001). Engineering works at the Crater Lake were also opposed by environmental groups, recreational groups and local iwi. These factors taken together with public concerns about the impact on national park values helped Ms Lee decide against engineering intervention. Ms Lee also felt that intervention would have been highly controversial and there would have been considerable uncertainty as to whether the required consents could have been obtained due to the status of the park as a world heritage site (Folster, 2001).

In a letter to the Minister of Conservation in 2001, DOC staff warned that

a decision not to intervene would draw a vocal negative reaction from some of the local authorities and some residents in the area affected (Lawless et al. 2001, pg 2).

DOC staff also noted that Horizons, the Ruapehu District Council (RDC) and Environment Waikato advocate intervention at the Crater Rim to reduce the risk to life and infrastructure (Lawless et al. 2001). DOC also noted that any construction at the Crater Rim would require consents under the Resource Management Act (1991), as well as changes to the Tongariro-Taupo Conservation Management Strategy (2002), and the Tongariro National Park Management Plan (2006). For intervention to take place there would also need to be special enabling legislation to amend the National Parks Act (1980). All of these processes would involve public consultation and are subject to appeal or review which would be a timely and expensive process for DOC.

After an extensive consultation process, the Minister for the Environment chose to support a non-intervention, monitoring based strategy which included the implementation of ERLAWS, bridge strengthening at Tangiwai and a bund to prevent lahar spill into the Tongariro River. Other reasons for the decision were cited as wanting to recognise the views of local iwi, conservation and recreational groups as well as meeting DOC's conservation obligations (Sperber 2003). Consultation with iwi was pivotal to Ms Lee's non-interventionist decision. However, there was dissatisfaction with this decision from the local government agencies, government opposition and public that had supported intervention. DOC saw a non-intervention management option as 'letting nature take its course', and saw local iwi as 'coming on board with DOC philosophy' (Monahan 2007, pg 80). Harry Keys DOC's 'lahar man' said at the time DOC's management decision shows how far DOC would go to protect the environment:

some people call us eco-fascists. We think we are right (Keys in Monahan 2007, pg 80).

A non-intervention based lahar warning and hazard response plan was subsequently adopted in late 2000, a major component of this was the ERLAWS system. ERLAWS consists of sensors at three sites down the Whangaehu Valley, as well as at the Crater Lake outlet, the NZ Alpine Club hut, and near Tūkino ski field. Geophones to detect vibrations caused by lahars were placed at all three sites, as well as a tripwire to detect dam collapse and water level sensors at the Crater Lake outlet (Keys and Green 2004). ERLAWS warnings would give a lahar response team enough time to evacuate ski fields and close down State Highway 49 (between Ohakune and Waiouru) which is the stretch of road including Tangiwai and the rail and road bridge over the Whangaehu.

Under the Civil Defence and Emergency Management Act (2002) Ruapehu District Council (RDC) was responsible for evacuating everyone in the lahar path, and at the time the Minister of Conservation

was making the non-intervention decision, RDC Mayor Sue Morris advocated engineering action at the Crater Rim to prevent the lahar (Sperber 2003; Watkins 2004). Both RDC and Horizons District Council saw the lahar as a significant threat to human life and a 'problem' that needed to be fixed by engineering:

We've always had a preference for fixing the problem rather than letting it occur (Horizons District Council chairman Chris Lester in Watkins 2004).

Both councils were also concerned about the financial cost of cleaning up after the lahar event, and sought protection from the Ministry of Conservation in event of lawsuits resulting from lahar damage (Brown 2003). Several of the regional councils used the Tangiwai and Cave Creek disasters to garner political support for intervention options, even though the predicted risk was very different (Keys et al. 2001). Concerns about liability and expenses were eventually addressed by the Ministry, and after a further period of consultation and non-intervention advocacy by DOC, the RDC, Transit (New Zealand Transport Agency) and Ontrack (New Zealand Railways Corporation) joined DOC in their non-intervention stance (Monahan 2007).

In 2002 Chris Carter took over the portfolio of Conservation Minister and set about reviewing the non-intervention decision made by his predecessor, Sandra Lee. In a 2003 DOC report to the Minister of Conservation, DOC conservancy staff noted they were unclear as to whether the level of predicted risk associated with non-intervention was acceptable to the general public (DOC 2006b, pg 9). After a further period of consultation and public submission, DOC felt that the risk to the public would be acceptable once the ERLAWS warning and response systems were in place; however, DOC was aware that there were still many people who did not think the risks were acceptable. DOC staff suggested to the Minister in their report that it was important to recognize that lahars are a natural process associated with an active volcano (DOC 2006b, pg 9). The staff also reminded the Minister that while the lahar risk was prominent in the media at the time, there had always been a significant risk to skiers and infrastructure from lahars (DOC 2006b, pg 9). In 2003 Chris Carter confirmed his support of Sandra Lee's non-intervention decision (DOC 2006b, pg 1). The amount of information supplied in the DOC briefs to the new Minister of Conservation in 2003, specifically about the implication of changing Sandra Lee's decision, implies that the new Minister had been considering engineering intervention (DOC 2006b).

7.3 Iwi response to the lahar risk

After the 1995/1996 Ruapehu eruption and the formation of the tephra dam, Ngāti Rangi and Ngāti Tūwharetoa expressed to DOC that they felt the Crater Lake should not be touched (Gray 2007). Early in 1996 DOC started consultation about options to mitigate, remedy or avoiding lahar 'threat' from a tephra dam break. The consultation processes began as informal discussion about the Crater Lake with the iwi members of the Tongariro Conservation Board (DOC 2006b). After a more formal series of iwi consultation and information exchange regarding the 24 management options proposed, the first submission to DOC was received (from Ngāti Rangi) in 1998, supporting the non-intervention view previously expressed (DOC 2006b).

The DOC consultation process, mainly with Ngāti Tūwharetoa and Ngāti Rangi, spanned the duration in which the management options were under active discussion, leading up to the non-intervention decision by the Minister of Conservation (DOC 2006b). Other iwi were consulted following an invitation from the Minister for interested parties to make a submission at Taumarunui in March 2004; the Minister then asked for iwi and hapu concerned with the management of the Ruapehu lahar to contact DOC officers (DOC 2006b). While other consultation is known to have occurred between iwi and DOC, as well as local, regional and central government agencies, DOC does not believe it has been recorded by any party (DOC 2006b, pg 1). The consultation undertaken by DOC suggested that opinion among local iwi was divided; those who lived in the wider catchment and had been affected by flooding events in the early 2000's expressed their concern about their ability to withstand future flood damage from lahars (Watkins 2004). In 2002 brief meetings regarding anthropogenic snow packing for a Crater Lake evaluation were conducted by DOC and GNS (Watkins 2004). These meetings were to inform stakeholders of DOC and GNS's intention to use machinery at the Crater Lake to pack down snow to enable measurements on the dam to be undertaken; and did not create an opportunity for iwi consultation.

Early on in the lahar management consultation process, Ngāti Rangi made their position very clear, that there should be no intervention at the Crater Rim. Colin Richards of Ngati Rangi, in a presentation to the Waitangi Tribunal National Park Inquiry, gave a statement on the Ngati Rangi position in regards to the lahar management suggestions. Richards (2005) states that Ngāti Rangi felt that the appropriate response was to 'leave things alone' and let nature take its course and that Ngāti Rangi believe humans should learn to manage their infrastructure around the mountain and its natural processes, and that humans should not expect the mountain to manage itself around them (pg 12).

Richards also described Ngāti Rangi as kaitiaki, stating that they have a responsibility to the mountain to ensure that its mana and tapu were not diminished by human actions (pg 12). Richards also felt that in DOCs management of the mountain, Ngati Rangi's environmental knowledge had been treated as subservient to western science and had been devalued (pg 16). Richards in his evidence said that there were:

times when I thought Papa-tū-ā-nuku (the earth) and Tāwhiri-mātea (the wind deity) would look after the maunga (Mt Ruapehu) through global warming by ensuring that there wasn't enough snow to allow people to ski, so that people would not go onto the mountain (Richards 2005, pg 17).

Richards acknowledged that people were concerned about a repeat of the 1953 Tangiwai disaster; however Ngati Rangi felt that destroying the ash wall would not solve all the identified problems. Ngāti Rangi was concerned with RDC's opposition to the non-intervention decision, and that by RDC's continued push for intervention at the Crater Lake (with the support of the media) RCD was undermining the collective stance Ngāti Rangi had built up with DOC and Tūwharetoa (Wilson 2006, pg 17). Even after the Minister of Conservation's decision, RDC continued to support the bulldozing of the ash wall. Ngāti Rangi said they felt betrayed by the RDC, especially when it came to their attention that the RDC had meetings with other tribes 'to get them to go against Ngāti Rangi' (Wilson 2006, pg 17).

A decision to support a non-intervention stance by Ngāti Tūwharetoa followed the Ngāti Rangi decision. Tuwharetoa wanted to understand the potential impact of a lahar on the Tongariro River, Lake Taupo and the trout fishery (Green 2007). Tumu Te Heuheu summed up Tuwharetoa's position in a submission to the Minister of Conservation:

The Ngāti Tūwharetoa viewpoint is that protection of taonga and resources are paramount. This includes people, lakes, rivers, fish and bird life, as well as the maunga of Tongariro National Park. We think that the proposals planned to date will achieve the required level of protection... Ngāti Tūwharetoa fully support the Minister of Conservation's design for the embankment to be built to prevent lahars spilling over into the Tongariro River and the Lake Taupo catchment (Te Heuheu 2001, pg 1).

Paul Green, the Taupo/Tongariro conservator, said in a letter about the proposed bund to Bob Priest, Chief Executive at Environment Waikato:

I have kept both Ngāti Rangī and Ngāti Tūwharetoa informed of our proposals and progress. I also visited the site with Tumu Te Heuheu and Ngāti Rangī kaumatua. Ngāti Rangī was not concerned with the specific site and pleased to learn that the proposed embankment would not contain imported material. My understanding is that whilst iwi do not like to see this sort of intervention to the National Park they accept it as the best option and have been happy for the department to proceed. They have a preference to not to be seen advocating for construction. To sum up I have no doubt that iwi accept albeit with some reluctance the steps we have taken to ensure public safety (Green 2001, pg1).

7.4 The Whangaehu/Tongariro bund

The non-intervention lahar management option eventually chosen by the Minister of Conservation involved a monitoring system, ERLAWS, strengthening of certain infrastructure and the construction of a bund to prevent lahar overflow in to the Tongariro River. Although the Tongariro River had shown rapid recovery after the 1975 and 1995/96 lahars, the bund was built to protect the trout fishery and tourism interests in the River and Lake Taupo (Keys and Green 2004).

The bund was completed in 2002, and is 300m long, up to 4.6m high and 20m wide (Keys and Green 2004). The primary aim of the bund according to DOC was to increase public safety. DOC felt the bund would reduce risks to people crossing the Waikato Stream Bridge and culvert section of State Highway 1, as well as protect the safety of people on the Tongariro River (Keys and Green 2004, pg 6). DOC saw the secondary aim of the bund as protecting the aquatic environment of the Tongariro River and Lake Taupo. It was this secondary aim of the bund that caused the most interest and concern for the public. Many individuals felt the bund's purpose was to protect the lucrative trout fishing tourism industry which exists on the Tongariro River and Lake Taupo. This created bad feeling among some factions of the Central Plateau community; people felt that economic issues were being placed above the conservation and amenity values of the area in which the bund was constructed.

7.5 Lahar! The 2007 event

At 10:22pm on 18th March 2007, the Ruapehu Crater tephra dam gave way and 1.3 million cubic metres of water from the Crater Lake flowed down the Whangaehu River channel, travelling 7km in 15 minutes (NIWA and GNS 2007). The lahars peak depth was over 8m, and it travelled a total of 155km to

the coast in 16 hours. The 2007 lahar had a 25% greater flow rate than the 1953 lahar (Wakelin 2007). The lahar slightly eroded the eastern end of the bund, but overall the bund remained intact and prevented overspill into the Tongariro channel (Wakelin 2007). The lahar took 2 hours to reach Tangiwai after breaching the Crater dam, and peaked 8 minutes later. The toilet block at the Tangiwai memorial was swept away and much of the area around the memorial was buried in mud, although the memorial itself remained intact. The approach to Strachans bridge, downstream of Tangiwai, was the only other recorded infrastructure damaged (Wakelin 2007). Flow depth recorded at the Tangiwai Bridge was up to 7.1m above normal flows (Keys 2007).

7.6 Post Lahar

The mode of the tephra dam failure, its timing and development were all similar to what had been predicted by the 2003 report of the Scientific and Technical Advisory Panel, which was set up by the Minister of Conservation in 2001 to study the lahar event (Keys 2007b). The lahar was so well predicted by the scientific community it has been described as 'text- book' and 'clock-work' (Monahan 2007). DOC also commissioned very detailed technical reports leading up to the lahar, such as the 'Evaluation of lahar mitigation proposals at Mt Ruapehu' (2002) that looked at predicting maximum peak discharge, travel times, peak discharges and dam failure (Pierson 2002). Civil Defence also commissioned a report entitled 'Ruapehu Lahar Residual Risk Assessment' (2002) also known as the 'Taig report'. This report produced a very detailed assessment, covering risk to assets and people, as well as predicted lahar flow and warning systems options. As a result of the studies, when the lahar occurred in 2007, the location, magnitude, and approximate timeframe were all relatively accurately predicted (Becker et al. 2008).



Figure 5 Whangaehu Rail Bridge March 2008, a year after the lahar.

7.7 Lahar press: media and the Mountain

The construction and framing of events in the media highlight the underlying tensions in society surrounding the production of meanings attached to spaces and places (Cupples and Harrison 2001). The way an event is framed in the media has the ability to create the event as a disaster or dismiss it from the public eye completely; hence the interests that control the way in which the event is framed has considerable power over the way the event is understood (Button 1999, Hoffman and Oliver-Smith 1999). In framing a disaster event, the mass media becomes a mediating institution for expert knowledge, conveying science to the general public and influencing the way in which the public engages with science (Irwin and Wynne 1996). In engaging with disasters the mass media has a tendency to be sensationalist, only interested in hazard events when there are death tolls and resource destruction to be reported. While death and destruction tends to be a post event focus, pre event the media can be a

useful tool in communicating hazard risk and educating about disaster preparedness (Huppert and Sparks 2006).

While the media can be the site for constructing frames that are often controlled by a political or cultural majority, media can also be a powerful site of resistance, giving minorities a chance to present their own voices and perspectives to the general public. The mass media can be a space of empowerment for minority groups, however opportunities to do so seldom seem to arise in mainstream media. Media coverage is often biased towards the majority due to editorial perspectives, institutional policy, political interests and stereotyping (Cupples and Harrison 2001; Alia and Bull 2005). In the case of the lahar, the iwi voice was a minority in the mass media.

7.7.1 Mediating the Mountain

Since April 1996, when DOC first announced their concerns regarding a dam break lahar event there has been extensive media coverage of the mountain and lahar risk (Donoghue 2003). An important part of the media build up to the 2007 lahar event was the 1953 Tangiwai disaster; the threat of a repeat of such a disaster created an emotional response to the Crater Lake intervention options that was prominent in the national media and the way the 2007 event was framed. This emotional response created a lot of confusion about the level of risk associated with the lahar. In my experience there is a feeling in the general public as well as the scientific community, that the media used the nation's memory of the Tangiwai disaster to frame the lahar risk as life threatening. Anecdotal evidence I collected suggests even members of the public familiar with the mountain and the Whangaehu River were confused by the media coverage; in particular media discussion of previous lahars, both dam break and eruptive. Concern was raised by DOC that the high level of misinformation about the range and effect of the lahar could cause confusion in the Mt Ruapehu Ski areas. Lahar hazards to the ski area are a separate issue with a different cause from dam break lahars. Given the high level of public confusion noted, there was concern among response agencies that some staff may also confuse the dam break hazard with lahar hazards to the ski area (Galley et al. 2004).

DOC recognised the media interest in the event and the potential for undue public alarm and misinformation and developed a communication strategy to address this. The Department of conservation released a media statement in December 2001 stating the then conservation minister Sandra Lee, was satisfied that the installation of alarm and warning systems as well as the construction

of the embankment were sufficient to address risks to public safety from an expected lahar (Keys et al. 2001). DOC realised release of the Taig report on the lahar, which included estimations of worst case scenarios, would rouse media interest. DOC was concerned the report would be misinterpreted and that attention would be focused on the rough estimates of the probabilities of fatal accidents (Keys et al. 2001, pg7). While DOC wanted to raise public awareness of the lahar, they were wary of the media creating undue panic in the community by misrepresenting the level of risk to lives and infrastructure. DOC were also aware of the move to 'lay the blame' of the non-intervention decision on Māori as represented by the media, and saw raising awareness of the reasons behind the decision as the best way to combat this (Keys et al. 2001, pg7). In a DOC report to the Minister of Conservation in 2003, they acknowledged that agency and stakeholder views on the need for intervention were still strongly polarized (Lawless et al. 2003). In the same report DOC acknowledge that the media require specific management around the lahar event (Lawless et al. 2003, pg 39). DOC proposed better information and explanation of the event may allay some of the misinformation about risk level and suggest comparing risk of dying in a lahar event to avalanche fatalities and road accident fatalities as a method to allay public concern (Lawless et al. 2003, pg 40).

While DOC were seeking to use the media to educate the public of the risk and combat the negative reaction to the non-intervention decision, Ngāti Rangī perceived the media response as overwhelmingly anti Māori. In particular Ngāti Rangī felt that the media was supporting the RDC in opposing the Ngāti Rangī stance, and working to undermine the non-intervention decision (Wilson 2006, pg 17). Te Runanga o Tamaupoko, which represents people from the middle reaches of the Whanganui River wrote to the Minister of Conservation, to support a non interventionist approach in the face of pressure to overturn that decision applied through the media:

we support you on your stance not to allow machinery in to our Mountain Ruapehu to disturb the Crater Lake. Like our Ngāti Rangī whanau we object to the introduction of mechanical means to hasten the commencement of lahar flow from the crater. We applaud you on your courage to resist pressure from the different sectors of the community seeking a quick resolution to the situation (Haami 2001, pg 1).

When the lahar event occurred in 2007 Ngati Rangī released a media statement celebrating the lahar event. In the lead up to the lahar event Ngati Rangī had to nominate their own media spokesperson to deal with all the interest.

At the time the Minister of Conservation made the decision not to intervene, DOC were criticised for risking lives by not removing the lahar risk through engineering at the Crater Rim. DOC said that while the special relationship between Tangata Whenua and the peaks of Ruapehu, were a very important part of lahar management decision made, DOC feel they had been careful to not 'blame' iwi for the decision to not intervene at the Crater. DOC considered other concerns, such as the heritage status of the National Park, when coming to a non-intervention decision (Green 2007, pg 32). However media commentators, such as the politician Nick Smith, saw the Māori non-intervention preference as driving the DOC decision. In 2003 the local and district councils approached the Government asking them to declare a State of National Emergency to deal with the lahar. The councils felt that the Minister for Conservation (Chris Carter at the time) and DOC had not acknowledged the potential loss of life and damage to the economy and environment from the lahar (Donoghue 2003). The Independent News Paper (10/9/02 pg 6) made the point that by declaring a State of Emergency, the Government would open the way for the councils to deal with the lahar as they saw fit, without Māori opposition, as no consultation or appeals needed to be heard under the State of Emergency Act (2002). The councils told Carter that if he wants to:

Kow-tow to Māori concerns it (the Government) should expect to pay for doing so (Donoghue 2003, pg 6).

In the same article Ohakune business people were reported as saying that local Māori were using the lahar management issue 'to extort favours from the government' (Donoghue 2003, pg 6). Similarly,

National Party conservation spokesman Nick Smith said the Government had "sold out" to Māori spiritual concerns and political correctness by refusing to excavate the Crater Lake. "While environmental and cultural issues are important there is nothing as important as public safety." Removing the risk required only simple earthworks, he said. It is a cop-out and they will have to bear the responsibility if there is any loss of life or if there is any damage to property as a consequence of what is a very predictable large lahar (Watkins 2004).

Around the same time as the non-intervention decision was being made, the Dominion Post (14/12/01) published an article on Ngati Tūwharetoa cancelling a submarine exploration of Taupo lake bed by GNS; the article quoted National Minister of Science and Technology, Simon Upton, as saying:

A huge amount of planning, and, one assumes, no small sum of money has been burnt on some unknown altar in the pursuit of some unimaginable principle. Tūwharetoa's refusal looks like a breathtaking disregard for the acquisition of knowledge- knowledge that was going to be handed to it, and the world at large, for nix public expense. This is all the more remarkable because Tūwharetoa has, from the very earliest days, been regarded as one of the most public spirited and far-sighted iwi (pg 3).

These quotes provided to the media from Government Ministers show Maori were seen as risking lives and the acquisition of knowledge, for the greater good of humankind if the Minister is to be believed, for some 'unimaginable principle'. It could be interpreted from this that Upton and Smith were suggesting saying that Maori environmental knowledge has no place in the rational, objective world of science, the modern world; Maori environmental knowledge belongs to the past.

7.7.2 Indigenous Media and Resistance

While Ngati Rangi engaged with the mass media from a position the media could respect through creating their own press releases and media representatives, mass media can present dangers to ethnic minorities through misrepresentation. In an attempt to combat misinformation and represent themselves there is a growing international movement of minority peoples to present their own images and voices in 'mainstream' media (Ginsburg 2000; Alia and Bull 2005). By creating their own media indigenous groups can contest established geographies from their own discursive spaces and explore different narratives (Cupples and Harrison 2001). Through these discursive spaces indigenous media productions can represent their own histories, land rights, and knowledge. Through publicising their own accounts, Indigenous media practices help to create and contest social and political spaces that have excluded vital representations by Indigenous groups; in this way media can be part of the consciousness-raising process essential to resisting the ongoing effects of colonisation (Ginsburg 2000; Alia and Bull 2005). Indigenous run media is also a way of challenging critical assumptions that media works only as an agent of western cultural imperialism and neo-colonial control (Parks 2005 pg 73).

For Maori in Aotearoa/New Zealand, efforts to promote positive mainstream media representation of Māori continue to suffer. Historically New Zealand news media has actively maintained and legitimized racism through the way news stories are selected, constructed and presented. The hegemonic media in New Zealand is white, institutional and male, and from this

perspective it plays a dominant role in the definition of race relations in New Zealand and strongly influences the mood and tenor of contemporary debate about race and ethnicity (McGregor and Teawa 1996, pg 238). Historically the very idea of applying a Māori concept to political issues raised hackles around the country and caused serious debate (Mead 2003). Following the coverage of the build up to the lahar in the popular media, it seems little has changed. The longevity of negative portrayals of Māori speaks volumes about the extent of institutionalised racism in the mass media (Alia and Bulls 2005 pg 21).

Minority resistance in the media can destabilise hegemonic meanings attached to a place or an event can bring about attempts to restore discursive and geographic boundaries which serve the interest of the dominant groups (Cupples and Harrison 2001). To challenge racism and stereotypes, minorities are increasingly developing their own media, as well as participating on an equal footing with 'mainstream' media. Alia and Bull (2005) suggest that an increase in minority media control reflects a trend towards minority self-representation and global coalition-building (Alia and Bull 2005 pg 106). Where ethnic minorities have been scattered by colonisation, sometimes across political boundaries, they can be brought together by their own media networks. In Aotearoa/New Zealand Maori media initiatives include the Awa fm radio station which is the only station that broadcasts the Waitangi Tribunal Inquiry Hearings, and Te Puni Kokiri magazine. By publishing their own media ethnic minorities can preserve languages, foster artists, and strengthen cultural identity.

Broad casting of minority views can bring about a 'media backlash' as shown by Julie Cupples and Jane Harrison's study on the media event that occurred around the Fahey case, in Aotearoa/New Zealand, and to some extent the reaction of Ministers in the mainstream media to iwi views on the lahar event. These are examples of how mainstream media response can align with dominant groups to define and defend normative geographies. The Fahey case followed a prominent doctor and member of the community who was charged with sexually abusing patients. Cupples and Harrison (2001) use the media event around the Fahey case to show how power and hegemony must be constantly renegotiated, as attempts to maintain control of spaces requires the exclusion of other interests. The authors also point out that media events demonstrate how culturally constructed senses of place, which are held by dominant groups and permeate through wider society, obscure the social-spatial processes and mechanisms that are at work to reinvent that sense of place (Cupples and Harrison 2001, pg 191). Media events like the 2007 lahar and the Fahey case highlight the tensions that surround the production of meanings attached to places and the formation of a sense of place. The 2007 lahar media event

constructed Tangiwai as a site of risk that belonged to science and technology dominating the sense of Tangiwai as an important spiritual place for local iwi and their relationship with Ruapehu, their kin. This contested meaning of the Tangiwai site through the media event illustrates how the meanings of place are neither natural nor fixed, but must constantly be struggled for (Cupples and Harrison 2001). By challenging the hegemonically defined geographies and the 'officially' established meanings of Tangiwai we threaten the positions of power and privilege that such geographies and meanings work to secure.

8. Claiming a dual heritage: resource management from a position of Tangata Whenua

Te Ahukaramu Charles Royal recently said, “it is a feature of the human condition to exist in relationship with the environments in which we dwell” (2005 pg 13). The Mt Ruapehu lahar is a useful tool through which to examine relationships with the environment in Aotearoa/New Zealand, as it highlights the ways in which different knowledge systems relate to the environment. The 2007 lahar event and its significant media coverage occurred at a time when the iwi local to Mt Ruapehu and the Government were preparing to go into Waitangi Tribunal Inquiry Hearings. Both the media coverage and the Inquiry Hearing produced a wealth of knowledge on how communities, both Pakeha and Māori, in Aotearoa/New Zealand construct their relationships with the landscape and identify as tangata whenua (people of the land).

To examine changing meanings of what it is to be tangata whenua I will, in this chapter, contrast some of the outcomes of the lahar to recommendations made by the Waitangi Tribunal. The Waitangi Tribunal’s recommendations for a post settlement future in which Māori and Pakeha are partners, highlights the current ‘us’ and ‘them’ attitude in Aotearoa/New Zealand. The contemporary Māori scholar Te Ahukaramu Charles Royal proposes a new definition of tangata whenua to be inclusive of both Māori and Pakeha. By redefining tangata whenua, Royal refocuses the identity of all people in Aotearoa/New Zealand as coming from the land. A future of partnership also resists definitions of Māori and Māori knowledge as ‘Oriental’ and ‘unscientific’ following Edward Said’s work on the construction of Orientalisms.

8.1 Learning from Matua Ruapehu: lessons from the Lahar

Harry Keys, of DOC Turangi, said that the management of the 2007 Mt Ruapehu lahar set a precedent for the inclusion of kaitiakitanga in national park management, also the non-interventionist management decision which owed a lot to Māori environmental and cultural values (Keys and Green 2004). When analysing the reasons for the decision not to intervene in the lahar, it becomes clear that successive Ministers of Conservation put just as much weight on the risk to life at the Crater Lake, National Park and Conservation Estate legislation, World Heritage natural and cultural status, as on Māori values. Keys’ statement is an example of the perceived ‘win’ for iwi values from the non-intervention decision which was popular in mainstream media. While the discourse in the national

media suggested Māori had significant power to influence resource management decisions in the National Parks, the Māori position was one of many factors presented by submitters, and not necessarily anymore important than any other stakeholder. In this respect the media representation framed the event as one of Maori environmental knowledge against Pakeha science and engineering.

The management of the lahar event was an example of western scientific natural resource managers paying lip service to the principles of the Treaty by consulting, as the grievances over the management process as brought before the Waitangi Tribunal have shown. The 'win' for iwi in the lahar event was a direct result of the media coverage, which raised questions about resource management in Aotearoa/New Zealand and the place of Māori knowledge, Mātauranga and Tikanga, in it. It is this debate that has been started for the general public through the coverage of the lahar event in the media that needs to be carried forward, rather than the process that DOC went through to determine how to manage the lahar. While the principles of the Treaty and the place of Māori knowledge are debated rigorously in the Waitangi Tribunal, as I have experienced in the course of my work, it is events such as the lahar that bring these debates into mainstream media. Some knowledge, such as the contradicting story of the gifting, is only becoming publicly acknowledged due to the Waitangi Tribunal Inquiry and the settlement process. I think it is safe to say then, that post settlement management of Mt Ruapehu will look very different from pre-settlement, partly due to the sharing of knowledge that previously has been held very privately, and partly because of changing power relations between iwi and the Crown. It is interesting to note that DOC do not seem to share my expectations of changing relations in the Tongariro National Park, as at the time of writing DOC were still endorsing the story of the 'gift' of the mountain peaks through their website. When I questioned the appropriateness of this endorsement in the face of Tuwharetoa's denial, DOC maintained that:

We don't believe it appropriate to change the website at this point of time. It is something we may review following resolution of Treaty Claims related to Tongariro National Park, which are in process presently (David Conley, Community Relations Officer, DOC, Pers. Com. 14/09/09).

Mr Conley's statement suggests that any change will be in direct relation to the Waitangi Tribunal Settlement, reinforcing that power relations between iwi and the Crown need to change in favour of iwi before any self-determination will be supported by Crown organisations.

The Ngāti Tūwharetoa and Taupo District Council Joint Management Plan which has come into force this year, supports the RMA (1991) in its current form. Section 2.0 of the agreement describes the Joint Management Plan's purpose as to:

provide the basis to develop and confirm a relationship and understanding between the parties with regard to the administration of the (RMA) in relation to multiply owned Māori land within the traditional rohe of Ngāti Tūwharetoa iwi within the Taupo District. The (RMA) provides a basis for the parties to jointly perform or exercise any of the local authority's functions, powers, or duties under (the RMA) relating to natural or physical resource (Taupo District Council and Tūwharetoa Māori Trust Board 2009, pg 5).

Section 3.0 of the Joint Management Plan defines the principles of the joint relationship as similar to the principles of partnership and good faith under the Treaty of Waitangi. The plan also tries to:

recognise and provide for as a matter of national importance, the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga (Taupo District Council and Tūwharetoa Māori Trust Board 2009, pg 6).

This is an ambitious statement for a joint management plan. As the plan was only formally agreed upon this year, there has been no chance to evaluate its success. As the Taupo District Council was one of the groups that was very vocal in support of intervention at the Crater Lake leading up to the 2007 lahar event, in conflict with the Tūwharetoa stance, this plan indicates a changing attitude at a local Government level. From the perspective that power sharing changes with Treaty settlements, it is interesting to note that the plan has been created as Tūwharetoa are in Tribunal Hearings. To what extent the occurrence of the Treaty Hearing has anything to do with the release of the plan or the change in attitude of the District Council, I do not know.

The major lessons I see for hazard managers from the 2007 Mt Ruapehu Lahar, is that hazard management is a part of resource management, and inseparable from the greater environment in which the hazard event takes place. Likewise hazard events are part of the wider environmental resource management scape in Aotearoa/New Zealand and are subsequently subject to the principles of the Treaty of Waitangi, regardless of the legislative mandates of individual Crown entities. For Māori, the way the Government approaches resource management and the level of respect shown to the environment is an essential part of creating good relationships, whether the Government realises and acknowledges it or not. Until historical grievances between iwi and the Crown are acknowledged and

settled, these grievances will be part of resource interactions between Māori and the Crown. Not until there has been acknowledgement and settlement of historical grievances, settlement that brings about a change in power relations, will iwi groups be able to engage with more equal footing with Government resource managers, and have greater say in resource management decisions. The ability to make management decisions for resources in their rohe is part of self-determination for iwi. Self-determination for iwi would also involve a re-assessment of the preservationist paradigm, which is an important part of the western separation of nature and culture (Latour 2004; Ginn 2008). A genuine commitment promoting self-determination for iwi would go beyond the inclusion of Māori conservation tools and techniques within the goals of preservationist conservation. There is a need for a new conservation ethic combining the two knowledge systems and creating a conservation paradigm based on 'partnership' and the Treaty of Waitangi. By incorporating aspects of Māori and Western knowledges we have the potential to make science that is unique and democratic (Latour 2004).

8.2 Empowering the Waitangi Tribunal

In my experience western trained hazard management in Aotearoa/New Zealand consistently underestimate or fail to consider the importance of the Treaty of Waitangi in hazard management. I think this is partly because hazard managers are reluctant to see environmental hazards as part of a wider environmental and cultural resourcescape. I feel there is a reluctance to acknowledge and engage consciously with the politics of resource management. As the grievances brought to the Waitangi Tribunal show, attempts by hazard managers to ignore the underlying politics of resources are unrealistic. The hearing of grievances by the Waitangi Tribunal is an important part in empowering iwi to engage in resource and hazard management. The Tribunal creates a space for iwi to air grievances where DOC and the Crown are required to listen and respond. Through settling with the Crown, iwi can engage with resources from a position of equality and power, from cash and resource settlements, as well as mana. Through the Crown acknowledging that wrong has been committed and offering an apology, iwi can engage with natural resources from a position of increased mana and self-determination.

The Waitangi Tribunal, while only able to make recommendations to the Crown, is an important space for iwi self-determination. The Tribunal's recommendations have an influence in the formation of the settlements the Crown comes to with iwi. Therefore, the Tribunal:

feels that it is clear that Māori values, customs, and law should be provided for, as they are capable of adapting to meet the new circumstances of a combined society (Waitangi Tribunal Inquiry, 2008, pg 1245)

There can be some confidence that the Tribunal recommendations are followed up by the Crown, and that the Tribunal findings help to inform Crown policy after a settlement is made. The Tribunal has also told the Crown that there needs to be an emphasis on recognising the importance of self-determination for iwi in Crown policy. Tino Rangātiratanga (the principle of self-determination) carries obligations and customary constraints for iwi, such as internal management rights between hapu and external with neighbouring tribes, also obligations of kaitiakitanga (Waitangi Tribunal Inquiry 2008, pg 1246). Ngāti Rangi agree that Tino Rangātiratanga needs to be recognized in legislation (Gray et al. 2007). Ngāti Rangi feel that recognition of the relationship Māori have with their taonga is not true recognition without the recognition of Tino Rangātiratanga; consultation only is not a recognition of Tino Rangātiratanga. Ngāti Rangi feels that the carrying out conservation management is recognizing the principles of the treaty by the crown. Without provision for Tino Rangātiratanga it is not recognition of the principles of the treaty (Gray et al. 2007, pg 63).

The Waitangi Tribunal defines the Treaty of Waitangi principle of partnership as Māori and the Crown having a duty to accept and cooperate with each other in the utmost good faith, fairly and reasonably; they must work together, aid each other and provide information (Waitangi Tribunal Inquiry 2008, pg 1246). The Waitangi Tribunal suggests that the Crown needs to work to fulfil its role as Treaty partner in post settlement Aotearoa/New Zealand. A desire to see the Crown engage with iwi to create a future of mutual empowerment through partnership has been expressed to me by many people, of Māori and Pakeha descent, during my research.

During the time I spent at Tribunal hearings for the Whanganui River Claim, and in my interactions with the iwi who are particularly concerned with the management of Mt Ruapehu, I gained some insight into the immediate future resource management goals of these iwi. Particularly influential in articulating iwi resource management goals to the Tribunal were Che Wilson and Keith Woods, both of Ngāti Rangi. Keith Woods told the Tribunal that tangata whenua would like to see central Government and legislative change to guide Crown agencies to form good consultation with iwi. Both Woods and Wilson repeatedly emphasised how hard it is for iwi to meet the expectations of Government agencies without any funding to engage in resource management and that tangata whenua should be treated like any consultants and paid for their work. At the moment tangata whenua

consultation is required under the RMA (1991), but there is no compensation for the time and resources tangata whenua put into responses. In fact DOC has a policy not to compensate tangata whenua for their time (Woods 2009). Woods and Wilson also told the tribunal that tangata whenua want resource managers to ask them what resource management looks like to them and that tikanga incorporated into plans need to have manageable outcomes (Wilson 2009). Che Wilson feels there needs to be a change in the attitude of Crown agencies, fostering a culture of learning and open-mindedness towards non western knowledges. For Wilson, moving from approaching Māori knowledge as 'lore' to 'law' is an essential part of a new culture of greater respect by the Crown (Wilson 2009).

Ngāti Hikairo is another iwi that I had interaction with during my time following the Tribunal. Hikairo wish to control all their natural resources, to regain mana over their whenua (Boast et al. 2007). Hikairo feel that by seeking the cultural listing of the Tongariro National Park, the Crown placed itself under an obligation. They wish to ensure that the perception that is portrayed to the international community about the 'cultural landscape' of the park is consistent with what is happening on the ground. Hikairo feel it is important that the government is not merely paying 'lip service' to the cultural component of the park, and the involvement of Māori in the management of the park (Boast et al. 2007, pg 162). Hikairo representatives at the tribunal expressed a wish to see a return to Tikanga structures in the way the park is managed, and to have the tangata whenua role of Kaitiaki recognised and entrenched in government policy and legislation (Boast et al. 2007, pg 163). Opportunities for a joint management structure need to start to be seriously looked at by the Crown in close discussion with all tangata whenua groups with interests in the Park. Hikairo feel that legislation for the national park needs to be streamlined and the Treaty needs to be better acknowledged (Boast et al. 2007, pg 169).

Ngāti Tūwharetoa were the third main iwi I came to know better in my time at the Hearings. Tuwharetoa's evidence to the Tribunal emphasise that they wish to see an unconditional acceptance of the values held by Ngāti Tūwharetoa in the management of the park (Te Heuheu 2007, pg 199). Ngāti Tuwharetoa's ultimate right is to share in the governance and management of the Tongariro National Park. Ngāti Tūwharetoa accept that management of the Park cannot be to the exclusion of other New Zealanders, however the new Board of Management must go beyond the mere 'consultation' rights afforded by the current legislation (Te Heuheu 2007, pg 204).

In a closing address presented to the Waitangi Tribunal on behalf of Tuwharetoa, Boast, Lang and Vaughan-Sanders (2007) present a chapter on what they term 'traditional knowledge'. Elsewhere in this thesis I have refuted use of 'traditional' when referring to indigenous knowledge. Boast et al.

identify the valuing of indigenous knowledge relative to western science as a significant issue for the Tribunal. In my experience of the Tribunal, the lack of respect, or misunderstanding of the value of traditional knowledge, shown to indigenous knowledge by resource managers is an issue that is constantly brought before the Hearing. These grievances over validation of knowledge are at the heart of many Treaty claims, as respect of the unique knowledge held by an indigenous group is, in my opinion, intrinsically tied to a group's self-determination. Boast et al. (2007) submit that the Crown's assumption of regulatory control of the environment has failed to provide for the effective exercise of Tino Rangātiratanga (self-determination) which includes recognition of the role of indigenous knowledge and customary practices in environmental management. Boast et al. (2007) make the point that 'consulting' Māori does not meet the expectation of partnership as provided for tangata whenua under the Treaty. At the minimum they suggest, it must be incorporated and respected equally alongside western concepts of environmental science and conservation.

Charlotte Severne (2009) of Tūwharetoa descent and a scientist employed by a CRIs, also presented to the Tribunal on the use of Māori environmental knowledge. Severne stated that when you bring another knowledge system to compare or contrast and integrate systems, each system becomes better. Severne suggested to the Tribunal that the different systems are meant to complement each other, not test each other. Severne said that for her (as a scientist for a CRI) there is no conflict between western science and mātauranga Māori. Furthermore she was trained in both knowledge systems and treats both systems with scepticism. For Severne, working between two knowledge systems is about having an open mind and building good relationships (Severne 2009).

8.3 Resistance as identity: Edward Said and self-determination

Edward Said talks about internalising colonialism as a racial identity in his book 'Orientalisms' (1978). Said's work on orientalism is relevant to the situation in Aotearoa/New Zealand particularly in terms of identity politics. The contemporary Māori scholar, Te Ahukaramu Charles Royal identifies with Said's ideas on the internalisation of colonialism, and believes that resistance to colonial occupation has become the basis of contemporary Māori identity (Royal 2007a). If our identity as people of Aotearoa/New Zealand is based in colonial legacies, much of Said's writing about the 'orient' only requires what he terms 'oriental' to be substituted for 'Māori' to applicable to Māori/Pakeha(Western) relations. To move past an Aotearoa/New Zealand split down the lines of 'Māori' and 'Pakeha', 'us' and

'them', as both the Tribunal and Royal recommend, it is useful to examine Said's work on orientalism, as it can help us to understand the origins of the 'us' and 'them' and help us to move forwards in a way that does not recreate the colonial legacy of racial divide.

Said theorises colonialism as a process of dispossession that acts on an indigenous 'oriental' culture, and subsequently, identity. Commenting on orientalism and colonialism, Deane (1990) takes Said's notion of an internalised colonial identity a step further by stating that an identity not based on colonisation is unreal. In the attempted discovery of its 'true' identity, as Deane hypothesises, a community often begins with the demolition of the false stereotypes within which it has been entrapped. This is an intricate process, since the stereotypes are successful precisely because they have been internalised, they are no longer impositions from the coloniser on the colonised. Through the process of stereotyping the colonisers create the colonised as 'other'. By naming a group of people as 'other' the coloniser engages in an act of possession towards the colonised (Deane 1990). This act of possession is part of imperial expansion, accumulation of territories, peoples, histories by the coloniser; the colonisers study their possessions and classify them as subordinate. All of the subjugated peoples were classified as naturally subservient to the white European (Said 1990, pg 72).

While subjugation is an important part of colonial identity, resistance to colonisation is equally important in the construction of the identity of the colonised. Relationships with the land are an important part of subjugation as well as resistance. For groups resisting colonisation, there is often a pressing need for recovery of the land that, because of the presence of the colonising outsider, is recoverable at first only through the imagination (Said 1990). This idea of Said's about land being recoverable through the imagination is particularly applicable to resistance in Aotearoa/New Zealand. Small parcels of land can become powerful symbols of resistance and resistant identity. Both Bastion Point and Parihaka are geographic locations synonymous with identities of fighting colonisation. These geographies create what Said calls 'a new history' with:

a new pantheon of heroes, myths, and religions, these too are enabled by the land. And along with these nationalistic adumbrations of the decolonised identity, there always goes an almost magically inspired, quasi-alchemical redevelopment of the native language (Said 1990, pg 79).

Te Ahukaramu Charles Royal has proposed a new identity for Māoridom as Royal feels Māori are currently stuck in this construction of their identity as resistant to colonialism. Royal wants Māori to construct a new identity for themselves- one that no-longer fights the colonialism inherent in their

identity. Royal proposes the 'Creative Initiative Paradigm' as a new identity for Māoridom (2007a). Royal proposes this new identity paradigm will be realised through celebrating Māori as they are now- instead of constantly searching for what colonisation has taken from them. In many ways this is an identity that is no less based in resistance to colonialism. By removing the focus from loss Royal is trying to achieve an acceptance of colonisation as part of Māori identity-but not a defining part. Royal suggests that currently many Māori struggle with conflicting Māori/Coloniser paradigms of identity, and that the Creative Initiative Paradigm is a way resistance that does not involve fighting themselves. Royal's Māori Creative Initiative paradigm emphasises how stuck we are in an 'us' and 'them' paradigm.

As Said points out even if we seek to disregard the orientalist distinctions between 'us' and 'them' and create a new paradigm as Royal suggests, there is a powerful series of political and ultimately ideological realities that inform current scholarship and reinforce the orientalist divide (Said 1978). As the 'other', the 'us' and 'them' is so all pervasive in identity and community politics we must be careful not to pretend that they do not exist and be too hasty to dismiss them. Said (1978) suggests that as scholars by acknowledging the ethical and political consequences of our work we avoid intensifying and solidifying divisions, and with sensitivity can work towards more fluid understandings.

As part of this academic resistance to the colonial 'other' two paradigms have become apparent. Post colonialism and post modernism both suggest resistance to colonialism in their use of the word 'post', however practically both tend to reproduce old colonial practises in new forms (Said 2000). While Said (1978) sees one of the aspects of the electronic, post colonial and post-modern world is a reinforcement of the colonial stereotypes by which the orient is viewed, media also offers opportunities of resistance. While the media can create standardised interpretations of colonial experience, colonised peoples can also use it as a vehicle to resist stereotypes and get their own experiences across to a larger audience. In this way media can be a site of resistance as well as subjugation.

Media is an important site of resistance for iwi in Aotearoa/New Zealand. Ngāti Rangi put out their own media statements; have their own webpage, and a media spokesperson who gives interviews on behalf of the iwi. In 2007 the Crown conducted raids on groups they suspected of terrorism, many of whom were associated with Tuhoe iwi. This was a highly publicised media event, with both sides using the media to gather support. Tama Iti, a Tūhoe activist was interviewed on television on the second anniversary of the raids, Iti was able to use the media attention caused by the anniversary to draw parallels between the post-modern state and the legacy of colonisation for iwi in Aotearoa/New Zealand (Tv3 13/10/09). While Iti was being interviewed about relatively recent events in Aotearoa/New

Zealand's history, his reference to past conflicts further illustrate my point that historical grievances are an inherent subtext in all Crown interactions with Iwi groups, pending settlement.

8.4 Indigenous Pakeha and 'Tribal Envy'

The way I relate to the environment is heavily influenced by my Western science based education. The majority of my ancestors were Scottish, and while I currently reside in Lyttelton, I struggle to identify where I am from, when asked. Phyllis Morrow (2002, pg 18) states that:

Throughout the north in particular environmental disasters and unlimited development are cumulative effects of disregard for place...it leads us to look at Northern social relationships. Implicated in the erosion of Northern places are the frictions between those who are locally rooted and those who are not, often inhabiting the same communities. A number of contemporary writers suggest that this is an outgrowth of 'displacement' a condition of modernity, in which mobility and globalization may predispose us to a rift with a place.

Displacement in Aotearoa/New Zealand can be an issue for both Māori and Pakeha in different ways. For iwi, feelings of displacement can be symptomatic of colonial land appropriation and division. Pakeha of my acquaintance have expressed feelings of displacement that seem to stem from a perceived lack of connection with the land in general, rather than a forced dislocation from a particular geographic location. From talking to these Pakeha individuals about identity and connection with the land, there seems to be a displacement not from a disregard for place, but more as a result of not having the language to express their relationship with the land. They care about Aotearoa/New Zealand, it is their home, and yet 'home' does not adequately express the sense of connection they have with place. Often this connection seems to be rooted in a deeper environmentalism and environmental concern for the future. There is a perception among some that I have talked to, that intergenerational connection with a specific geographical location legitimises a connection with Aotearoa/New Zealand environment, and without a historic connection an individual can not be 'a person of the land'; some individuals who do not have kin ties to a particular location and still feel strongly about the location as part of their identity struggle to find the words to express the importance of their connection with place. Pakeha feel like 'Tangata Whenua', but are too scared of reproducing colonial appropriations to publicly identify with it. At a conference I attended on environmentalisms over the course of my research, a Pakeha used the phrase 'tribal envy' referring to a growing jealousy of being 'Tangata Whenua' among Pakeha. Like

me, the person who used this phrase, when asked to identify with an area of Aotearoa/New Zealand, could not do so, saying she felt she did not come from anywhere, like many people in today's society she has lived in several towns in Aotearoa/New Zealand and had briefly lived overseas before coming back to New Zealand. This individual did not identify with any area or have a history or responsibility to any local geographical area, rather identified with Aotearoa/New Zealand as a whole. At the same hui, disconnection of 'self from self, self from other, and self from nature' was raised as the root cause of modern social problems. These dualisms hark back to the human-nature separation that is embedded in post-enlightenment European culture. Is the sense of disconnection from place experienced by my friend a symptom of the separation of nature from society? Is this 'tribal envy' an expression of a desire to express our connection with nature, something that Pakeha perceive Māori as having?

I think part of this desire to connect with Aotearoa/New Zealand on a deeper level is manifest by the increasing numbers of Pakeha learning to speak Te Reo. Ranginui Walker (1987) said that correct pronunciation of Māori is a step towards biculturalism. Walker feels that when Pakeha are exposed to the ritual of encounter such as on the marae, they feel obliged to learn some elementary forms of Te Reo out of respect for Māori culture. When Pakeha feel at ease in Māori culture and develop some understanding of its values and customary usages then they might be described as bicultural (Walker 2004, pg 389).

Now many Pakehas by descent, intermarriage and simply identification with the land of their birth can rightfully claim a dual heritage. With the passing of time it is inevitable that all New Zealanders will eventually make that claim (Walker 1987, pg 48).

In Walker's book *Nga Tau Tohetohe: Years of Anger*, Walker quotes a conversation with the Rev Bob Lowe on the 'Pakeha problem':

The Pakeha, he said, have created an affluent society but failed to satisfy the spiritual side of man's nature. Pakehas over the age of forty were emotionally denuded people. They are alienated in the urban state because they have no sense of unity with nature. They have been cut off from their ancestral land and consequently have no mythology, no real tradition of their own and no Whakapapa to unite the living with their ancestors-to establish the great chain of being from the gods of the past, to the living of the present and the future generations to come (Lowe in Walker 1987, pg 210).

Walker says Lowe made an 'eloquent plea to Māori to reach out to the Pakeha, and lead him home so that we truly become one nation' (1987, pg 210). In the search for a post-colonial cultural identity definitions of 'home' and our 'roots' become paramount (Mead 2003, pg 35).

8.4.1 From Māori/Pakeha to Tangata Whenua

Who can be Tangata Whenua is one of the main preoccupations of the writings of Te Ahukaramu Charles Royal. One of the oldest identity paradigms in New Zealand is the Māori/Pākehā relationship which came into existence in the 19th century. The words 'Māori' and 'Pakeha' have been with us a long time and are powerful identities by which people living in Aotearoa/ New Zealand relate to one another. The effect of these words upon our consciousness, upon ways in which resources are apportioned, upon political power and more can not be underestimated. Royal thinks the stereotypes 'Māori' and 'Pākehā' are becoming less useful and newer articulations of common identity would be more appropriate. While it may be true that Māori and Pākehā stereotypes are no-longer useful, it is important to acknowledge that the terms 'Māori' and 'Pakeha' as identities remain very important to many people. At the beginning of the Māori renaissances, Māori were active in promoting these terms as a way of recognizing Māori as having a claim to the land and Pakeha as 'other'. By moving away from these terms there is a potential for people who identify as Māori to feel threatened that their history of occupation will be sidelined. Royal acknowledges that this concept of one cultural identity is a contentious idea that could fail if Māori feel their rights endangered by the threat of assimilation that is implicit in a one nation paradigm as the majority of people may perceive it. By moving from Māori/Pakeha to tangata whenua we move from a position of 'outsiders' to 'insiders' as tangata whenua. Therefore Royal's proposition of 'tangata whenua' is an controversial identity, as he theorises it as a cultural identity in which all people of Aotearoa/New Zealand all may share and participate, regardless of ethnicity, gender and religion (2007a). I strongly agree with Royal when he says that creating and maintaining quality relationships is critically important, as is creating sustainable relationships with our natural world. I see in Royal's proposition of tangata whenua a solution to the 'Pakeha identity crisis' raised by Walker and Lowe and experienced by Pakeha of my acquaintance today. Royal sees his idea as a challenge to Māori rather than a threat; a challenge to engage with what it means to be tangata whenua (2007a). Royal feels that if people really engage with the meaning of tangata whenua then the threat of assimilation of identity is less:

For non-Māori New Zealanders, particularly Pākehā, being tangata whenua will entail a deep engagement with our past, particularly its relationship with and expression in these islands and then an ongoing ritualising of these relationships (Royal 2005, pg 8).

Engaging with and embracing Royal's definition of being tangata whenua would provide a solution to the Pakeha feelings of displacement. So how do we become tangata whenua? Can the movement towards a cultural identity as tangata whenua only be undertaken by Māori? Coming from Royal, a call to move through Māori and Pakeha to an identity of tangata whenua is challenging – but coming from a non-Māori it could easily be construed as racist.

Recent statements made by many iwi speaking before the Waitangi Tribunal forum represent iwi as prepared and willing to work towards a common future with Pakeha. Many Iwi feel very positive about sharing their rich history and knowledge gained from centuries of occupation of the land with Pakeha (Wilson 2009). During the time I spent at the Tribunal I have heard both Māori and Pakeha scientific practitioners talking about working together towards a common future. However, in my experience, individuals often have a statement to give to the Tribunal on behalf of their institution or organisation, which may not be in line with their personal beliefs or experiences. Individuals who I have heard express willingness to work with and share knowledge with Pakeha organisations in the formal setting of the Tribunal, have later told me that they do not want Pakeha like me around 'messaging with their knowledge'. I think a major cause of this could be that there is pressure to present a certain 'face' for the Tribunal. Submitters to the Tribunal Hearings often have dual responsibilities, to their iwi, to their employer (sometimes the Crown) to contracts they might hold with Pakeha organisations, they cannot afford to alienate anyone by expressing what might be their true feelings on issues of knowledge sharing. While the Tribunal is a space for airing grievances, conflicts of interest may prevent some grievances from being addressed, I therefore believe that we will have to find other mechanisms beyond the Tribunal to work through issues if we are to move to a cultural identity of tangata whenua, in which both Pakeha and Maori can participate.

Tangata whenua as a cultural identity has the potential, I believe, to be a successor to cultural identities based on the social/natural dualism that rose out of the enlightenment and scholars like Locke and Hobbes. Latour, in his *Politics of Nature: How to bring the sciences into democracy* (2004) points to the western notion of nature as being a historically situated social representation as no culture except

that of the west uses nature to organise its political life; therefore, non western societies do not live in harmony with nature. Latour suggests that to move beyond the social/natural dualism we need to consider nonhumans in political ecology; I think tangata whenua provides for this through a whakapapa understanding of the environment, where nonhumans are important actors in kin networks. In addressing the social/natural dualism as the key issue for the future of political ecology, Latour (2004, pg 232) asks:

can we find a successor to the collective with two houses: nature and society?

I am suggesting Royal's tangata whenua paradigm as an answer. However, tangata whenua as Royal uses it is a paradigm unique to Aotearoa/New Zealand. Would 'people of the land' work as a new political ecology in a country that does not have an existing tradition of it?

9. Conclusion: When men and mountains meet

When I started this thesis my engagement in the 2007 lahar was mediated primarily through the media event associated with the lahar. Following the media event I was left with the impression that matauranga Maori and western science were in conflict over the lahar event. With the completion of my research I have come to a realisation that both western science and matauranga Maori have valuable knowledge for hazard management and can give complementary, not conflicting, understandings. The struggle to have such knowledge recognised and respected by western science is a feature of the global indigenous experience. In many cases, such as in Aotearoa/New Zealand, western science is a relatively recent arrival, being an import of colonisation. The lahar event gave me a focus through which to examine the interaction of western science and matauranga Maori and the representation of the non-human by each.

Consultation of iwi by Crown hazard managers was common through out the lahar event. While consultation is a poor form of co-management there is potential for national parks to be co-managed by the Crown and iwi. Co-management of national parks, in the form of shared decision making and responsibility between the Crown and iwi, is a desirable outcome for many iwi involved in the National Park and Whanganui River Waitangi Tribunal Inquiries. As Tumu Te Heuheu (2007) has pointed out, parks like the Kakadu and Uluru-Katu Tjuta Indigenous Protected Area in Australia set international precedence for a Māori managed National Park in Aotearoa/New Zealand. While participation is in general limited for indigenous groups in Australia, Northern Territories Federal Government has led the way in inclusive co-management. The time I spent at the Waitangi Tribunal Whanganui River Inquiry Hearings at Putiki Marae convinced me there is potential for a Whanganui National Park based on the Kakadu/Uluru-Katu Tjuta models.

I think one of the most important lessons from the 2007 lahar event for the Crown is that DOC and the CRIs are the face of the Crown for many communities, and therefore need to always be aware that they operate as a Treaty partner. Likewise, hazard managers need to remember they are part of a greater environmental resource management and that hazard management is like any other science in that it is inherently political and therefore needs to give effect to the principles of the Treaty. To honour the principles of the Treaty as a part of the Crown, hazard managers need to understand and accept the Treaty as relevant to their work and acknowledge that environmental phenomena are important to people in many different social, cultural and spiritual ways. As Treaty partners, the CRIs and DOC are

increasingly being called to account for their actions, as the grievances over the lahar management brought to the Tribunal demonstrate. Another issue that has come up repeatedly over the course of my research is that hazard management is indistinguishable from resource management for Maori and it is not compatible with their worldviews to separate the two. As hazards are part of an iwi's whakapapa and rohe, they are part of an iwi's treaty claim, therefore, hazard events can not be considered as outside the Treaty claims by the Crown.

Inherent in interactions between western science and matauranga Maori are the social/natural divide of western science and the participation of non-humans. William Blake² once wrote-"Great things are done when men and mountain meet". Blake's quote can be interpreted as capturing the social/natural split at the heart of post Enlightenment western science. Both Latour's theory of political ecology in his *Politics of nature: How to bring the sciences into democracy* (2004) and Steve Hinchliffe's politics of nature in *Geographies of nature: Societies environments ecologies* (2007) emphasise the inability of the social/natural dualism to account for the importance of non-humans as dynamic participants or 'actors' in the making of worlds. The fundamental dichotomies that are the key part of the problem of modernity are those of natural/social and expert knowledge/lay knowledge (Wynne 1996). In order to escape from the difficulty of composing a nature/social collective we have to consider that the collective is made up of non-humans capable of being citizens. To give new meanings to political ecology, we need to abandon Enlightenment science in favour for sciences conceived as ways of socialising non-humans (Latour 2004). Environmental issues are issues of human-nonhuman relations, and thus issues of culture and politics (Szerszynski et al. 1996). To address these knowledge issues we must move from an emphasis on the material and the quantifiable to one on the immaterial, the unquantifiable and the unpredictable; and we must abandon Eurocentrism and anthropocentrism and embrace the not-human, and the not-yet-born (Szerszynski et al. 1996).

Hinchliffe (2000) points to the natural and social as complex and interrelated, therefore, risk is intensified when nature and society are considered as separate matters. Hinchliffe (2000) feels we need to stop looking for the 'natural' to blame in a disaster and start thinking about events in more complex ways ; once we have mixed up the social and the natural, blame does not sit comfortably in nature or in many of our social institutions. According to Hinchliffe, blame is one reason for conflicts or 'battles'

² I found this quote inscribed on a plaque on a boulder in Kaitoke National Park just north of Wellington, in the foothills of the Rimataka mountain range.

between event stakeholders (Hinchliffe 2000). We need to be able to see the world in a way that refuses to constrain events into social and natural; without considering the natural and social we create blame and incomplete understandings of our environment (Hinchliffe 2000).

Latour (2004) identifies that questions of nature in practice involve sciences, law, moralities and politics; since politics has always been conducted under the auspices of nature, we have never left the state of nature behind. Western science reproduces the state of nature through treating the environment as place separate from the social, and defined by scientific inquiry (Szerzynski et al. 1996). The absence of modern indigenous voices within discussions of nature also perpetuates the western science natural/social divide (Johnson et al. 2007). The western notion of nature is also a historically situated social representation, nature to early colonial settlers was a place to be ordered, reclaimed from the savages and demons (Tuan 1974, Latour 2004). Indigenous peoples have acquired detailed knowledge of their environment and its resources through a history of settlement, for them there is no 'nature'; the social and the natural do not exist independently (Tuan 1974; Latour 2004). Non-humans are 'actors' in these worldviews, they are sacred and profane, defy humans and constitute worlds (Tuan 1974).

As I said in the previous chapter, in answer to Latour's (2004) call for a successor to the social/natural dualism born of Enlightenment theorists such as Locke and Hobbes, I propose Royal's tangata whenua paradigm. Tangata whenua as a localised biopolitics is a way to articulate the importance of the non-human. If I identify as tangata whenua, then through my whakapapa as a person of the land, non-humans are my kin and are active in the creation and re-creation of space and place. Where tangata whenua falls down, I feel, is in the translation from Te Reo to English; how do we convey the wealth of matauranga and tikanga from tangata whenua in 'people of the land'. However an English translation may not be necessary, harking back to the Ranginui Walker quote:

now many Pakeha by descent, intermarriage and simply identification with the land of their birth can rightfully claim a dual heritage. With the passing of time it is inevitable that all New Zealanders will eventually make that claim (Walker 1987, pg 48).

As a form of biopolitics, tangata whenua is unique to Aotearoa/New Zealand. It is Aotearoa/New Zealand as a shared locality that might offer a 'common ground' between western and Maori thought, allowing for approaches (such as tangata whenua) that can begin to address the social/natural dualism (Johnson et al. 2007).

Another aspect of the social/nature dualism is the separation of the natural into categories and the distribution of responsibility between various agencies. By categorising the natural and assigning aspects different responses and importance, we again deny the interrelatedness of the human and the non-human, and the power of the non-human to contest and construct space and place. Tuan (1974) states environment and worldviews are closely related: worldview is constructed out of the salient elements of people's social and physical setting. Human beings' affective ties with the material environment differ greatly in intensity, subtlety and mode of expression; more permanent and less easy to express are feelings that one has toward a place because it is home (Tuan 1974). Awareness of the past is an important element in the love of place. History is made visible by monuments in the landscape and past battles are recounted in the belief that blood sanctified the soil, bonds with place nurture and reach into history (Tuan 1974 pg 99). Being tangata whenua requires recognition of Papa-tū-ā-nuku as nurturer, as well as historic bonds and non-humans as actors with the agency to constitute worlds. Maori have to decide if Royal's tangata whenua paradigm is a cultural identity that they can support. From this perspective it will be interesting to watch Royal's future work and the extent to which tangata whenua is embraced by the Aotearoa/New Zealand population.

In terms of future research I think the potential Whanganui River National Park would be an interest study to see if we can move on from consultative to co-management and if the Kakadu/Uluru Indigenous Protected Area model is transferable to Aotearoa/New Zealand. As the Whanganui River and National Park Waitangi Tribunal Inquiries are completed and the Judge's recommendations made public, there is potential for the Crown to make changes in how the Tongariro National Park and Mt Ruapehu are managed by DOC. What changes in management might occur, and what implications these have for future lahar events would also make interesting future research.

10. References

- ALIA, V. & BULL, S. (2005) *Media and ethnic minorities*, Edinburgh, Edinburgh University Press.
- ALEXANDER, D. (2007) Making research on geological hazards relevant to stakeholders' needs. *Quaternary International*, 171-172, 186-192.
- ALDUNCE, P. & LEON, A. (2007) Opportunities for improving disaster management in Chile: a case study. *Disaster Prevention and Management*, 16, 33-41.
- BAKER, R. (1999) *Land is life: from bush to town-the story of the Yanyuwa people*, St Leonards, NSW, Allen and Unwin.
- BATTISTE, M. (2000) Introduction: Unfolding the lessons of colonizations. IN BATTISTE, M. (Ed.) *Reclaiming Indigenous Voices and Visions*. Vancouver, UBC Press.
- BECKER, J., JOHNSTON, D., LAZRUS, H., CRAWFIRD, G. & NELSON, D. (2007a) Use of Traditional knowledge in emergency management for tsunami hazard: A case study from Washington State, USA. *Disaster Prevention and Management (In press)*.
- BECKER, J., MANVILLE, V., LEONARD, G. & SAUNDERS, W. (2008) Managing Lihars the New Zealand way: A case study from Mount Ruapehu volcano. *Natural Hazards Observer: Disaster Mitigation... Second in a Series*.
- BENNION, T. (2007) 3.2.22 (Generic-Waimarino Block) closings. *WAI-1130*. Waitangi Tribunal Record of Inquiry
- BEST, E. (1986) *Astronomical knowledge of the Maori: Genuine and empirical*, Wellington, V. R. Ward, Government Printer.
- BISHOP, R. (1996) *Collaborative research stories: Whakawhanaungatanga*, Palmerston North, New Zealand, The Dunmore Press Ltd.
- BOAST, R., CLARK, R. & LANG, L. (2007) 3.3.30-Closing submissions for Ngāti Hikairo. *WAI-1130*. Waitangi Tribunal record of inquiry.
- BUTTON, G. V. (1999) The negation of disaster: The media response to oil spills in Great Britain. IN OLIVER-SMITH, A. & HOFFMAN, S. M. (Eds.) *The angry earth: Disaster in anthropological perspectives*. New York, Routledge.
- CASHMAN, K. V. & CRONIN, S. J. (2008) Welcoming a monster into the world: Myths, oral tradition, and modern societal response to volcanic disasters. *Journal of Volcanology and Geothermal Research*, 176, 407-418.
- CHAMBERLIN, E. J. (2000) From hand to mouth: The postcolonial politics of oral and written traditions. IN BATTISTE (Ed.) *Reclaiming Indigenous Voice and Vision*. Vancouver, UBC Press.

- CLARK, N. (2008) Aboriginal Cosmopolitanism. *International Journal of Urban and Regional Research*, 32, 737-744.
- CODY, A. D. (2007) Geodiversity of geothermal fields in the Taupo Volcanic Zone. *DOC Research and Development Series* 281.
- COOMBES, B. & HILL, S. (2005) "Na whenua, na Tuhoe. Ko D.o.C te partner"- Prospects for comanagement of Te Urewera National Park. *Society and Natural Resources*, 8, 135-152.
- CUPPLES, J. & HARRISON, J. (2001) Disruptive voices and boundaries of respectability in Christchurch, New Zealand. *Gender, Place and Culture*, 8, 189-204.
- DEANE, S. (1990) Introduction. IN DEANE, S. (Ed.) *Nationalism, colonialism and literature*, Minneapolis, University of Minneapolis Press.
- DEPARTMENT OF CONSERVATION (DOC) (2001) Ngāti Tūwharetoa and the Crater Lake. Department of Conservation, Turangi.
- DOC (2006a) Te KeteTaonga Whakakatohi: A conservation partnerships toolbox (Draft). Department of Conservation draft policy, Wellington.
- DEPARTMENT OF CONSERVATION (DOC) (2006b) D10-Overview of consultation with Iwi on Crater Lake issue by Department of Conservation. *WAI 1130*. Waitangi Tribunal inquiry report.
- DEPARTMENT OF CONSERVATION & GNS (no date) 'Volcanic Hazards at Whakapapa- Mt Ruapehu' accessed on 29.10.09 from http://www.mtruapehu.com/content/library/Whakapapa_Volcanic_Hazards_map1.pdf
- DONOGHUE, T. (2003) Maori, the minister and a state of national emergency. *The Independent*. 10.09.03, 6.
- DUNCAN, C. (2007) 3.3.28-Generic closing submissions on environmental issues. *WAI-1130*. Waitangi Tribunal record of inquiry.
- DURAN, B. & DURAN, E. (2000) Applied postcolonial clinical and research strategies. IN BATTISTE (Ed.) *Reclaiming Indigenous Voice and Vision*. Vancouver, UBC Press.
- DURIE, M. H. (1998) *Te Mana Te Kawanatanga*, Auckland, Oxford University Press.
- FOLSTER, F. (2001) Lee satisfied with Ruapehu lahar risk response management. Department of Conservation Media Statement. Accessed on the 10.04.08 from <http://www.doc.govt.nz/about-doc/news/media-releases/>
- GALLEY, I., LEONARD, G., JOHNSTON, D., BALM, R. & PATON, D. (2004) The Ruapehu lahar emergency response plan development process: An analysis. *The Australasian Journal of Disaster and Trauma Studies*, 2004.

- GINN, F. (2008) Extension, subversion, containment: eco-nationalism and (post)colonial nature in Aotearoa New Zealand. *Transactions of the Institute of British Geographers*, 33, 335-353.
- GINSBURG, F. (2000) Resources of hope: Learning from the local in a transnational era IN SMITH, C. & WARD, G. K. (Eds.) *Indigenous Cultures in an Interconnected World*. Vancouver, UBC Press.
- GRACE, J. T. (1959) *Tuwharetoa: A history of the Maori people of the Taupo district*, Auckland, Reed Publishing NZ Ltd.
- GRAY, M. T., GRAY, R. M. K., WAHO, T. J. D., MAREIKURA, T. S., BRIDER, L. T., PIRERE, R. M., RICHARDS, C. & RAPANA, H. (2007) 3.3.33-Closing submission on behalf of Ngāti Rangī. WAI-1130 Waitangi Tribunal record of inquiry.
- GREEN, P. (2007) H3(K)-Amended evidence of Paul Montague Green, Tongariro Taupo Conservator, on behalf of the Department of Conservation. WAI 1130. Waitangi Tribunal inquiry report.
- HAAMI, B. (2001) Te Runanga o Tamaupoko. Submission to the Minister for the Environment (Sandra Lee) Available from the Ministry for the Environment, Wellington.
- HAM, J. (1998) Ngāti Hikairo submission. Turangi, Ngāti Hikairo Forum.
- HAQUE, C. E. & ETKIN, D. (2007) People and community as constituent parts of hazards: the significance of societal dimensions in hazards analysis. *Natural Hazards*, 41, 271-282.
- HAWIRA, T. T. (2007) #B32-Brief of evidence of Turama Thomas Hawira. WAI 903. Wellington, Waitangi Tribunal.
- HENARE, M. (1988) Nga Tikanga Me Nga Ritenga O Te Ao Maori: Standards and foundations of Maori society. *Future Directions: Associated Papers*. Wellington, Report of the Royal Commission on Social Policy: Te Komihana A Te Karauna Mo Nga Ahuatanga-A-Iwi.
- HILL, K. (2009) Ranginui Walker: eyes of a warrior; interview with Ranginui Walker on Saturday mornings with Kim Hill. Wellington, Radio New Zealand.
- HINCHLIFFE, S. (2000) Chapter four: Living with risk: the unnatural geography of environmental crises. IN HINCHLIFFE, S. & WOODWARD, K. (Eds.) *the natural and the social: uncertainty, risk, change*. London, Routledge.
- HINCHLIFFE, S. (2007) *Geographies of Nature: societies environments ecologies*, Los Angeles, Sage Publishing.
- HOFFMAN, S. M. & OLIVER-SMITH, A. (1999) Anthropology and the angry earth: An overview. IN OLIVER-SMITH, A. & HOFFMAN, S. M. (Eds.) *The angry earth: Disaster in anthropological perspective*. New York, Routledge.
- HORIZONS DISTRICT COUNCIL, (2008) Te Ao Maori - Resource management issues of significance to hapu and iwi. Section 4, *Proposed One Plan*. Palmerston North, Aotearoa/New Zealand, Horizons Regional Council.

- HUPPERT, H. E. & SPARKS, R. S. (2006) Extreme natural hazards: population growth, globalisation and environmental change. *Philosophical Transactions of the Royal Society A*, 364, 1875-1888.
- IRWIN, A. & WYNNE, B. (1996) Introduction. IN IRWIN, A. & WYNNE, B. (Eds.) *Misunderstanding Science? The public reconstruction of science and technology*. Cambridge, Uk, Cambridge University Press.
- JOLLANDS, N. & HARMSWORTH, G. (2007) Participation of indigenous groups in sustainable development monitoring: rational and examples from New Zealand. *Ecological Economics*, 62, 716-726.
- JOHNSTON, J. T., CANT, G., HOWITT, R. & PETERS, E. (2007) Guest editorial; Creating anti-colonial geographies: Embracing indigenous peoples' knowledge and rights. *Geographical Research* 45, 117-120.
- KANE, W., REWETI, J. & CHASE, L. (2007) 3.3.53 Submissions of counsel for Ngāti Waewae in reply to Crown Submission WAI 1130. Waitangi Tribunal Report.
- KEYS, H. J. R., GREEN, P. & LAWLESS, P. (2001) Progress report on Ruapehu Crater Lake, alarm system and bund. DEPARTMENT OF CONSERVATION.
- KEYS, H. J. R. & GREEN, P. (2004) The Ruapehu Crater Lake issue - a management dilemma. DEPARTMENT OF CONSERVATION.
- KEYS, H. J. R. (2007b) Lahars of Ruapehu Volcano, New Zealand: risk mitigation. *Annals of Glaciology*, 45, 155-162.
- KEYS, H. J. R. (2009) DOC update. Central Volcanic Plateau Advisory Group Report. Taupo, New Zealand.
- KINDON, S. & LATHAM, A. (2002) From mitigation to negotiation; Ethics and the geographic imagination in Aotearoa/New Zealand. *New Zealand Geographer*, 58, 14-22.
- KINDON, S. (2003) Participatory video in geographic research: a feminist practice of looking? *Area*, 35, 142-153.
- KING, D. N. T., GOFF, J. & SKIPPER, A. (2007) Maori environmental knowledge and natural hazards in Aotearoa-New Zealand. *Journal of the Royal Society of New Zealand*, 37, 59-73.
- LADYMAN, J. (2002) *Understanding philosophy of science*, London, Routledge, New York.
- LATOUR, B. (1993) *We have never been modern*, Cambridge, Massachusetts, Harvard University Press.
- LATOUR, B. (2004) *Politics of Nature: How to bring the sciences into democracy*, Cambridge, Massachusetts, Harvard University Press.
- LATOUR, B. & WOOLGAR, S. (1979) *Laboratory Life: The social construction of scientific facts*, London, Sage Publications.

- LAUGESEN, R. (2009) Past tense. *New Zealand Listener*. Auckland.
- LAWLESS, P., GREEN, P. & BIGNELL, A. (2001) Ruapehu Crater Lake intervention decision. DEPARTMENT OF CONSERVATION, Turangi Conservancy.
- LAWLESS, P., KEYS, H. J. R. & SHEPPARD, B. (2003) Ruapehu Crater Lake updated information and risk mitigation. DEPARTMENT OF CONSERVATION, Turangi Conservancy.
- LITTLE BEAR, L. (2000) Jagged world views colliding. IN BATTISTE (Ed.) *Reclaiming indigenous vision*. Vancouver, UBC Press.
- LIVINGSTONE, D. N. (2003) *Putting science in its place: Geographies of science knowledge*, Chicago, The University of Chicago Press.
- LLOYD, D., VAN NIMWEGEN, P. & BOYD, W. E. (2005) Letting indigenous people talk about their country: a case study of cross-cultural (mis)communication in an environmental management planning process. *Geographical Research*, 43, 406-416.
- MARSDEN, M. (2003a) Kaitiakitanga: A definitive introduction to the holistic world view of the Maori. IN ROYAL, C. (Ed.) *The woven universe: Selected writings of the Rev. Maori Marsden*. Marsterton, New Zealand, The Estate of Rev. Maori Marsden.
- MAREIKURA, M. M. (1992) Brief of evidence of Matiu Marino Mareikura. *In the Maori Land Court of New Zealand Aotea District*.
- MAURO, F. & HARDISON, P. D. (2000) Traditional knowledge of indigenous and local communities: international debate and policy initiatives. *Ecological Applications*, 10, 1263-1269.
- MCGREGOR, J. & TEAWA, J. (1996) Racism and the news media. IN SPOONLEY, P., PEARSON, D. & MACPHERSON, C. (Eds.) *Nga Patai: Racism and ethnic relations in Aotearoa/New Zealand*. Palmerston North, New Zealand, Dunmore Press.
- MCKECHNIE, R. (1996) Insiders and outsiders; identifying experts on home ground. IN IRWIN, A. & WYNNE, B. (Eds.) *Misunderstanding science: the public reconstruction of science and technology*. Cambridge, UK, University of Cambridge Press.
- MEAD, H. M. (2003) *Tikanga Maori: Living Maori values*, Wellington, Huia Publishers.
- MERCER, J., KELMAN, I., LLOYD, K. & SUCHET-PEARSON, S. (2007) Reflections on use of participatory research for disaster risk reduction. *Area*, 2007, 1-12.
- MOLLER, H. (2008) Te Tiaki Mahinga Kai's research protocol. *Te Tiaki Mahinga Kai*, June, 28.
- MONAHAN, K. (2007) Harry Keys - lahar man. DEPARTMENT OF CONSERVATION, Turangi Conservancy.
- MORLEY, D. & CHEN, K. (1996) *Stuart Hall: Critical dialogues in cultural studies*, London, Routledge.

- MORLEY, D. (2007) *Media, modernity and technology: The geography of the new*, London and New York, Routledge.
- MORROW, P. (2002) 'With stories we make sense of who we are': Narratives and northern communities. *Topics in Arctic Social Sciences*, 4, 17-31.
- MULGAN, R. (1989) *Maori, Pakeha and democracy*, Auckland, Oxford University Press.
- NGĀTI RANGI (2001) Ngāti Rangi Position Statement. accessed 11/01/2008 from <http://www.doc.govt.nz/templates/multipagedocumentpage.aspx?id=41777>, Department of Conservation.
- NIWA & GNS Science (2007) *Natural hazards 2007 report*. Wellington, NIWA and GNS Science.
- OKEROA, E. (2009) To what extent are Indigenous Protected Areas transferable to Aotearoa/New Zealand. Report submitted for completion of summer studentship. Canberra, Fenner School of Environment and Society and Centre of Aboriginal Economic Policy Research, Australia National University.
- OLIVER-SMITH, A. (1996) Anthropological research on hazards and disaster. *Annual Review of Anthropology*, 25, 303-328.
- PARKS, L. (2005) *Cultures in orbit: Satellites and the televisual*, London, Duke University Press.
- PAWSON, E. (2002) The meaning of mountains. IN PAWSON, E. & BROOKING, T. (Eds.) *Environmental histories of New Zealand*. Melbourne, Oxford Press.
- PEHI, P. (2008) Ka ora te whenua, ka ora te tangata: Well-being of the people and the land. *Kai Kōrero*, June 8.
- PIERSON, T. C. (2002) Evaluation of lahar mitigation proposals at Mt Ruapehu. *DOC science internal series 63*. Wellington.
- REED, A. W. (2004) *Reed book of Maori mythology*, Auckland, Reed Books.
- RICHARDS, C. (2005) A63-Second brief of evidence of Colin Richards. *WAI 1130*. Waitangi Tribunal Inquiry report.
- ROBERTS, M., NORMAN, W., MINHINNICK, N., WIHONGI, D. & KIRKWOOD, C. (1995) Kaitiakitanga: Maori perspectives on conservation. *Pacific Conservation Biology*, 2, 7-20.
- ROBERTS, M. (1998) Science and technology education and ethnicity: an Aotearoa/New Zealand perspective. *The Royal Society of New Zealand Miscellaneous Series*, 59-75.
- ROYAL, T. A. C. (2005) Exploring indigenous knowledge. *The indigenous knowledges conference - Reconciling academic priorities with indigenous realities* Victoria University-Wellington.

- ROYAL, T. A. C. (2007a) The creative potential paradigm emerging in iwi/Maori communities. *Tranzform: Te Tinihanga, A conference of the library and information association of New Zealand*. Rotorua, New Zealand.
- ROYAL, T. A. C. (2007b) Some speculations on Maori identity in the New Zealand of tomorrow. *Concepts of Nationhood: Marking 100 years since the proclamation of dominion status for New Zealand'*. Wellington.
- ROZAKIS, M. (2007) The cultural context of emergencies: Seeking for a(n) holistic approach on disaster management. *Disaster Prevention and Management*, 16, 201-209.
- RURU, J. (2004a) Indigenous peoples' ownership and management of mountains: The Aotearoa/New Zealand Experience. *Indigenous Law Journal*, 3, 111-137.
- RURU, J. (2004b) Managing our treasured home: The conservation estate and the principles of the Treaty of Waitangi. *New Zealand Journal of Environmental Law*, 8, 243-266.
- RUTHERFORD, P. (1999) 'The entry of life into history'. IN DARIER, E. (Ed.) *Discourses of the Environment*. Oxford, Blackwell Publishers Ltd.
- SAID, E. (1987) *Orientalisms*, United States, Vintage Books.
- SAID, E. (1990) Yeats and decolonisation. IN DEANE, S. (Ed.) *Nationalism, colonialism, and literature*. Minneapolis, University of Minneapolis.
- SAID, E. (2000) Traveling theory. IN BAYOUMI, M. & RUBIN, A. (Eds.) *The Edward Said Reader*. London, Granta Books.
- SALMOND, A. (1996) *Hui: A study of Maori ceremonial gatherings*, Auckland, Reed Books.
- SCHLEHE, J. (2000) Cultural politics of natural disasters: Discourses on volcanic eruptions in indonesia. IN CASIMIR, M. J. (Ed.) *Culture and the changing environment*. New York, Berghahn Books.
- SEVERNE, C. (2009) Evidence presented on behalf of Ngāti Rangi to the Whanganui River Waitangi Tribunal Inquiry 6/03/09. Mangarongo Marae, Ohakune, New Zealand.
- SMITH, G., H (2000) Protecting and respecting indigenous knowledge. IN BATTISTE (Ed.) *Reclaiming indigenous voice and vision*. Vancouver, UBC Press.
- SMITH, B. (2003) Ngāti Hikairo Ki Tongariro Trust letter to DOC. IN GREEN, P. (Ed.) Turangi, New Zealand.
- SMITH, K. (2004) *Environmental hazards: assessing risk and reducing disaster*, London, Routledge.
- SMITH, L. T. (1999) *Decolonizing methodologies: research and indigenous peoples*, London, Zed Books.
- SNEED, P. (1997) National parklands and northern homelands: Towards co-management of National Parks in Alaska and the Yukon. IN STEVENS, S. (Ed.) *Conservation through cultural survival: Indigenous peoples and protected areas*. Washington D.C., Island Press.

- SPERBER, H. (2003) Under the mountain. *North & South*, APC Media, Auckland. pg 81-88.
- STEVENS, S. (1997a) The legacy of Yellowstone. IN STEVENS, S. (Ed.) *Conservation through cultural survival: Indigenous peoples and protected areas*. Washington, D.C, Island Press.
- STEVENS, S. (1997b) Protected areas and indigenous peoples. IN STEVENS, S. (Ed.) *Conservation through cultural survival: Indigenous peoples and protected areas*. Washington D.C, Island Press.
- STEWART, G. (2003) *The Tangiwai disaster: A Christmas eve tragedy*, Wellington, Grant House Publishing.
- STOKES, E. (2000) *The legacy of Ngatoroirangi: Maori customary use of geothermal resources*, Hamilton, New Zealand, The University of Waikato.
- SZERSZYNSJI, B., LASH, S. & WYNNE, B. (1996) Introduction: Ecology, realism and the social sciences. IN LASH, S., SZERSZYNSJI, B. & WYNNE, B. (Eds.) *Risk, environment and modernity: Towards a new ecology*. London, Sage Publishing.
- TAIAROA, R. (1999) Statement of the Tūwharetoa Maori Trust Board regarding Ruapehu Maunga: Lahar hazard report. Turangi, Tūwharetoa Maori Trust Board.
- TAIG, T. (2002) *Ruapehu lahar residual risk assessment*. Wellington, Ministry of Civil Defense and Emergency Management in New Zealand.
- TAUPO DISTRICT COUNCIL AND TŪWHARETOAMAORI TRUST BOARD (2009) Joint management agreement; Te Whakaaetanga Ma Te Whakakotahinga A Ropu Whakahaere. Taupo, New Zealand.
- TAYLOR, M., HALL, D. & DICKSON, L. (2007) 3.3.27-Closing submission on behalf of Ngāti Manunui. *WAI-1130*. Waitangi Tribunal Inquiry record.
- TE HEUHEU, T. A. T. (2001) Whangaehu embankment. Letter to the Minister of the Environment, Available from the Ministry for the Environment, Wellington.
- TE HEUHEU, T. A. T. (2007) 3.3.43 Closing submissions for Tūwharetoa National Park Inquiry. *WAI 1130*. Waitangi Tribunal Inquiry record.
- TE NAHU, H. (2007) 3.3.29 Ngāti Hikairo closing submissions for the National Park Inquiry. *WAI-1130*. Waitangi Tribunal Inquiry Record.
- TE PUNI KOKIRI (1998) Department of conservation- Te Papa Atawhai service delivery to Maori. Ministry of Maori Development, Wellington.
- THOMAS, K. (1984) *Man and the natural world: Changing attitudes in England 1500-1800*, Harmondsworth, Middlesex, Penguin Books.

- TOUPAL, R. S. (2003) Cultural landscapes as a methodology for understanding natural resource management impacts in the western United States. *Conservation Ecology*, 7, 12-52.
- TUAN, Y. (1974) *Topophilia: A study of environmental perception, attitudes, and values*, Englewood Cliffs, New Jersey, Prentice-Hall Inc.
- TUTUA-NATHAN, T. (2003) Kaitiakitanga: A commentary on the Resource Management Act 1991. IN HAYWOOD, J. (Ed.) *Local Government and the Treaty of Waitangi*. Melbourne, Oxford.
- ULLUWISHEWA, R., ROSKRUGE, N., HARMSWORTH, G. & ANTARAN, B. (2008) Indigenous knowledge for natural resource management: a comparative study of Maori in New Zealand and Dusun in Brunei Darussalam. *GeoJournal*, 73, 271-284.
- WAITANGI TRIBUNAL INQUIRY, (2008) He Maunga Rongo: Report on Central North Island claims, Wai 1200. Available from Legislation Direct. Wellington.
- WAKELIN, D. (2007) Lahar lahar. *Tongariro the Annual*, 15.
- WALKER, R. (1987) *Nga Tau Tohetohe: Years of anger*, Auckland, Penguin Books
- WALKER, R. (2004) *Ka Whawahi Tonu Matou: Struggle without end (Revised Edition)*, Auckland, Penguin Group.
- WALKER, R. (2008) *Tohunga Whakairo: Paki Harrison*, Northshore City, Penguin Books.
- WATKINS, T. (2004) Ruapehu risk: Govt rejects call to act over lahar risks. *The Dominion Post*. Wellington. 10/03/04
- WILLIAMS, T. K. & WILSON, D. (2007) 3.3.24-Synopsis of closing submissions of counsel for Ngāti Waewae. *WAI 1130 - The combined record of inquiry for the National Park*. Waitangi Tribunal Inquiry record.
- WILSON, C. (2006) A61-brief of evidence of Che Philip Wilson. *WAI 1130*. Waitangi Tribunal Inquiry report.
- WILSON, C. (2009) Evidence presented on behalf of Ngāti Rangi to the Waitangi Tribunal 4/03/09. WAITANGI TRIBUNAL INQUIRY, Maungarongo Marae, Ohakune, New Zealand.
- WOODS, K. (2006) E30-Brief of evidence of Keith William Paetaha Woods. *WAI 1130*. Waitangi Tribunal Inquiry report.
- WOODS, K. (2009) Evidence presented on behalf of Ngāti Rangi to the Waitangi Tribunal 4/03/09. WAITANGI TRIBUNAL INQUIRY, Maungarongo Marae, Ohakune, New Zealand.
- WORSLEY, P. (1997) *Knowledges: Culture, counterculture, subculture*, New York, The New Press.

- WYNNE, B. (1996) Misunderstood misunderstandings. IN IRWIN, A. & WYNNE, B. (Eds.) *Misunderstanding science? The public reconstruction of science and technology*. Cambridge, Uk, University of Cambridge Press.
- WYNNE, B. (1996) May the sheep safety graze? A reflexive view of the expert-lay knowledge divide. IN LASH, S., SZERSZYNSJI, B. & WYNNE, B. (Eds.) *Risk, Environment and Modernity*. London, Sage.
- YOUNGBLOOD HENDERSON, J. S. (2000) The context of the state of nature. IN BATTISTE (Ed.) *Reclaiming indigenous voice and vision*. Vancouver, UBC Press.