Environmentalism for the Environment's Sake:

Towards an Understanding of the Influence of the Māori Worldview on Western Environmental Management Perspectives in Aotearoa New Zealand

through a Lens of Nature Connectivity

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Haley Jones

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Abstract

Individual perceptions of the natural world may be influenced by place, culture, and value systems. In exploring these perceptions through measures of environmental connectedness, this study considers the uniqueness of the socio-cultural systems of Aotearoa New Zealand in shaping individual environmental engagement. This research examines the implications of the inclusion of Māori values in environmental management policies dominated by Western environmental conceptualisations. Through semi-structured interviews of five participants who work in environmental fields in the Hamilton, Waikato Region of Aotearoa New Zealand, this research explores conceptualisations of identity and environmental discourses, interpretations of the Māori concept of kaitiakitanga and the Western concept of stewardship, career connectedness, and place attachment to Aotearoa New Zealand. Additionally, results from an online survey questionnaire of twelve respondents compare measures of connectedness to nature of respondents from California, United States of America, with those from the Waikato Region, Aotearoa New Zealand. Key findings highlight how anthropogenic worldviews can be unconscious, how understandings of cultural values may be a key factor of a strengthened environmental commitment, how expressions of Indigeneity are of value in the sciences, and how there is importance in the link between conservation values and the Māori worldview. This study exposes the importance of the implementation of improved training about, and inclusion of, Indigenous knowledge within environmental organisations in order to develop conscious awareness of how Indigenous information is being translated, applied, and respected.

Preface and Acknowledgements

This thesis has opened my eyes beyond the academic sphere. My time here in Aotearoa New Zealand has come with mountains to climb, yet through the adversity, I have challenged my worldview, met some remarkable individuals, and have grown in many areas. This research reflects a shift in my knowledge. The new perspective I have had the privilege to gain will follow me throughout my career; and throughout my life. I hold new values in my direction moving forward in the ways I live, in the ways that I connect with individuals and community, and in the ways in which I connect with the land.

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Glossary

Aboriginal: “Existing in a place from the earliest known period” (*Collins Dictionary*, 2021).

Anthropocene: “A new geological epoch which is part of the Holocene era. The Anthropocene starts from the mid-20th century, reflecting the point in the geological record where humanity has developed the predominant role and influence upon the Earth System at all spatial-temporal scales” (Phillips, 2020, page 1).

Anthropomorphisation: “To show or treat an animal, god, or object as if it is human in appearance, character, or behaviour” (*Cambridge Dictionary*, 2021).

Biophysical: “The physics of biological processes and the application of methods used in physics to biology” (*Collins Dictionary*, 2009, page 70).

Colonialism: “The policy of acquiring and maintaining colonies especially for exploration” (*Collins Dictionary*, 2009, page 150).

CNT: Connectedness to Nature (Restall and Conrad, 2015).

Conservation: “Protection and careful management of the environment and natural resources” (*Collins Dictionary*, 2009, page 164).

Environmental Identity: The way in which one views oneself in relation to the natural world. This is based on emotional attachment, personal history, and/or similarity to the formation of one’s self-conceptualisation of the nonhuman natural environment and a sense of connection with this environment (Clayton, 2003).

Ethnocentric: “Evaluating other cultures according to preconceptions originating in one’s own culture” (Stevenson & Waite, 2011, page 490).

Guardianship: A defender, protector, or keeper (Stevenson & Waite, 2011). In the context of this research, protecting or defending the natural environment.

Identity: Frequently used to refer to meanings of self that place individuals within webs of social relationships founded on shared characteristics of roles and group memberships (Walton and Jones, 2018).

Indigenous: "Originating or occurring naturally in a particular place, native" (Stevenson & Waite, 2011, page 724).

Māori Paradigm: A marketing paradigm that holds a holistic approach to view the natural environment as an interconnected web that includes equal stakeholders, including Indigenous peoples and ecocentrism, in decision making and behaviour (Kennedy et al., 2020).

Place attachment: "The cognitive and emotional bond between people and places that emerge from one's interactions with a place and one's social interactions that occur in that place" (Daryanto and & Song, 2021, page 209).

Stewardship: "The responsible management of human activity affecting the natural environment to ensure the conservation and preservation of natural resources and values for the sake of future generations of human and other life on the planet, together with the acceptance of significant answerability for one's conduct to society" (Welchman, 2012, page 303).

Sustainability: "The conservation of an ecological balance by avoiding depletion of natural resources" (Stevenson & Waite, 2011, page 1452).

Sustainable Development: Development that meets the needs of the present without compromising the ability of future generations to meet their own needs (Brundtland, 1987).

Resource Management Act 1991: An act of Parliament passed in Aotearoa New Zealand that promotes the sustainable management of natural and physical resources ("Resource Management Act 1991 No 69, Public Act – New Zealand Legislation", 2021).

Western: "[U]sed to describe things, people, ideas, or ways of life that come from or are associated with the United States, Canada, and the countries of Western, Northern, and Southern Europe" (*Collins Dictionary*, 2021).

Worldview: "A particular philosophy of life or conception of the world" (Stevenson & Waite, 2011, page 1664).

Kuputaka: Glossary of Māori Words

The following te reo Māori terms and definitions originate from the website maoridictionary.co.nz, unless cited otherwise. These terms and definitions may also be found in the printed version of this dictionary (see Moorfield, 2011).

Te Reo Māori: Indigenous language is spoken by the Māori people of Aotearoa New Zealand.

Ahau: I, me.

Aotearoa: The Māori name for New Zealand.

Hapū: "Kinship group, tribe, subtribe; section of a large kinship group and the primary political unit in traditional Māori society".

Iwi: "Extended kinship group, tribe, nation, people, nationality, race; often refers to a large group of people descended from a common ancestor and associated with a distinct territory."

Kaitiaki/Kaitiakitanga: "Trustee, minder, guard, custodian, guardian, caregiver, keeper, steward."

Kotahitanga: Unity, togetherness, solidarity, collective action.

Mana: "[P]restige, authority, control, power, influence, status, spiritual power, charisma - mana is a supernatural force in a person, place or object."

Mana Whenua: "Territorial rights, power from the land, authority over land or territory, jurisdiction over land or territory; power associated with possession and occupation of tribal land."

Manaakitanga: "Hospitality, kindness, generosity, support; the process of showing respect, generosity and care for others."

Māori: "Indigenous New Zealander, an Indigenous person of Aotearoa/New Zealand".

Mauri: "Life principle, life force, vital essence, special nature, a material symbol of a life principle, source of emotions; the essential quality and vitality of a being or entity. Also used for a physical object, individual, ecosystem or social group in which this essence is located."

Mātauranga Māori: "Māori Knowledge; the body of knowledge originating from Māori ancestors".

Ora: "To be alive, well, safe, cured, recovered, healthy, fit, healed."

Rangatiratanga: "Kingdom, realm, sovereignty, principality, self-determination, self-management; connotations extending the original meaning of the word resulting from Bible and Treaty of Waitangi translations."

Taiao: "World, Earth, the natural world, environment, nature, country."

Tangata: "People, men, persons, human beings, individuals".

Te Ao Māori: "The Māori worldview that acknowledges the interconnectedness and interrelationship of all living & non-living things" ("Te Ao Māori," 2021).

Tiaki: "To guard, keep, care, look after".

Tikanga: "Correct procedure, custom, habit, lore, method, manner, rule, way, code, meaning, plan, practice, convention, protocol - the customary system of values and practices that have developed over time and are deeply embedded in the social context."

Treaty of Waitangi: "The Treaty of Waitangi was signed in 1840 and was an agreement between the British Crown and a large number of Māori chiefs. Today the Treaty is widely accepted to be a constitutional document that establishes and guides the relationship between the Crown in New Zealand (embodied by our government) and Māori" (New Zealand Ministry of Justice, 2021).

Whakapapa: "Genealogy, genealogical table, lineage, descent".

Whanau: "Extended family, family group, a familiar term of address to a number of people; the primary economic unit of traditional Māori society. In the modern context, the term is sometimes used to include friends who may not have any kinship ties to other members."

Whanaungatanga: "Relationship, kinship, sense of family connection; a relationship through shared experiences and working together which provides people with a sense of belonging. It develops as a result of kinship rights and obligations, which also serve to strengthen each member of the kin group. It also extends to others to whom one develops a close familial, friendship or reciprocal relationship."

Whenua: "Country, land, nation, state."

Chapter One

> Poipoia te kākamo kia puāwai- nurture the seed and it will bloom … I often wonder what it must have been like to walk in te wao tapu nui a Tāne, the sacred forests of Tāne when our ancestors first set foot in Aotearoa. A new climate, novel and unfamiliar plants. The awe in witnessing those seeds falling on the fertile ground, and how across seasons, rain and sun and the shelter of the family of other plants would sew the steady growth of tiny sprouting shoots; the recognition of the ecological relationships that nurtured seeds into maturity and then to blossom (Elder, 2020, pg. 23).
>
> The relationship between the health of the ecosystem and the wellbeing of the people can be demonstrated by the following phrase: Ko ahau te taiao, ko te taiao, ko ahau – The ecosystem defines my quality of life (Environment Guide, 2021).

To walk the sacred forests and recognise the ecological relationships so unique to Aotearoa is, as Dr Hinemoa Elder (2020) describes, a part of the ancestral imagery that is closely tied to the worldview of Māori. Māori are Indigenous to Aotearoa New Zealand, a country identified in the Māori language as Aotearoa, which translates from te reo Māori to mean "The Land of the Long White Cloud" (Morrison, 2011, page 67).

Māori terminology holds deep emotional and cultural significance for tangata whenua. These meanings typically extend beyond the literal translation. For example, as noted in the Glossary, kaitiakitanga refers to guardianship and stewardship. According to the Environment Guide (2021), kaitiakitanga refers to a Māori ideology of guarding the environment that

> is integrated with the spiritual, cultural and social life of tangata whenua; is holistic across land and sea; includes people within the concept of environment; is locally defined and

exercised; does not focus on ownership, but on authority and responsibility; and is concerned with both sustainability of the environment and the utilisation of its benefits.

The concept of kaitiakitanga is recognised in the English Version of the Treaty of Waitangi of 1840 yet attempts to define its meaning in anything other than te reo Māori are considered by some commentators to be insufficient (Environment Guide, 2021). This 'insufficiency' emerges because the adoption of a Western lens through which to view the meaning of the Treaty may lead to misinterpretation. Evidence suggests that in contemporary Aotearoa New Zealand there is much scope for appropriate consideration to be afforded with respect to the Māori worldview toward the management of land and resources ("Te Ao Māori," 2021).

The predominant Western view of 'nature' typically takes on an anthropocentric 'ownership' role in terms of environmental management, where humans are separate from, and in control of, nature. Although Western interpretations of stewardship are changing, they remain embedded in environmental beliefs associated with concepts of private property and market-based efficiency (Fergusson, Wells & Kettle, 2017). This focus provides justification for the political and social exploitation of the natural environment, actions that have created problems that threaten the foundations of existence (Boyes, 2010). In contrast to the Western environmental approach, the Māori worldview of kaitiaki understands humans as being guardians of nature, closely connected and a part of the natural world (Royal, 2021). Kaitiakitanga has become a common term of reference in debates in Aotearoa New Zealand around sustainability goals; for example, Aotearoa New Zealand's central environmental management legislation, the Resource Management Act 1991, states that all persons employing it must have regard to kaitiakitanga (Resource Management Act 1991, s7).

In recent years, Indigenous knowledge has emerged as an increasingly popular alternative for environmental management and protection in Western countries. This popularity has developed as cultural values and practices have been included in contemporary resource management policies and practices (Wareka, 2020). This research explores the strength of environmental connection in Aotearoa New Zealand and the influence of an Indigenous worldview as a part of environmental philosophy. Also considered in this research are the implications of linking Western thinking and an Indigenous worldview as an expression of a movement toward progressive, societal protection of the environment. Investigation of individual environmental identities and perspectives can contribute to understandings of the unique scope of environmental consciousness in a country where two contrasting approaches are coming together.

This study explores the uniqueness of environmental connectedness in Aotearoa New Zealand and considers how cultural influences shape individual environmental engagement. This study draws on primary data collected from interviewees located in the Waikato Region of Aotearoa New Zealand, and from an online questionnaire completed by individuals residing in the Waikato Region and in the United States of America. The interview and survey populations were drawn from personal contacts who expressed an interest in discussing their environmental perspectives. The research demographic contained people who do not self-identify as Māori, work in an environmentally focused career, and hold a contemporary environmental understanding. Interviews and questionnaires with participants took place over seven months in 2021.

This research provides insight into the environmental ideologies of those working within the environmental management field in Aotearoa New Zealand and examines how the ideologies of these employees align with concepts and practices of sustainable environmental management. Evidence suggests that a strong connection with nature leads to strong environmental conservation values (Brugger et. al., 2010). This research assesses the influence of Indigenous Māori values in shaping the strength and scope of links between different environmental identities in Aotearoa New Zealand. Additionally, given evidence of the role of Western concepts in misinterpreting Māori environmental knowledge and practices, this research seeks to avoid the tokenism that may be evident when Western knowledge is employed as a basis for determining the use-value of knowledge. My research also examines the introduction and inclusion of Māori values in the environmental sector, the potential impacts of this introduction and inclusion, and the implications of introduction and inclusion for future research.

1.1 Research Objectives

This research does the following:

1. Reviews literature on environmental attitudes, beliefs, and associations related to individual identity, sustainability and environmental management, and the inclusion of the Māori worldview in environmental sustainability literature.

2. Reviews literature to facilitate comparison of nature connectedness in two distinct environmental management settings that express an Indigenous worldview.

3. Examines how identity and nature-connectedness in Hamilton, Aotearoa New Zealand, is reflected in environmental career-focused individuals who grew up within a Western

setting and assesses how the attitudes and beliefs of these individuals have been influenced by Māori culture.

4. Evaluates the implications of the individual's understanding of the Māori worldview in the context of environmental management in Aotearoa New Zealand.

1.2 Positionality and Motivation for Research

This research engages with people like myself, individuals whose immersion in Western environmental paradigms has been influenced by engagement with Indigenous environmental understandings. As a female of European descent who is an outsider to Māori and Aotearoa New Zealand culture, I understand that there are innate biases I may hold that potentially act as blind spots to my understanding in conducting research relating to Māori values. Given these considerations, and my desire to ensure care and trustworthiness in the operation and expression of my work as a humanities researcher, I have chosen to focus on the expression and operation of the beliefs of myself and like-minded individuals.

I began engaging with this topic after my experience as an undergraduate in California, United States of America when studying Environmental Communication. Within this degree programme, ecological identity provided a focus for understanding how public policy is formed, how policy is disseminated via narrative, and how to engage with policy formulations. After visiting the Indigenous American Paiute tribe's reservation in the Owens Valley and learning about the conflicts and struggles the tribe continues to experience with the Los Angeles City Council and the Government of California regarding land and resource rights, I developed an interest in ways in which different worldviews underpin environmental conflicts and associated environmental degradation. (For information on the experiences of the Paiute, see Walker 2014.)

As I progressed with my research on land rights, I became aware of the significance of aspects of colonialism to environmental engagements. Largely ignored in popular discussions of environmental management in California, colonial constructions add to inequity in the acknowledgement and understanding of Indigenous views of land in environmental management in the United States of America. An example of this is how the current system has "reconstruct[ed] ideologies of rationalisation and justification, such as with the California missions, that further subordinate American Indians and nations [by hiding a history of genocide and cultural destruction of native peoples]" (Fenelon & Trafzer, 2013, page 26). Furthermore, in engaging with the worldviews of the Paiute, it was enlightening to hear discourses of nature from a perspective that resonated with my environmental values more so than with my Western-based environmental education. This accord with Paiute views opened my eyes to possible alternate environmental approaches and has shaped the way I view the natural environment and my involvement in environmental and social rights advocacy.

I moved to Aotearoa New Zealand in 2020 and, soon after arriving in the country, I became intrigued by the extent to which Māori culture was distinguished in everyday life in comparison to expressions of Indigenous culture in California. Through conversations with students who shared my interest in environmental matters, I found that there were notable differences between the perceptions of nature held by Aotearoa New Zealanders and those held by my peers in California. Through informal conversation, I became aware that many Aotearoa New Zealanders, regardless of their background, grew up learning about different types of native birds, trees, and conservation practices. Recognition of different environmental worldviews seemed to be ingrained into the national culture, a feature that was an important catalyst for my

current research. The relevance of the environment is evident in results that indicate 87 percent of Aotearoa New Zealand citizens consider the environment as important to themselves (Ministry for the Environment, 2021). These citizens were described as "outdoor-loving" and having a way of life shaped around action and interaction with the environment (Ministry for the Environment, 2021).

Within a few months of being in Aotearoa New Zealand, I experienced a shift in my understanding of the ways in which humans can engage with the natural environment, along with a change in my interest in the field of environmental communication. Exposure to systematic processes such as consultations with iwi toward environmental change, respect for Mātauranga Māori in policy discourse, and a political party advocating Indigenous rights illustrated to me the lack of similar processes and norms in California. Additionally, after volunteering with local groups involved with restoring Hamilton gully systems and a charitable initiative promoting bicycle commuting in Hamilton, I learned how each individual tree and plant species was given respect and came to understand the thought that went into ensuring ecosystem development reflected a holistic rather than a purely aesthetic approach. Given the ways in which my views changed during 2020, I wondered about the perspectives of others who might have had similar experiences. In reflecting on my 'Aotearoa New Zealand journey', I was overt in reflecting on the ways in which engagement with the Māori worldview has played a part in changing environmental understandings. Underpinning this self-reflection is the belief that developing and strengthening the spiritual elements of self and connection to humanity's natural 'home' on Earth can make a significant difference toward sustainable environmental change.

1.3 Significance of Study/ Practical Relevance

By exploring the Māori worldview of environmental connectedness as is evident within Aotearoa New Zealand, this research facilitates an understanding of environmental identity and associated sustainability practices. Through its examination of the collectivity identity of place attachment, intersectional environmental influences of identity, and personal attitudes as shaped by merging worldviews, this study contributes to existing sustainability and environmental identity literature. By furthering community understandings of the dispersal of environmental science and traditional knowledge, this research encourages pro-environmental efforts.

1.4 Overview

Following this introductory chapter, Chapter Two provides a review of literature that engages with ideas around identity and connectivity to nature, sustainability science, and Māori involvement in scholarly discourses. In Chapter Three, the methodology is presented, offering a framework for understanding the process undertaken to reach the key findings. Chapter Four details the findings of the research, with thematic analysis underpinning a focus on three key themes. Chapter Five concludes the thesis, with a discussion focusing on the relevance of this research.

Chapter Two

Literature Review

An investigation of theories relating to the self, identity, and culture exposes a range of local, national, and global scales of measurement and conceptualisations as to how such theories link to environmental connections. Given the broad scope of potentially relevant materials, this literature review focuses on materials concerned with theories of human behaviour in relation to the environment. Analysis of these materials focuses on how Western worldviews and the Māori worldview fit into sustainability sciences. The literature explored exposes four themes that align with the direction of my research objectives.

The first theme addresses methods for measuring nature connectedness through a Western lens. This theme explores such aspects as emotional connectivity to the natural world, ecological behaviour, and a sense of belonging as relates to contributions to sustainability and environmental management. The second theme reviews Western environmental narratives of conservation and stewardship. This discussion examines how the use of such terms as 'connectivity' and 'identity' contribute to environmental beliefs and ideas of sustainability. The third theme relates to the Māori ecological worldview and associated notions of sustainability. Given the availability of a multitude of publications that have relevance to discussions of Māori ecology (see, for example, Carter 2019, King et al. 2008, Nelson & Shilling 2018, and Skerrett & Ritchie 2020), this review focuses on how Māori knowledge and culture align with contemporary Aotearoa New Zealand sustainability concepts. In exploring such terms as 'sustainability', 'environment', 'kaitiaki', and 'Māori values', the discussion examines how the Māori worldview

is being received in the context of scholarly debates about sustainable practices. Drawing on the third theme, the fourth theme discusses Māori self-determination in relation to sustainable resilience, public policy, and a Māori worldview.

2.1 Measuring Nature Connectedness through the Western Lens

Environmental conservation has been closely linked to individual relationships with nature, and these relationships have been understood through reference to the pleasurable and gratifying experiences individuals have in nature (Brugger et al., 2010). To gain some degree of consistency about such gratification, Brugger et al. (2010) sought to measure human-nature experiences. Brugger et al. (2010) drew on the belief that the motivating factor underpinning a gratifying experience in nature is not necessarily emotional affiliation but how an individual conceptualises nature. In conceptualising a connection-with-nature model, Brugger et al. (2010) avoided issues of self-reflection and focused on an understanding of personal attitudes. By challenging validity claims relating to nature conservation and ecological behaviour, and by questioning the relevance of individual attitudes, Brugger et al. (2010) provide an alternative to existing methods of measuring nature connectedness. Thus, Brugger et al. (2010) argue that measuring connectivity as an expression of individual attitudes minimises the potential for response bias and mitigates difficulties associated with describing accurately relationships to nature.

Brugger et al. (2010) base their conceptualisations on findings from a questionnaire that asked respondents about their experiences bonding with and appreciating nature. By reducing opportunities for self-reflection, Brugger et al. (2010) sought to minimise biases commonly associated with self-report measures; the primary two being recollection and response bias.

Furthermore, the approach of Brugger et al. (2010) appeals to individuals who are uncomfortable engaging in self-exploration. The work of Brugger et al. (2010) helps identify the gaps in former measures of nature connectedness and identity, moving towards the establishment of a robust scale for people who have trouble self-actualising in this area. In relation to the consideration of nature connectedness in Aotearoa New Zealand, the method of Brugger et al. (2010) contributes to the determination of the route to take in demographics-based interviewing or surveying. This method adds value to this research's methodological approach in that questions will be worded to minimise self-reflection and, as such, reduce opportunities for recollection and/or response bias.

Individual experiences with the natural world were also explored by Mayer and Frantz (2004), authors who presented a scale designed to measure an individual's experiential connection to nature. In formulating this scale, Mayer and Frantz (2004) drew on the ideas of Aldo Leopold, the twentieth-century ecologist and conservationist who contended that environmental issues are effectively addressed through people feeling that they are a part of the natural world. The approach of Mayer and Frantz (2004) is rooted in individual, experiential views of kinship with natural communities. As such, this approach incorporates views of the ways in which individuals feel they belong to the natural world, the 'place' of the natural world within humanity, and connections between individual welfare and the natural world.

Mayer and Frantz's (2004) connectedness to nature scale (CNS) measures environmental regard by examining an individual's emotional connectivity to the natural world. Furthermore, Mayer and Frantz (2004) argue that by adding empirical findings to environmental discussions, the CNS differs from such existing scales as the New Environmental Paradigm (Dunlap, Van Liere, Mertig, & Jones, 2000) and the Inclusion of Nature in the Self Scale (Schultz, 2001). The

New Environmental Paradigm Scale is a self-report measure of an individual's 'primitive beliefs' about the natural world that is employed to determine the core belief systems that underpin human-nature relations. Mayer and Frantz (2004) claim that because this scale measures cognitive beliefs rather than affective experience, it fails to adequately measure an experiential relationship to the natural world. The Inclusion of Nature in the Self Scale consists of paired labels of 'me' and 'nature', with measuring ranges from the labels being separate to overlapping ideas. Respondents are asked to choose the pair that best represents their connection to the natural world. However, Mayer and Frantz (2004) argue that Nature in the Self Scale measures abstract levels of describing one's connection, and not every individual can accurately report at this level. Additionally, they report that single item scales cannot be assessed for reliability. Mayer and Frantz (2004) further investigated the ecopsychologist view that modern Western culture undermines a sense of belonging and community with nature. Overall, the authors show that an important predictor of ecological behaviours and subjective well-being is connectivity to nature. These findings help in the navigation of this study when assessing interview and survey questions. It guides an approach that will avoid asking questions that are overly abstract and thus distant from personal experiences.

The use of words such as 'feel' to measure the emotional connection in the CNS was not without its critics. For example, Perrin and Benassi (2009) argued that the CNS approach measured cognitive beliefs rather than connectivity to nature. Perrin and Benassi (2009) reported that instead of employing CNS and its associated interest in emotional connection, researchers should focus on people's beliefs about their connection to nature. Thus, words such as *feel* are best eliminated from questions and replaced with cognitive verbs that clarify individual beliefs

rather than emotional states. For Perrin and Benassi (2009), the evaluation of emotional connections to nature requires a scale other than that detailed in the CNS. When viewed in the context of environmental sustainability and conservation research, Perrin and Benassi (2009) move away from the psychological orientation of the CNS and develop an approach that focuses on beliefs about the intrapersonal scope of an individual's natural environment.

Environmental management is complex, and an effective understanding of human-environment linkages requires engagement with different demographics and audiences. The CNS potentially provides information on how one's relationship with nature influences attitudes and values. Restall and Conrad (2015) explain that the ability of the CNS to show behavioural implications may contribute effectively to environmental management goals. The authors reviewed literature from 2002 to 2014 to assess the state of Connectedness to Nature (CNT). To understand the direction of CNT research, Restall and Conrad (2015) identify the importance of extending efforts toward multidisciplinary research. For example, the authors suggest that the addition to CNT of such concepts as place attachment may help in predicting environmental commitment. Restall and Conrad (2015) emphasise that researchers who are interested in understanding attitudes and behaviours toward the natural world can benefit from the ability of CNT to contribute to measuring the subjectiveness of the ecological self and the interconnectedness of humans with nature.

Furthering new methods of measurement, Walton and Jones (2018) employ focus groups, a priori power analysis, and surveying in their discussion of the Ecological Identity Scale (EIS). The authors emphasise the importance of the identity of self/other and in/out groups in delineating differences based on environmental identity. This approach recognises the value of

addressing intergroup dynamics and expressions of power, discrimination, prejudice, and control that are associated with management, policy, and environmental regulation conflicts. Through scale measurements of ecological identities, ecological worldviews, ecological behaviours, and social values, the EIS offers a method of exploring self-environment relations not available in previous measures. By zoning into socially embedded meanings, EIS facilitates engagement with the position of an individual within socio-ecological relationships, roles, and group memberships. This scale helps to underpin important connections of self, worldviews, behaviours, and group-belonging of which to be mindful of when exploring the ways cross-cultural values shape an individual, such as in Aotearoa New Zealand.

Human-nature connectedness is an essential component for pro-environmental outcomes and the transformation of sustainability. Klaniecki (2019) provides a thesis that moves toward providing an assessment of the refinement of Human Nature Connectedness - Pro-Environmental Behaviour (PEB) relationships. Human Nature Connectedness is an umbrella concept used to encompass a broad range of terms in sustainability science, such as environmental psychology or connectedness with nature. PEB refers to behaviour that harms the environment as little as possible or even benefits the environment (Klaniecki, 2019). Klaniecki (2019) suggests that human-nature connectedness is a multidimensional construct that requires clear methodological boundaries. Therefore, when researching conservation attitudes, it is pertinent to observe the cultural influences and backgrounds of the individual.

2.2 Western Environmental Narratives of Conservation and Stewardship

To differentiate connectedness from an internal evaluation, Walton and Jones (2018) suggest that identity is employed to refer to meanings of self that place individuals within webs

of social relationships founded on shared characteristics of roles and group memberships. Behaviour and cognition are more heavily influenced by an identity that is central to the self rather than identities that are peripheral. Additionally, identity research has presumed that people hold multiple identities (Walton & Jones, 2018). The authors conceptualise connectedness to nature as behavioural, cognitive, and affective experiences that are best understood to be expressions of contextual meaning rather than forms of identity.

One of the leading constructs of environmental beliefs and behaviour is place attachment, the cognitive and emotional bond between people and places that emerge from social interactions with and within a place (Daryanto & Song, 2021). Daryanto and Song (2021) sought to quantify the effects of place attachment on PEB. The researchers measure strength through a meta-analysis and findings provide that place attachment has a positive correlation with strengthening cultural meanings and values. Daryanto and Song (2021) explain that the effect of place attachment is more significant in collectivist cultures than in individualist cultures. Furthermore, the effect tends to be more significant for tourists than for local residents. Daryanto and Song (2021) report that place-specific measures of PEB produce a greater effect size than those that are non-place-specific. In this model, place-specific measures relate to environmental regard for one's home or a place of favouritism, and non-place-specific measures concern general environmental narratives. Daryanto and Song (2021) conclude their research by reporting that consideration of cultural contexts is needed when discussing place and environmental behaviour.

Considerations of place attachment and cultural contexts include other group identity associations, one of which is gender. Gender roles elicit differences in the way one interprets nature and in the implicit connection to the natural environment. Thus, Liu et al. (2019) explain

that the use of “Mother Nature” and other female associations with nature are widespread across different cultures. In narrowing the conceptual distance between humans and the environment, this anthropocentric interpretation of nature can enhance the connections that impact people’s environmental intentions and behaviours. Beauvoir (2011), for example, has shown that cultural interpretations of gender roles, specifically a patriarchal, hegemonic view, contribute to the subordination of nature. Such subordination is expressed through, among other things, the domination of men over women and the domination of people over the environment. Additionally, conceptualisations of environmentalism and conservationism often draw on tropes related to nurturing and caring for the environment, which are prototypical female traits (Liu et al. 2019). Such beliefs, that reinforce seemingly implicit associations between nature and women, influence PEB.

Liu et al. (2019) explore the fundamental association between women and nature, reporting that the influence of this association on environmental attitudes and behaviours has important implications for environmental protection. The authors found that both male and female participants agree that women are more closely associated with nature than men, confirming that the women-nature association exists. Liu et al. (2019) explain that implicit attitudes and associations direct a large part of people’s automatic behaviours and that strengthening or capitalising on the associations between women and nature could be helpful for PEB. Liu et al. (2019) help in the understanding of the influence of personifying nature in relation to one’s identity, positionality that contracts to capitalistic views of nature as a resource.

Automatic behaviours, as mentioned above, can shape worldviews, yet when it comes to collective action, Peterson (2021) suggests that an ecological worldview, comprising values,

concepts, and beliefs, does not always determine behaviour. He argues that there is a missing link between perception and action, and this gap provides that changing worldviews are not sufficient to generate behavioural changes. This claim is based on human dependence on social systems and the distributed nature of social production of action and knowledge. Therefore, behaviour and action are not simply a shift within individuals but are expressive of a collective shift in a system. As such, environmental organisations, whether political, commercial, or nongovernmental, contribute to the shaping of attitudes and beliefs surrounding environmental views. Peterson (2021) provides for questions to be asked as to the role of environmental organisations in communities where non-Western values and worldviews predominate.

The idea of stewardship has been taken on as part of a collective shift within certain local systems across the globe. For example, environmental stewards, as defined by Fisher et al. (2012), are civic groups that conserve, manage, monitor, advocate for, and educate about quality-of-life issues in urban areas. Through analysis of civic groups in the city of New York, Fisher et al. (2012) conclude that environmental stewards in urban settings have specific organisational characteristics. Depending on the context, the way one embodies being a steward of the environment can be highly dependent on the systematic structure in the area from which they grew up.

The concept of environmental stewardship has been employed as a tool to define the environmental ethics of organisations (Fisher et al., 2012; Fisher et al., 2015; Rozzi et al., 2015). Traditionally, stewardship is defined as a form of guardianship that is characterised by an ongoing relationship between stewards, land, and the humans and non-humans in the steward's care (Mathevet et al., 2018). In this conceptualisation, stewardship involves a set of moral virtues

such as temperance, wise use, solidarity, loyalty, integrity, justice, and practical rationality (Mathevet et al., 2018). In contrast to traditional conceptualisations, contemporary environmental stewardship does not involve forms of religious authority or non-monetary compensation. Welchman (2012) reiterates this position, explaining that traditional stewardship relationships are rooted in notions of conquest and ownership where humans are possessors and 'masters' of nature. In light of such anthropocentric origins, policy-makers and practitioners are adopting new conceptualisations that move away from traditional thinking. Such efforts shine light on the idea that contemporary stewardship is "a form of responsible management of human activities" that seeks to "ensure the conservation of biodiversity, natural resources and their values in terms of use and non-use for future generations of humans and non-humans" (Welchman, 2012, page 303).

In exploring various stances on stewardship in the field of sustainability sciences and biodiversity conservation, Welchman (2012) highlights the differences in views of stewardship. Welchman (2012) suggests that the aim for the future of stewardship is best directed to the exploration of relationships between ecological processes, value systems, decision-making processes, individual and collective actions, economic systems, and public policy. By combining science and social knowledge, the resilience level of a system is increased. Welchman (2012) describes this as socio-ecological stewardship, a model where human relationships to the biosphere are at the centre of reflection, and interactions with nature express functional interdependencies. Welchman's (2012) approach supports the integration of perspectives that consider the consequences of human action, promote the sharing of responsibility, and develop

direct political action. This malleable view of stewardship accommodates the diversity of social groups and the political challenges of global change.

Stewardship is dependent on differing intrinsic and extrinsic motivations of individuals and groups, such as ethics or incentives, and the capacity to act, with, for example, assets or institutions. Stewardship is a fluid concept that can change over time as individual actors or groups of actors gain or lose the will or ability to act as stewards, or from changes in social norms, incentive structures, levels of dependence or access to resources (Bennet et al., 2018).

2.3 Māori Ecological Worldview and Sustainability Science

According to Wareka (2020), Indigenous Māori knowledge is sacred knowledge that must be cared for by Māori as kaitiaki (page 12). In Aotearoa New Zealand, the use of Māori knowledge is crucial for environmental sustainability. While environmental conservation and general environmental regard are in the hands of both Māori and Pākehā, or non-Māori Aotearoa New Zealand citizens, efforts to uphold Indigenous justice and self-determination are central to future sustainability goals. Given this awareness and engagement, the integration of Māori knowledge across Aotearoa is occurring across a number of both formal agencies and informal discourses.

In recent decades, the term kaitiakitanga has been used in different contexts across Aotearoa New Zealand. For example, the '100% Pure New Zealand' slogan, a tourism initiative introduced in 1999 as a tool to promote the county's landscapes and activities as unique (Tourism New Zealand, 2021a), has shifted to the current 'Tiaki Promise', promoting that

> New Zealand is precious, and everyone who lives, and travels here has a responsibility to look after it. The Tiaki Promise is a commitment to care for New Zealand, for now, and for

future generations. To act as a guardian, protecting and preserving our home (Tourism New Zealand, 2021b).

Foundational to the explorations canvassed in this literature review are Wareka's (2020) findings that many contemporary understandings of kaitiakitanga are detached from the foundations of Te Ao Māori. Thus, the uses of kaitiaki and kaitiakitanga in contemporary conservation practices concerning Indigenous environmental empowerment have relied on a Western lens. The interpretation has been diluted to fit into an anthropocentric view that focuses on a colonial construct of the otherness of humans from nature. This discourse persists, despite kaitiaki being ethnocentric in principle (Wareka, 2020, page 3). Wareka (2020) argues that although Māori has a traditional concept of land ownership, it is not in line with Western understandings of property and a drive to commoditise land. For Wareka (2020), the commodification of land exemplifies the complexity of colonial narratives that reduce Indigenous ontologies to narrow translations. These understandings give tacit support for environmental oppression and for ongoing unchanging ecological and cultural threats (Wareka, 2020, page 105). The term kaitiakitanga is defined in the Resource Management Act 1991 as guardianship under Tikanga Māori of natural and physical resources. This interpretation includes recognition of the ethic of stewardship. Wareka (2020) contends that 'kaitiaki' has a plethora of ontologies and meanings which extend beyond the human experience (page 2).

The Māori worldview, Te Ao Māori, has created a unique consciousness for Aotearoa New Zealand in that it has shaped socio-political attitudes relating to environmental treatment that bridge the gap between Western and Indigenous perspectives. Sustainable development is a dominant global theme in the political framework surrounding environmental literature. Watene and Yap (2015), for example, explore what this concept means when they report that all cultures

and civilizations can contribute to sustainable development. The authors consider insights from Māori and Aboriginal perspectives in asking about Indigenous contributions to sustainable development. Watene and Yap (2015) conclude that groundings for sustainable development might usefully consider culture as an important pillar and recognise the contributions that Indigenous peoples can make to sustainable development.

The Māori narrative of how the environment was created provides a single genealogy narrative between all things, with the world being made sense of through relationships. In this case, development is understood as being relational, based on shared existence and interdependent futures. In essence, this narrative expresses the idea that economic, social, environmental, and cultural relationships are intertwined. As a starting point for development, this belief system confirms that connections and obligations to people and the natural world are built around relationships and culture (Ransfield & Reichenberger, 2021). Support for this perspective in sustainable development is evident in arguments for Indigenous self-determination such that Indigenous peoples are freely able to determine political status and economic, social, and cultural development.

There is a tendency to assume that the spiritual, relational sense of indigeneity cannot be measured by quantitative methods (Selby et al., 2010). Selby et al. (2010) stress, however, how, using the principle of connectedness as an example, these principles can be assessed using oral history methodologies, written histories, land-court records, references in signs and narratives, and linguistic markers. Connectedness as a principle may be understood as placing value in unity between people and their surroundings, and between components within the environment (page 248). Selby et al. (2010) argue that Indigenous world views can add understanding to the depth

and extensiveness of 'outstanding universal value' (page 249). The researchers propose that current decision-makers lack forethought and insight, and hindsight is not being used to its full advantage, leading to the inability to exercise kaitiakitanga and enabling negative impacts on the environment. A clash of cultures remains, and Māori communities are suffering from a democratic system that is practising a 'majority rules' version of democracy (page 2).

It may be suggested that Indigenous scientists are able to approach the human condition in a way that reflects knowledge of oneself. There is an important space of dialogue that exists when Indigenous scientific protocols are respected. This space can provide lessons on the importance of scientific inquiry in bringing humans and non-humans together (Whyte, Brewer, & Johnson, 2016). Indigenous knowledge toward conservation is grounded in a historical trial-and-error process closely tied to belief systems. Gadgil et al. (1993) explore local biodiversity conservation and enhancement activities of Indigenous communities. The authors identify links between ecosystem practices and belief systems that show how 'cultural capital' can be used in efforts toward biodiversity conservation. Gadgil et al. (1993) conclude that Indigenous knowledge 'data' can hold more value than that of Western knowledge due to its diachronic nature. This practice and belief complex of knowledge is vitally important to sustainable management and resilience in the conservation of biodiversity. Moreover, the researchers suggest that empowering Indigenous communities to manage their resource base is a strategy to conserve Indigenous knowledge. This research draws on the issue that Indigenous knowledge might not be used or preserved in respect to traditional belief systems of Māori and provides consideration of how self-determination within the sciences can enhance the preservation of knowledge.

Exploration of the ways in which implicit associations of environmental regard are held by Māori, through a non-Westernised view, is pertinent toward the successful integration of conservation knowledge and practices. Cowie et al. (2016) investigate environmental regard through studies of differences held by Indigenous and non-Indigenous ethnic groups, drawing on an emic perspective on dimensions of Māori identity. The authors contend that comprehensive environmental regard is central to political consciousness among Māori. However, belief in Māori spiritual concepts does not ensure increased environmental regard. Māori tend to place value on the natural environment more than non-Indigenous Aotearoa New Zealanders. Although the Indigenous and non-Indigenous knowledge sets can share common goals or meet at shared-value points, there is a clear distinction of how the value system holds contrast in underlying cultural values. This contrast is evident in the cultural view of a spiritual connection to land, with land being viewed not purely as a resource but as an entity itself. The view of land as a resource stems from colonial cultural ideas about economic development being passed down; these ideas tend to rely on an extractive understanding of the natural world (Cowie et al., 2016).

Lockhart et al. (2019) report on the relevance of socio-political implications in relation to Māori spirituality. The authors found that Māori connection with the land is rooted in socio-political consciousness. Māori spiritual tradition places Māori as members of the environment to be kaitiaki and having responsibility to uphold the spiritual power of the land. Māori establish self-determination and identity through the relationship between land and the people. “Without careful resource management, the land may lose its mauri and its ability to sustain the people” (Lockhart et al., 2019, page 12). Māori view the importance humans place on sustaining the land through resource management as being a threat to the loss of the life force or essence of the land.

This may be interpreted to mean an end to everything in existence. The Western interpretation relies on an understanding that the sustaining of land is necessary to ensure the sustainability of capital, the latter of which is necessary for the maintenance of the human species.

The practice of sustainability is embedded in Indigenous history, with ancient traditions commonly expressing concern with sustainable and ethical living. Environmental stewardship is a tradition identified with such peoples as Aboriginal and Torres Strait Islanders of Australia and the Māori of Aotearoa New Zealand (Fergusson, Wells & Kettle, 2017). Fergusson, Wells and Kettle (2017) explored Indigenous traditions as they relate to environmental stewardship, describing the traditional Māori worldview as sustainable and holistic. Within this worldview, the physical and spiritual realms are represented by three 'baskets of knowledge,' which Tane, the forest god, brought from heaven. This worldview incorporates knowledge of the world beyond the 'laws of nature' and scientific definitions of space and time. This involves an understanding of tangata whenua perspectives on sustainability of mauri, whanaungatanga, whakapapa, mātauranga, and kaitiakitanga. This system suggests that humans are the offspring of nature and are responsible to their ancestors and descendants for protecting their kin, the environment. It is within this outlook that the Māori worldview of guardianship fundamentally differs from the Western view of conservation and ownership.

> The three main building blocks of Māori culture can therefore be summarized as: (a) the sustainability of communities is dependent on the strength of families, (b) the sustainability of land is dependent on clean soil, water and air and the proper guardianship of them, and (c) the sustainability of people is dependent on relationships, Aroha (love and feeling compassion), and Wairua (the spirit or soul). Thus … the Māori worldview can be described as seeing all things as being connected, not in separate boxes (Fergusson, Wells & Kettle, 2017, pages 72-73).

Global citizenship refers to the growing interdependency and interconnectedness between societies in economic, cultural, and social areas, through factors such as international trade, migration, and communication (Sageidet et al., 2021). Macfarlane (2019) questions what global citizenship means for Māori as the Tangata Whenua of Aotearoa New Zealand, asking whether global citizenship goals (to live as Māori; to actively participate as citizens of the world; to enjoy good health and a high standard of living) can be applied to Indigenous populations. Such questions imply that there are lessons to be learned from Indigenous perspectives of place and authority. Drawing on Macfarlane (2004), the values of manaakitanga, whanaungatanga, rangatiratanga, and kotahitanga might usefully be employed to work toward the outcome of mauri ora or flourishing.

In the context of efforts of governments and citizens of Aotearoa New Zealand to ratify the protection of Māori culture and enable the prospering of Māori people, the preservation of Māori values of place and authority has been positioned as being part of the 'global citizenship' of Maori. Within this understanding, the political involvement of Māori adds a sense of citizenship that, due to cultural ties that express a requirement to care for the land, differs from the dominant conceptualisations of citizenship maintained in other countries. For example, citizenship has been defined in terms of the nation-state, including attitudes and values toward the territory and fellow citizens (Sageidet et al., 2021). However, the opportunity that political involvement may only be operationalised through a Western lens leaves room for the interpretation of the meaning of global citizenship for Māori.

Andersen (2012) addresses water management in the Waikato Region, examining traditional Māori connections with nature and monetary measures of value. Andersen (2012)

employed a case study with Waikato University students, of whom 63% identified as Māori. Andersen (2012) identifies that the gap between Māori and non-Māori values is becoming increasingly difficult to identify. In Aotearoa New Zealand, the classification of an assimilated ethnic group as a homogenous unit with shared values was not evident in the data collected by Andersen (2012). The findings suggest that policy and planning relating to the natural environment are most effective when they incorporate means to recognise the benefits of similarities between the two majority cultures. Andersen (2012) confirmed that there was no significant difference between Māori and non-Māori views of water management and behaviour in the study.

Recognising similarities between two cultures or drawing out shared values can help to close gaps. Yet, there might be underlying gaps that are not adequately recognised. The model of cultural adaptation introduced by Sedawi et al. (2021) seeks to address these unrecognised gaps. The model is based on Third Space Theory, an approach that combines Western categories that measure nature connectedness with elements that reflect the local culture of an Indigenous community. Sedawai et al. (2021) focus their analysis on the socio-cultural aspects of the relationships Bedouin children have with their natural environment. Sedawi et al. (2021) recommend that when adapting the Third Space approach, it is helpful to take into account religious beliefs, whether the use of Western terminology is relevant; character-specific traits of the local population; dialectic or comprehension gaps; and visual representations to help in understanding questions.

An examination of conditions in Aotearoa New Zealand allows for consideration of a shift from the socio-cultural measures of nature connection to socio-economic spaces. Aotearoa

New Zealand is a free-market economy that is outward-looking, with 30% of Gross Domestic Product stemming from the value of exports ("Economic overview," 2021). Indigenous principles contrast with the Western dualistic view and the idea of a mechanistic order (Mazzocchi, 2020). Mazzocchi (2020) reviewed current literature on Indigenous ideology and argues that the ecocentric Indigenous view indicates a trajectory for enhancing sustainability. Marketing and management scholars typically do not adopt an ecocentric perspective. For example, in contrasting the Dominant Social Paradigm and the New Ecological Paradigm (NEP) employed in management narratives, Kennedy et al. (2020) raise questions about unsustainable 'green' marketing practices. This comparison recognises ways in which the Māori paradigm, or principles of the Māori worldview, could broaden the NEP. Kennedy et al. (2020) explore how contrasting paradigms might co-exist. In critiquing the NEP, the authors propose developing scales for measuring the Māori Paradigm to enable specific and realistic propositions of value for marketers. The authors explain that the Māori Paradigm is a holistic approach to an interconnected web that incorporates the natural environment as an equal stakeholding in decision making and behaviour. Kennedy et al. (2020) define the Māori Paradigm as a marketing model that values cooperation, alliances, and unity, and, as such, has the potential to provide a bridging paradigm that would allow businesses and society to improve sustainability, reconnect with nature and challenge relationships with one another.

Kennedy et al. (2020) also identify how many avenues for future qualitative and quantitative research in Māori and Indigenous worldviews remain unexplored. The use of such terms as 'paradigms' in direct comparison to management models and concepts may give an insufficient interpretation of the sacrality and non-quantifiable nature of Māori knowledge.

Contrarily, the use of ‘paradigms’ shows how changed perspectives can help to create narratives toward conceptualising alternative pathways toward business management, which, if done appropriately, have the potential to be pivotal in terms of the future of environmental treatment.

In an effort to introduce kaitiakitanga into a business model of corporate social responsibility, Spiller et al. (2011) draw on Māori values that emphasise stewardship and interconnectedness in business. By using the phrase “economy of affection,” the authors claim that Māori organisations share the same goals and objectives as conventional businesses in terms of generating a profit and maintaining economically sustainable enterprises yet view profit and economic well-being as a means to serve social, cultural, environmental, and spiritual goals.

Spiller et al. (2011) argue that relational wisdom has intrinsic rightness and goodness that can be learned through engagement with a traditional Māori approach within which an economic framework meets the needs of the individual and the collective. Spiller et al. (2011) apply Sternberg’s Balance Theory of Wisdom framework as being expressive of a balanced achievement of the common good. Sternberg’s framework involves engaging with intrapersonal, interpersonal, and extrapersonal interests to achieve balance among adaptation to existing environments. In applying this approach, the authors emphasise the role of humans as stewards, a goal realised using the Māori mandate of mana to create mauri ora.

In the context of biophysical streamflow management, Crow et al. (2018) emphasise the relevance of encouraging collaborative processes to be adopted in resource management in Aotearoa New Zealand. The most prevalent sense of Māori management can arguably be for the sake of environmental efforts. Crow et al. (2018) promote a means for consulting directly with Māori as part of a robust environmental process. The authors do not compare conceptual models

nor assume a change of practice within a Western frame. Yet, this collaborative process allows for a process of Indigenous justice and practices to be upheld without the need for systematic intervention.

Yeoman et al. (2015) argue for a strategic approach to Aotearoa New Zealand tourism in order to move toward a sustainable future. The authors report on the notion that the governmental value system evident in Aotearoa New Zealand might usefully draw upon the Māori virtues of Manaakitanga and treat visitors as Whanau. Yeoman et al. (2015) conclude that practices towards '100% Pure New Zealand' would most effectively be based on sustainable practices, values and behaviours. This assessment was published before the emergence of The Tiaki Promise initiative (Tourism New Zealand, 2021b). Arguably, the issue of misconstrued use of 'Tiaki' may be questioned as being a green-wash or 'Western-washed' statement to reach Westernised understandings of social and economic goals. Ultimately, the new initiative fits into the plan of action that this study suggests; there is a need to fill a gap where Western narratives can be removed from tourism initiatives that promote Māori ideology.

Politicians and the public in Aotearoa New Zealand have opportunity to ensure this integration of tourism initiatives to express equal respect to Indigenous and Western values. Ransfield and Reichenberger (2021) analyse the impacts of the integration of Māori values on the social, environmental, and economic sustainability of tourism practices in Aotearoa New Zealand. The authors argue that an integrative shift toward sustainable business practice in the tourism industry has closed a gap between Indigenous and Western business approaches. Ransfield and Reichenberger (2021) suggest that adapting to core Indigenous values provides a valuable opportunity for the development of a sustainable framework. Such adaptation would

function as an approach to business and strategic decision-making that would promote a balance between the three pillars of sustainability, which are environmental, social, and economic. As with the analysis of the recent emergence of Maori-incentivised tourism initiatives, the authors demonstrate that Aotearoa New Zealand provides a unique example of societal integration. While the authors raise questions as to the robustness and permanence of integration options, they conclude by noting the uniqueness of changes in Aotearoa New Zealand.

Thompson and Ruwhiu (2014) also examine the concept of eco-cultural tourism within Māori businesses in Aotearoa New Zealand. The authors question how sustainability is practised within Indigenous nature-based tourism businesses and examined the practical implications of incorporating Indigenous knowledge and values into business operations. The authors identify a need for consultation with cultural groups, enhanced community networking, and refined planning and development processes when integrating cultural values. Thompson and Ruwhiu (2014) reinforce ideas presented in existing research on the importance of value-centered experiences for the long-term sustainability of keeping intergenerational, traditional knowledge alive. The authors provide clear evidence of steps to be taken to continue toward Indigenous self-determination that allows for Māori voice in processes of changes in business initiatives.

2.4 Sustainable Resilience, Public Policy, and the Māori Worldview

Social and environmental resilience are significant concerns within environmental sustainability. For example, Kenney and Phibbs (2014) studied disaster response approach policies in Aotearoa New Zealand and the levels of support provided to Māori families, communities and responding agencies in times of crisis. Historically, the integration of Māori resources and cultural strengths into local or national level pre-disaster planning and emergency

response strategies has been limited. Adopting Bruno Latour's cultural framework that shows how technologies shape action, and Putman's idea of social capital, the authors undertook data analysis through a bricolage approach that combined Western European and Māori paradigms. This assessment exposes the impacts of cultural support strategies on social resilience and their relevance to national and local authority disaster recovery strategies. The Māori community-based participatory research project employed by Kenney and Phibbs (2014) was conducted per Māori values, designed by Māori, addressed Māori concerns, and implemented by Māori researchers. The data collection process employed the cultural practice of kanohi ki kanohi (face-to-face communication) and the passing down of Māori knowledge through storytelling.

Kenney and Phibbs' (2014) analysis suggests that disaster response policies in Aotearoa New Zealand may be strengthened by integrating Māori approaches into the facilitation of disaster risk mitigation, processes of community recovery, methods for reducing vulnerability and options for increasing social resilience. The authors express how the responsibility of being kaitiaki of their land is accompanied by a responsibility to work together to plan for future events. Furthermore, there is a moral obligation to enact manaakitanga, a foundational Māori value that encompasses the extension of hospitality, respect, and support. Ngāi Tahu, the local iwi explored by Kenney and Phibbs (2014), share the collective identity that imposes relational obligations on tribal members to ensure the well-being of the environment, land, and people following a natural hazard event. The authors argue that research into community resilience is pertinent to the progression of hazard mitigation, preparedness, response and recovery, and sustainable development. Through recognition of such a progression, community-based programs may provide an effective way through which to build disaster resilience. The Māori

Recovery Network exemplified how bridging social capital between iwi, local authorities, government, and private parties, can support communities in times of crisis. In the frame of a Māori worldview, the historical earthquakes that occurred in Christchurch, Aotearoa New Zealand in 2010 and 2011 may be considered catalysts that enable the widespread expression of Ngāi Tahutanga, the local iwi, through the revitalisation of traditional practices in the Māori community. Indeed, post-earthquakes, a collaboration between iwi, governmental and community agencies facilitated the recovery and resilience of the Christchurch community (Kenney & Phibbs, 2014).

According to MacArthur and Matthewman (2018), settler states have an obligation to protect Indigenous populations from being disenfranchised. The authors examine Indigenous ownership and mobilisation in the context of energy transitions in Aotearoa New Zealand. The authors question the place of populism and protectionism regarding energy transitions, examine what insights Indigenous sovereignty movements might bring to settler-colonial states regarding energy and sustainability, and discuss the initiatives in which Māori are engaged that differ from dominant practices. MacArthur and Matthewman (2018) focus their analysis on how the evolution of policies and practices in Aotearoa New Zealand has created a system that provides challenges and opportunities for Māori. In their key findings, the authors identify the emergence of a 'tribal economy' and the significance of Māori enterprise. The authors argue that Māori development offers more than a means of making money; it offers a pathway to self-determination, or mana motuhake and rangatiratanga. These tribal economies suggest "emergent resistance to commodification and recognition of interconnectedness and responsibility, of

humans to nature, to each other, and future generations" (MacArthur & Matthewman, 2018, page 22).

Māori knowledge and practices offer opportunities that include adaptable and workable government structures. Iwi govern, facilitate and dispense justice, and hold political power in managing land and other assets among Māori. Thus, terms that are common in Western environmental management discourses, such as 'resource', 'capital' and 'stakeholders', are replaced by terms such as taonga and kaitiaki in Māori management. Moving beyond the colonial language of commodification and individual ownership toward collective models that are an expression of the hybridisation of Tikanga and Pakeha law provides the potential for unfamiliar forms of ecological protection and restoration. Legislation has been enacted in recent years, including the Māori Fisheries Act 2004 and the Māori Commercial Aquaculture Claims Settlement Act 2004, that requires shared responsibility between local Māori and government toward land management ("Legislation & practice notes: Māori Land Court", 2021). This form of engagement has, for example, contributed to the creation of legal personhood for lands and bodies of water. Indigenous-led alternative economies may be framed as populist and protectionist, understandings that tend to be viewed pejoratively in a market-oriented global context. Whyte et al. (2016) identify the negative implications in assuming a Māori voice in decision making; adopting such a voice can lead to a view of "otherness" or further separation between Māori and non-Māori in the process. In the way that Whyte et al. (2016) discuss the governing methods of iwi, it may be concluded that the current status quo brings local government or national government to assume dominant direction over certain self-determination of iwi. Using tribal economies, one can question if this is also limiting tribal political power.

2.5 Conclusion

Traditionally, there has been a clear distinction between Western and Indigenous perspectives on how land is viewed. A strong sense of connectivity to the natural world in individuals tends to align with the placing of significant value on the protection and care of nature. Colonialism has brought in a sense of ownership that positions land as having monetary value, as capital to be managed, even in relation to conservation practices.

Explorations of identity concepts about environmental outlook and measurement scales have occupied the minds of many social scientists through the years (see, for example, Brugger et al. 2010, Liu et al. 2019, and Walton & Jones 2018). The CNS, which emerged from Leopold's philosophy of egalitarian membership, appears to be the scale that is most like the Māori worldview in terms of measuring whether an individual views nature as separate or a part of the human experience. This scale provides background evidence that direct exposure to natural settings has the potential to have profound emotional effects and an associated increase in interest in environmental protection. Other methods of measurement provide implicit, cognitive, and interdimensional ways of scaling the way people interpret their environment. This is relevant to my study as it provides an examination of individual perceptions of the natural world through the application of a lens focused on the ways in which spiritual belonging and Indigenous values have shifted over time.

Conservation values are tied to place attachment, and the nature and depth of attachment can link to collectivist cultures, such as that of Aotearoa New Zealand. Stewardship, in the Western context, is undertaken anthropogenically, with values revolving around recreation and social outcomes. There are fundamental differences between Western stewardship and

kaitiakitanga; bringing these two concepts together in an organisational or political setting has potential implications for PEBs that strengthen connections with nature. The future of stewardship relies on the exploration of relationships between ecological processes, value systems, decision-making processes, individual and collective actions, economic systems, and public policies. A focus on the similarities of value systems and an emphasis on an outlook of connectivity over resource exploitation has the potential to have positive implications for the combination of scientific and traditional knowledge.

Understandings have begun to emerge of the influence on the environmental behaviour of gender roles and other implicit understandings and narratives that society paints of nature. The literature opens a space for exploration of the intersection, or dissonance, of these beliefs and how that might come about in a country, like Aotearoa New Zealand, where Indigenous worldviews are becoming increasingly accepted amongst the national community. The acceptance of Indigenous worldviews has the potential to influence the perspectives and values of those who are brought up in, or choose to move to, Aotearoa New Zealand.

The relation of the Māori worldview to stewardship has the potential to be problematic when considered in terms of a language of ownership. Dominant discourses of ownership rely on a developmental mentality, drawing on the assumption that Māori values can fit themselves into hegemonic norms. Thus, mainstream environmental understandings 'pick and choose' favourable aspects of Māori conceptualisations. Additionally, bringing Māori perspectives into the framework of sustainable development raises questions as to the status of autonomy in political self-determination. There is the absence of a relational element in the way that sustainable development is currently performed, and this absence draws on ideas around

operational credibility. Thus, in the sustainable development framework, the mix of social and relational factors is positioned as being integral to operational success. The suggestion that the framework has room for all cultures implies an expectation that cultural frameworks will fit into that of a dominating Western frame. In this sense, tokenism occurs in relation to pinpointing an exact value of Māori ideology and how this value aligns with other expectations. In the unique case of Aotearoa New Zealand, the findings provide an example of the opportunity for Indigenous perspectives to be valued and included as a cultural pillar in sustainable development.

Chapter Three

3.0 Research Methodology

Approach

The timeline of research was one year, using the first three months to plan and receive ethical approval. The process started by exploring the influence of Māori perspectives on ecological identity. Initially, I planned to interview Māori as well as non-Māori people, an approach that would enable me to assess differences in perspectives concerning conservation approaches within Aotearoa New Zealand. Collecting data from both Māori and non- Māori would also facilitate consideration of the ways in which the use of terms such as kaitiaki were adopted and interpreted in a sector dominated by European ideologies. Following consultation with Māori-affiliated staff at the University of Waikato, the direction of research changed. Staff advised me that it would be difficult for me, a non-Māori citizen of the United States of America, to develop sufficient rapport with Māori in the time available for my research. Thus, I was told I would need a lot of time and upskilling to be able to successfully conduct interviews with Māori about their environmental beliefs and motivations. My Māori advisors directed me to an approach that would allow for the exploration of interpretations of Western terms similar to kaitiaki, such as stewardship, while also facilitating an assessment of how this affected human-centric versus ecocentric perspectives. Considering this guidance, I directed my attention to talking to individuals with similar perspectives to my own; that is, people who might have grown up in a place without such Indigenous influence as is evident in Aotearoa New Zealand.

To investigate personal ideologies relating to nature connection and cultural influence, I sought to collect qualitative data aimed at two different areas of results. First, I gathered primary data through in-person face-to-face and online semi-structured interviews to assess individual beliefs and opinions within Aotearoa New Zealand. Second, I used an online structured questionnaire to gather primary data from individuals in Aotearoa New Zealand and from people in the USA who were involved in environmental sector work. Based on my review of the relevant literature, I decided to choose a measure of human-nature connectedness based on the Connectedness to Nature scale. I chose the CNS because of its usefulness in searching for core belief systems without strong emotional pulls dictating responses. As explained in chapter two, by focusing on cognitive beliefs rather than affective experience, this scale helps in filtering out biases and exposing tacit understandings of one's 'natural' connection. Third, through reviewing academic journals and books, and reading articles in newspapers and magazines, I applied my primary data to apposite literature. These approaches are the most suitable for my research objectives due to interviews being one of the most common techniques for data collection in social sciences (Guthrie, 2010). Additionally, surveys can be used as a comparative tool to collect reliable information on attitudes, behaviour, values, and beliefs, from a larger group than interviewing might allow (Besen & Cassino, 2018). In the area of environmental understanding, interviewing was used as a technique by Klanieki (2019) in their review of scales of human-nature connectedness. Surveying, which relies on the use of scale-based responses, was employed by Dunlap (2000) in their discussions of the New Environmental Paradigm. Bruggar (2011) also employed surveying, using online delivery to ask respondents about environmental identity. Questionnaires are employed widely in research about environmental attitudes; for example, questionnaires were adopted by Schultz (2001) in their analysis of environmental

concerns, Mayer and Frantz (2004) in their review of connectedness to nature, and Walton and Jones (2018) in their measurement of ecological identity.

> Being social science researchers does not give us any special powers or entitlements. We are merely citizens conducting professional work with fellow citizens who have the same rights as ourselves. We have no authority to direct the subjects of our research, and we must ensure that their engagement in our work is done freely. We do gain, however, some extra responsibilities (Guthrie, 2010, page 15).

These responsibilities include competence, respect for people's cultures, not getting emotionally involved with participants, not breaking the law, never inventing information, and not misrepresenting oneself or one's role (Kara, 2018). Guthrie (2010) explains that codes of ethics involve professional competence, integrity, professional and scientific responsibility, respect for people's rights, dignity, diversity, and social responsibility. Ethical considerations in the social sciences help to protect individuals, communities and environments and offer the potential to increase overall good in the world (Israel & Hay, 2006). Israel and Hay (2006) convey that behaving ethically as a social scientist maintains the trust of the various publics involved in the research process. Caring about ethics promotes the integrity of research. In considering the ethical boundaries of human research, codes of ethics were followed to maintain professional behaviour, and act with integrity toward the research and the participants in the research. I received permission from the ethics committee at The University of Waikato, provided background information to participants, received informed consent from participants, and maintained participant confidentiality (see Appendices).

Research builds upon existing research lexicon; thus, the relevancy of a research project is not so much measured by how much knowledge is generated, but rather by the

amount of knowledge that is generated in relation to what is already known (Bos, 2020). As a social science student, I acknowledge the immersion in science as part of a larger, collective human endeavour; as Bos (2020) describes, "understanding and explaining the world in a *scientific way*" (emphasis in original). In consideration of ethical implications, I reviewed existing research broadly with respect to the previous work before narrowing into the topic explored in my research. Furthermore, I carefully considered my participant selection to ensure individuals had knowledge or experience that was pertinent to the area of research, appropriate numbers to recruit, and how to best accommodate each participant's time and willingness to participate.

Internal validity ensures that the research study measures what is intended. In relation to the theoretical approach of thematic analysis, it is important that research is "recognized as familiar and understood as legitimate by researchers, practitioners, policymakers, and the public (Resnik, 2018). Trustworthiness is one way researchers can persuade themselves and readers that their research findings are worthy of attention" (Nowell et al., 2017, page 3). To test my study for internal validity and reliability, I considered the elements of transferability, dependability, and confirmability.

First, to ensure viability and reliability, I reflected on the ways in which the findings might be applied to other populations and situations. Following personal reflections and conversations with my cultural advisors, I accepted that this research may be transferred within other contexts in which a traditionally Westernised approach has been used in collaboration with Indigenous or other cultural views relating to human-nature connectivity. Second, to ensure a dependable foundation for future researchers, I described my research process such that it is

available for researchers or evaluators to duplicate this work. Finally, by adhering to University of Waikato policies and securely storing original data, it is possible for scholars to confirm my findings.

Data Collection Methods

Interviewing

To begin primary data collection, I chose semi-structured interviewing as a method. Semi-structured interviewing allows for flexibility and a ‘natural’ flow to happen in the interview (Guthrie, 2010). My aim for interviewing was to be as conversational as possible while providing in-depth question framing. This approach may elicit detailed information from respondents, with open-ended questions ensuring that respondents are not constrained by thinking certain answers are expected by the researcher (Besen-Cassino & Cassino, 2018). This dynamic helps with comfortability and allows for participants to be relaxed and conversational. I formatted my questions based on the four themes that I found within the literature: nature connectedness; narratives of conservation and stewardship; the Māori worldview within sustainability science; and Māori sustainable resilience. The interviews consisted of twelve open-ended questions, some involving sub-questions for further elaboration (Appendix C).

In recruiting participants, I was limited by the time I had in which to complete my thesis and insufficient financial resources to enable me to conduct face-to-face interviews with people from outside the Waikato Region. Given these limitations, the study focused on people who lived within the Waikato Region of Aotearoa New Zealand and had relations to the University of Waikato. The data collection took five months in total. I began the recruitment process by searching within the network of local environmental organisations with which I had volunteered since arriving in Aotearoa New Zealand from California in June 2020. I also engaged with

individuals I met in my post-graduate university courses. To be considered as a potential interview participant, individuals had to have had at least one year of work experience within areas of environmental interest. This involved those who have performed paid or volunteer work for governmental or non-governmental organisations. Such work encompassed ecological, environmental, or conservation work, either in administration or in the field, within Aotearoa New Zealand. This criterion included individuals who were conducting post-graduate research in such fields.

Having determined the parameters of my sample population, I asked participants if they would be interested in being interviewed. I made these initial interactions via an email request containing an information brief that included a background of the research, the research aim, an information sheet, a copy of human research ethics approval, and a participant consent form. The interviews, which lasted an average of forty minutes, were undertaken in coffee shops, in the University of Waikato Library, and via email. I have chosen to leave the identification of participants anonymous as some of the information provided potentially sensitive insights into local organisations. There was a total of five interview participants (see Table 3.1).

Surveying

I created a survey through Google Forms and included an information brief with background information as to what I am researching and how the survey is contributing to the research. I also informed respondents of my ethical approval and included instructions on how to complete the survey. The survey began with demographic questions involving their qualifications and years of work experience (see Appendix D). These questions were followed by three open-answer questions pertaining to the individual's work environment and personal values. I sought survey participants through email, having received their addresses through previous personal contact. In my initial email, I explained my research aim as well as provided

information on the degree I am working toward, and how their perspective would contribute to my research (see Table 3.2 for information on the survey respondents).

I recruited survey respondents through those who participated in the interviews and people within my work and personal networks in the Waikato Region, Aotearoa New Zealand. I used similar personal and work networks to recruit an equal number of individuals from California. I began the recruitment process by searching within the network of local environmental organisations in the same way as recruitment for the interviewing process, in addition to those within the network of my undergraduate peers in California. I also engaged with individuals I met in my post-graduate university courses. I recruited non-Indigenous people who have had at least one year of experience working in environmental roles in their respective areas. The criteria for the respondents were similar to that of the interview participants. This involved paid or volunteer work for governmental or non-governmental organisations that involved ecological, environmental, or conservation-type office or fieldwork, including those who are conducting post-graduate research in such fields.

Table 3. 1: Interview Participant List

Interview Participants	Area(s) of Environmental Work and Qualification(s)	Demographic (Gender, Age, Location)
Participant One	U.S. Forest Service Junior Biologist at an Environmental Consulting Firm Local U.S. Government as a Fish Passage Barrier Assessment Engineer In progress of completing a PhD titled, "Effects of Environmental and Behavioural Factors on Fish Swimming Performance and passage Success" from The University of Waikato Master of Science in Ecology and Biodiversity from The University of Waikato Bachelor of Science in Biology/ Biological Sciences from The University of Washington	Female 20-25 From: United States of America Current: Aotearoa New Zealand
Participant Two	Intern for an agritech and herd improvement co-operative centering on genetics and technology Volunteer and paid work for a local council gully restoration project. In progress of completing a Master of Science in Earth Science specialising in fault lines and risk assessment Bachelor of Science Technology in Earth Science, minoring in Chemistry and Environmental Science	Male 25-30 From: The United Kingdom Current: Aotearoa New Zealand
Participant Three	Planning Officer for District Council Intern for local council Architecture and City Making Organisation In progress of completing a Graduate Diploma of Law focusing on Environmental Law, Conflict Resolution, and Legal Procedures Bachelor of Urban Planning with Honours in City/ Urban, Community and Regional Planning	Male 25-30 From: Aotearoa New Zealand Current: Aotearoa New Zealand
Participant Four	Field Technician Freshwater Ecology at a Water and Atmospheric Crown Research Institute Pathology Field Technician at a Forestry and Biomaterial Science Crown Research Institute Dam and Sampling Technician for a council-controlled water management organisation Bachelor of Science from The University of Waikato	Male 30-35 From: Netherlands Current: Aotearoa New Zealand
Participant Five	Freshwater Fish Ecology Technician for a Water and Atmospheric Crown Research Institute Education Officer for Aquarium Project Manager specialising in shark ecology for Conservation and Wildlife non-profit organisation Aquatic Invasive Species Technician for Fisheries and Oceans governmental organization Field Technician for Environmental Association assessing fish passage, riparian cover, and habitat suitability. Manager and Volunteer work for Biological and Marine Science Research non-profit organisation Bachelor of Science in Marine Biology from Dalhousie University specialising in estuary environmental biodiversity, invasive species populations, and water quality.	Female 30-35 From: Canada Current: Aotearoa New Zealand

Table 3. 2: Survey Respondent List

Survey Respondents	Qualifications and Years of Experience in Field	Location of Environmental Work
Respondent One	Bachelor’s degree Over five years	Aotearoa New Zealand Waikato Region Multiple countries outside of Aotearoa New Zealand and the U.S.
Respondent Two	Bachelor’s degree Post-graduate degree Two years	Aotearoa New Zealand Waikato Region
Respondent Three	Bachelor’s degree Two years	California, U.S. U.S. State outside of California
Respondent Four	Bachelor’s degree Two years	California, U.S.
Respondent Five	Bachelor’s degree Three Years	California, U.S.
Respondent Six	Bachelor’s degree Three years	California, U.S. U.S. State outside of California
Respondent Seven	Bachelor’s degree Three years	California, U.S. U.S. State outside of California
Respondent Eight	Bachelor’s degree Five years	Aotearoa New Zealand Waikato Region
Respondent Nine	Bachelor’s degree Over five years	Aotearoa New Zealand Waikato Region Otago region
Respondent Ten	Bachelor’s degree Post-graduate degree Three years	California, U.S. U.S. State outside of California
Respondent Eleven	Bachelor’s degree Post-graduate degree Two years	Aotearoa New Zealand Waikato Region Fiji
Respondent Twelve	Bachelor’s degree Over five years	Aotearoa New Zealand Waikato Region + elsewhere

Evaluation of Methodological Choices

Interviewing

In-depth interviews have the potential to provide detailed information relating to the everyday experience of participants, including individuals who might not be included in public narratives (Nowell et al., 2017). Given my research relies on the analysis of narratives of individual environmental experiences, semi-structured interviews facilitate opportunities for candid expression. The flexibility that interviewing provides allowed me to probe interviewees and to clarify questions when the interviewee was unclear as to what I was asking. I was also able to ask follow-up questions that helped with the elaboration of the participant's individual experiences.

The benefits of semi-structured interviews are balanced by limitations and disadvantages. One limitation is that the formality of the question-answer interview format can hinder the building of rapport with participants. To build rapport with my participants, I found familiarity in engaging in small talk prior to the start of an interview. This involved discussing such things as personal histories and mutual career interests. Additionally, I tried to keep a calm demeanour and remain unflustered, employing such 'calming' tactics to reduce potential stress. Furthermore, such 'calming' helped mitigate interviewer-induced bias that may occur when interviewees provide responses to gain the interviewer's approval (Rea et al., 2014, page 23). In collecting data from interviewees, I was aware that interviews are not designed to be representative of a population, so the responses cannot necessarily be applied to people outside of the sample (Nowell et al., 2017).

In reporting on interview participants, I felt that it was pertinent to include demographic information identifying individual gender and age, characteristics that have been shown to affect the reasons behind how one connects with their environment and holds certain views and/or biases. For example, gender roles can elicit differences in the way one interprets nature and forms connections to their natural environment (Liu et al., 2019). Furthermore, noting the ages of participants allowed me to ensure that I interviewed individuals within similar age ranges, a factor that contributed to the potential for there to be a shared, generational understanding of the areas of environmental sciences.

Questions employed in the semi-structured interviews were formulated so they related to the conceptual data that I collected in the literature review. Questions two and three sought information on the way that individuals conceptualise the difference between nature and environment, and how they would explain their connection to these terms. In asking these questions, I was looking to get a baseline for comparison of environmental ideals between each participant. Questions four and five elicited a conversation regarding the terms kaitiakitanga and stewardship. These questions were asked to assess how these terms might align with the individual's view of the environment, and what kind of relationship they have with kaitiakitanga and stewardship.

Further, question six explored how the individual might reflect on their ecological identity as relates to the progression of their life and career. Question seven asked participants to reflect on how Western outlooks and Māori outlooks serve as values in their everyday lives and their awareness of the influence of these values. Question eight introduced a discussion of relationships with careers or places, seeking to determine if such relationships are unique to

Aotearoa New Zealand. This question provides for consideration of how a place might affect the environmental connection of an individual. Questions nine through eleven asked participants about their familiarity with environmental humanities approaches in Aotearoa New Zealand. For example, the question helps to ascertain the awareness participants have of the presence of kaitiaki in conversations and understandings of environmental stewardship, and how such understanding manifests in their workplace. Question twelve introduced Māori self-determination as relates to career environments, giving participants the opportunity to elaborate on the significance of the existence of a space for Māori representation, or a lack thereof, in an organisation.

Surveying

Structured surveying provides advantages for data collection in that this method is convenient for the respondents to receive and complete the questionnaire in their own time in a setting with which they are comfortable. Structured surveying was also beneficial because data was made available in a timely manner, a consideration that was significant given the time considerations bookending my research. The self-selection process I employed for online surveying was problematic in that I found it limited the number of responses that I received; I had hoped, at the outset, that I would have attracted more respondents than ended-up being the case. My experience supports evidence that self-selection tends to lead to low response rates (Rea et al., 2014, page 12). Furthermore, the inability of a researcher to intervene and clarify survey questions means there is a risk that respondents may not follow instructions and may misinterpret questions. To account for this, I provided what I believed were clear instructions to

respondents and I included open-ended questions so that participants had the opportunity to add additional information if they felt I had ignored issues they considered to be important.

The demographic information of the location of work, qualifications, and the number of years of experience was pertinent to data collection (see Table 3.2). This relevance relates to the purpose of the surveying, which is to contribute to the analysis of different career settings that share similar opportunities for the embedding of Indigenous understandings into the working knowledge of individuals. The survey was relatively brief, a reflection of its role as a secondary focus of data collection; the primary form of data collection was semi-structured interviews. The survey responses are employed as findings that support the data collected from interviews. Through interview and survey data, I sought to gain an understanding of differences in scaled nature connection between individuals from California and the Waikato Region who were working in similar fields of employment.

The Connectedness to Nature Scale is used in the first part of the survey to compare scales and assess whether the locations of work have made a difference in the scale of outcomes of each individual (see Appendix D). The scale employed in the surveys is related to an ecocentric view, similar to that evident in the Māori worldview of kaitiaki. The open-answer survey questions mirrored interview questions, opening the discussion to personal views that provide insights into the person's attitudes towards environmental identity, values within their work and links to Indigenous worldview, and how they feel such links are supported.

Thematic Analysis

Based on the conceptual understanding of the four pertinent literature areas identified in the conceptual analysis (see Chapter Two), I have chosen to conduct a thematic analysis as the method of data analysis. The thematic analysis allows the researcher to become "the instrument for analysis, making judgements about coding, theming, decontextualizing, and recontextualizing the data" (Nowell et al., 2017, page 2). Widely used in qualitative research, thematic analysis involves identifying, analysing, organising, describing, and reporting themes found within a data set. According to Nowell et al. (2017), the process of thematic analysis may be defined through six phases: familiarising oneself with the data; generating initial codes; searching for themes; reviewing themes; defining and naming themes; and producing the report. In the first phase, the researcher becomes immersed in the data and engages with the analysis through honesty and vigilance about their own perspectives, beliefs, and developing theories. In the second phase, the researcher gives full attention to each data item and identifies the interesting aspects that might form the themes across the data set. In the third phase, themes are identified through tables, templates, code manuals, or mind maps. For example, through tabulation, I identified themes, subthemes, and miscellaneous themes within my data sets and was subsequently able to uncover relevant thematic patterns. Phase four involves the reviewing of themes to consider the validity and evidence of supporting data, a stage that facilitates the provision of clear distinctions between each theme. In phase five, the researcher draws out a detailed analysis and identifies the story told by each of the themes. For each individual theme, researchers conduct and write a detailed analysis, identifying the dominant narrative. Finally, in phase six, the researcher is able to complete a coherent account of the data and discuss what it means for the outcome of the study.

Nowell et al. (2017) report that the thematic method offers methodological freedom, flexibility, and provides a valid approach to understanding rich and complex data. Specifically, this method is helpful to researchers who are in the early stages of their careers because it does not rely on the technical knowledge of multiple qualitative approaches. Overall, thematic analysis supports the exploration of the perspectives of different research participants and, in so doing, facilitates understanding of differences and potential unanticipated insights (Nowell et al., 2017, page 2).

In comparison to other qualitative research methods, thematic analysis lacks substantial explanatory literature, an absence which could leave a new researcher unsure of how to conduct rigorous analysis (Nowell et al., 2017, page 2). This potential limitation is accompanied by the 'freedom' for the researcher to not hold extensive knowledge of other methods. This limitation can be resolved by adopting options used by researchers who have conducted similar reviews within the social sciences. A related limitation is that the flexibility of this method has the potential to lead to inconsistency and lack of coherence when developing themes from the research data (Nowell et al., 2017, page 2). To ensure cohesion within the thematic analysis, I adopted an epistemological position of an interpretive/constructivist approach that underpins the empirical claims made by this study. This position is designed to study the multiple realities, descriptions, and experiences of populations (Merriam et al., 2015).

The methods of in-depth, semi-structured interviews and structured surveying, and evaluation framed through thematic analysis, provided a robust framework through which to fulfil my examination of the shift of the environmental attitudes in environmental career-focused individuals, the influence of the Māori worldview on these attitudes, and the implications of nature connectedness among these individuals.

3.1 Results

In reviewing the data collected from the interviews and surveys, three dominant themes emerged, *Interpretations of Nature versus Environment*, *Individual Worldviews of Stewardship and Kaitiakitanga (Indigenous Influence)*, and *Outward Environmental Attitudes and Beliefs***.** Within the three themes, there were subsequent themes that refined the arrangement of information derived from the data.

Theme 1: Interpretations of Nature versus Environment

Theme 1 provides that the participants shared similarities when it came to their views on the description, connectivity, and personal identity in relation to ideas of nature and the environment. Three sub-themes emerged from the overall theme: interpreting nature as removed from humanity; viewing the environment as human-derived; and nature versus the environment as connecting to identity.

Subtheme 1: Nature without Humanity

Among participants there was a shared interpretation of *nature* and *environment* holding separate meanings. Nature was viewed as a rather special, separate setting or a world away from humankind; something naturally derived, in harmony, or untampered. This comment from Participant 5 is indicative of the view expressed by the interviewees.

> Anything naturally occurring or involved with balancing with the greater ecology of the world. (Participant 5)

Nature was viewed as an illustration of how the planet could be if humanity did not emerge.

> I feel like the natural world is anything that is not part of our man-made [sic.] world and not a part of our man-made surroundings. Maybe not what nature is but what it means as a step out from who we are as a species and how we view ourselves as a being now but to be a part of the world as it was maybe before we were in it. (Participant 1)

When considering this separate world, the term appeared to mean untouched in an ecocentric way to some, such as the example by Participant 5 below, while others referred to nature in the humancentric way of 'resource.'

> Anything naturally occurring or involved with balancing with the greater ecology of the world. (Participant 5)

The following comment by Participant 4 shows a shift in referring to nature as being removed from people. This shift in the use of 'resource' suggests an inherent interpretation of nature as something that has value for humanity, a narrative built upon ideological beliefs.

> I am not great at describing this sort of thing, but I see nature as anything that is the sort of natural state of the environment without having been impacted by people as much as it is possible these days. So, not necessarily greenery, like a park or something, an untouched, natural resource. (Participant 4)

Being from an Earth Science background, Participant 2 viewed nature as both living and non-living, focusing on geological aspects in unison with living things.

> I am going to look at this from a very scientific point of view and say that nature is basically the entire world that we live in and also, not just living things but how non-living things, such as rocks, the geology in the soil, play into living things and environments. (Participant 2)

In Participant 3's interpretation, non-human-made artefacts were regarded as existing within a larger, subjective environment.

> For me, the environment is intrapersonal and very holistic. Put it simply, it would be just about everything that exists would be part of the 'environment' and then, within that, you'd have the natural non-man-made [sic.] parts of the environment which I would consider to be 'nature' more so. (Participant 3)

There is a clear association between the natural world being a world 'outside of' society. The term 'nature' sparked dialogue surrounding the ecosystem and its relation to being untouched, indicating that humans are not seen as a part of 'nature.'

Subtheme 2: Environment as Human-Built

While various scholars have connected nature to interpretations of being pure and without human impairment (see, for example, Castree 2005), participants unanimously characterised the environment as being defined by humans. Thus, the different views of the environment expressed by each participant were connected through shared reference to the relevance of human association.

When asked if it is possible to separate humanity and the environment, participants invoked thoughts around human creation as applied to themselves and to nature. For example, Participant 3 highlighted connections between humans and the environment:

> I don't think you can really separate the two because humans create environments for, not only for humans, they always interact with the natural environment and their human environment, so, we can't separate them. (Participant 3)

In a differing view, the natural world was positioned as being a large part of the term 'environment' and humanity is a small part of it.

> I see them as the same. Humanity is a small factor that exists in the overall environment. (Participant 5)

For Participant 5, associations of the environment and humanity were regarded as being separate. In contrast, Participant 4 described these two terms in relation to how a specific community may affect the local environment.

> The environment is really everything, isn't it? Around you, in that sense, I would not say that they are different. They are separate things. We live in an environment, we are a part of it, we affect it, so where I would make a distinction between humanity and nature depends on the society, I suppose. Knowing there are tribes in the Amazon that are very well in harmony with nature, they still affect it, but I suppose every species does, yeah, I think there is a difference in the Westernised industrial country … We are kind of part of it because we are so technologically advanced, and we've shaped it to us, that's suitable for us...it is quite hard to find an environment that is unchanged by the people. So, I suppose that nothing is really nature anymore because people are everywhere. (Participant 4)

Participant 2 also referred to a place-dependent concept, with humanity influencing place-based environments in separate ways.

> From that science point of view, you have different environments as a part of the world. We live in a temperate subtropical place, New Zealand. I guess I see the environment here, we are in a lowland, used to be forest, you have different environments, different animals, plants. In the way that I see the environment as separate pieces, I imagine humanity stretches across all kinds of environments, to live and use those environments in different ways. (Participant 2)

The term environment also raised specific human associations, such as climate change, and sociological constructs concerning the interpretation of the difference between environment versus nature.

> I guess the environment can be more nuanced than nature, like your local environment or your environment in your home or your environment at work or this small little piece of the environment with a stream and a forest. I think it depends on what lens you want to look at the environment, but it can mean many different things. Nature has more of a peaceful and calming 'we are at one' with nature whereas I think environment, when you typically say that word, it brings to mind, at least for me, climate change and global warming and how we are changing the environment. I think it usually comes with a more humanist perspective on it, and not that the word environment has negative connotations, but I think it can and, depending on who you are talking to, it can bring up more divisive conversations around the word environment than you would around the word nature. 'Environment' is maybe more loaded. (Participant 1)

The human involvement in the term 'environment' was shared by participants across the board, in one way or another. Links were drawn toward human-made events inflicted on a space within nature to further create the term 'environment.' Place-related ideas were discussed by some respondents, comments that reflect in the next subtheme which involves both concepts of nature and/or the environment related to one's impression of self within these space(s).

Subtheme 3: Views of Identity and Connection to Nature versus the Environment

Participants described personal identity or connection to the natural world, the built environments with which they engage, or the values and beliefs they hold about such places and concepts. These connections were discussed in relation to their lived experiences, and beliefs toward the care of, and an emotional connection to, the planet.

The lived experience was expressed to be something that formed a connection to the land, with local culture placing value on outdoor activities and opportunities for engagement with nature.

> My connection to the environment is primarily lived experience because it is something everyone is always in all the time, you can't get away from it...if you think about identity, I'd say different places where I have lived have definitely had an impact on how I interact [with the environment] … when I left high school moving from a suburban area to a central city, I went into a very different context. That really changed how I look at, for example, big cities. [The suburban area] has much more of a connection to the outdoors, so it definitely impacts a lot that I won't even be aware of. Just because it's so fundamental to who I am. (Participant 3)

Within the context of different environments influencing connectivity, there was evidence of a trope surrounding a deep meaning connecting the participants to the idea of conservation and individual action.

> I think my connection to nature stems from … connecting back to our roots as humans or something really deep and innate within us - a pull to be at peace with ourselves or at peace with the natural world. In a broader context, I think we are all connected to our environments depending on where you see yourself on a day-to-day basis. The connection to the environment, for me, it's really thinking about what my role is as a human here on this earth and what is my connection to my local environment, the surrounding environment, also the environment as a whole - what role do I play and how do I impact that? (Participant 1)

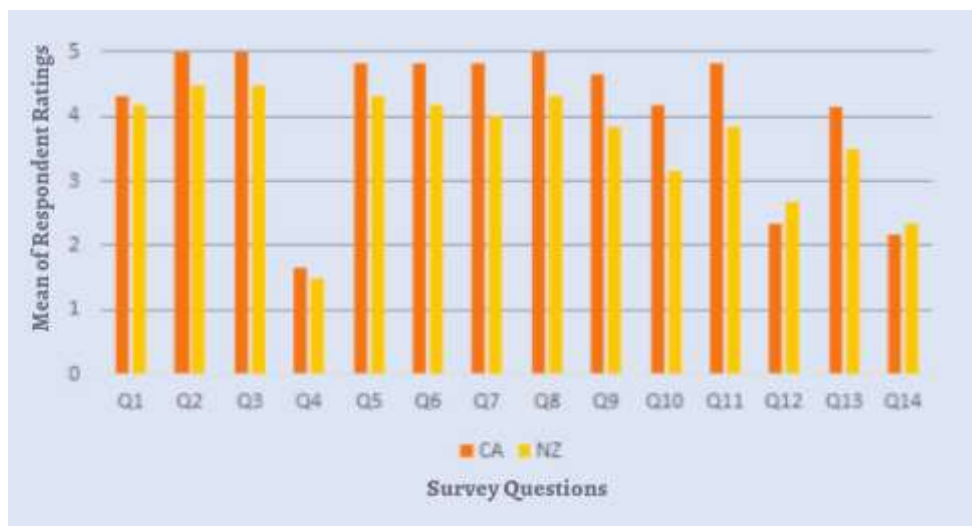
Alongside the culture of the area in which an individual matures, familial and close community connections play a part in the way participants have formed a connection to their environment or natural surroundings. For example, Participant 5 described a form of power and

peace, a position that aligns with the description given by Participant 1 of connecting to roots. Both these participants signalled a connection to the core of their identity that finds expression in an appreciation of and protectivity toward nature. Such feelings influence a sense of responsibility for the care of the natural world.

> On a personal level, I connect with nature by being outside in the forest or by the water as a way of resetting and appreciating the beauty, peace, and power of nature. I believe being connected with nature in all aspects of my life helps to remind me of the importance of the environment and helps connect me with friends and family that have either grown around nature or also work to protect nature. I also believe understanding nature is a humbling experience and allows you to appreciate the smaller things in life. It makes me more aware of the potential impacts I can have as a human to the environment, and it also makes me aware of my responsibility of contributing to the global environment in a productive way. On a personal level, I seek to find ways that I can exist in the environment without being too destructive or disrupting the natural ecology. (Participant 5)

Looking at the survey results for the Connectedness to Nature Scale (CNS) (see Table 3.3), Californian respondents demonstrated a stronger connection to nature and a stronger sense of unity and oneness within the natural ecosystem than exhibited by Aotearoa New Zealand respondents. Table 3.3 presents a graph of the responses based on the above subthemes toward interpretations of *nature* versus *environment*. The Y-axis provides a mean calculation of the ratings by all respondents from the two areas. Each respondent answered each question on a scale of 1-5, from strongly disagreeing to strongly agreeing with each statement of the CNS.

Table 3. 3: Survey Response Graph



Although the differences in findings from the survey were not drastic, there were areas that showed significance in the larger difference in scale compared to other questions.

Nature without Humanity

Significant contrasts in this section include questions 3 and 13. The 0.5 difference in scale on question 3 provides that California respondents have a stronger self-reported appreciation of the intelligence of non-human living organisms. The contrast in question 13 of 0.66 demonstrates that Aotearoa New Zealand respondents have less of an association with feeling as if they are a smaller part of the natural world.

Environment as Human-Built

The distinct differences within this section are evident in responses to questions 2, 7, and 8. The 0.5 response difference in Question 2 shows that Californian respondents associate themself as a part of a community with the natural world as being of more significance than Aotearoa New Zealand respondents. When asked in Question 7 about feeling an equal sense of

belonging to the Earth as the Earth belongs to the individual, the 0.83 difference in scale reveals that California respondents feel a greater sense in this area than do Aotearoa New Zealand respondents. Question 8 conveys that Californian respondents feel strongly that they hold a deep understanding of how one's individual actions affect the natural world, with a score of 5.00 compared to 4.33 by Aotearoa New Zealand respondents.

Views of Identity and Connection to Nature and the Environment

This section held the most significant differences, as evident in responses to questions 9, 10, and 11. In question 9, within which respondents were asked about feeling a part of the web of life, there was a 0.84 difference in that Californian respondents reflected higher connections than did Aotearoa New Zealand respondents. One whole number of distance was found in questions 10 and 11. Question 10 asked about sharing of 'life force' by humans and non-humans on Earth, with Californian respondents being more strongly in agreement than respondents from Aotearoa New Zealand. In relation to being asked about feeling embedded within the broader natural world, responses to question 10 show a stronger feeling of this sentiment by Californian respondents than by Aotearoa New Zealand respondents.

Culture, individual responsibility for one's community or community within nature, and personal identity connect participants to the way that they seek to care for what they interpret to be the environment. Survey results show strong feelings of connectivity to these natural systems and to the natural world. Personal identity contributes to how one views the world and interprets meanings of dialogue in such areas of conservation or environmental management.

Theme 2: Individual Worldviews of Stewardship and Kaitiakitanga (Indigenous Influence)

Theme two illustrates the ways in which the different aspects of the participant's environmental worldviews might have been influenced by ideas of stewardship and kaitiakitanga. Given that the terms kaitiaki and kaitiakitanga are often used in legislation and in relation to the environment in Aotearoa New Zealand, most of the participants were aware these terms expressed guardianship over the land. Most interviewees interpreted these terms to mean guardianship, with everyone having different explanations for the specific meaning it has for them. The concept of kaitiakitanga was compared to the reason the human species has an obligation toward protecting the environment.

> Being a New Zealander, yeah, [I have heard it before], and in my understanding, it means guardianship. I guess that's why that, as a species, we've been able to control an environment so much more so than other animals – we've gotten to a point now where we have this power to change the environment and have this responsibility to look after the environment, which other animals don't really get the chance to do. If we can alter it so much, then we also need to protect the other species around us as well. (Participant 2)

Kaitiakitanga had much significance for Participant 3, a perspective shaped by many years of experience working with local government.

> I have come across it, both in terms of, in my own study but also in a professional worker context - that is one of those terms that is defined fairly often in legislation. Kaitiakitanga is defined in the RMA so it is something that is given quite high importance, is the idea of, in particular, guardianship, in accordance with tikanga Māori by the people with the most connection to the land, in particular mana whenua. (Participant 3)

Another interpretation of kaitiakitanga, as guardianship and stewardship, focused on keeping the balance of the local area.

> Guardianship, or stewardship over the environment, which is something that I wasn't familiar with until the last few years as much. I kind of heard the word through work and people I have worked with ... the meaning of it would be, sort of, a person or group of people responsible for the balance for the area - or the balance between people and the environment and trying to keep the balance so that you can harvest food sustainably. (Participant 4)

Stewardship was accepted by participants as being the most accurate translation of kaitiakitanga. When asked about the differences between kaitiakitanga as an Indigenous worldview and stewardship as a Western worldview, the interviewees provided insight into how they viewed the two differing ideologies.

First, stewardship had an association with 'ownership' over individual human impacts and learning to coexist with the environment, being separate from humanity.

> I think stewardship is really taking ownership of personal impacts on the earth and on the environment and on the nature around you and really ensuring that the land is treated with care and knowing that, obviously we can't just remove ourselves from our environment, so how do we coexist together without creating more negative effects? (Participant 1)

Second, differences were evident in views of environmental management. Additionally, there was mention of how introspective, deep meaning gets lost in translation; difficulty in extracting the exact meaning of kaitiakitanga in a Western translation ensures stewardship becomes the default definition.

> Kaitiakitanga feels more like managing the environment for the environment's sake, where stewardship feels like you're looking after the environment for humanity's sake. I think that is probably the biggest distinction between the two of those terms. It is also one of those things that is a bit difficult to translate properly, it is one of the other things that we got drilled into us that is a really good idea, but it is also difficult to, I guess, extract from the Tikanga, I guess, from the practice. (Participant 3)

Lastly, stewardship was described as "[b]eing responsible and caring for something." (Participant 5)

Most of the participants presented a trope of respect and influence from learning about Māori knowledge. One aspect that was notable was the idea of conservation for the ecosystem's sake and not for the sake of viewing land as a resource to be used for human gain.

> I think in terms of true sustainability, what I know of the Māori connection to the environment and to nature, at least from my understanding, has a good outlook because their ways seems, 'don't take more than you need', and you always make sure to put back into the earth and what you do take. You truly feel blessed by the resources that you can receive from the land and from the sea, from whatever piece of this earth and so I think that's really important to consider, that people don't take too much and are really honouring those resources. I wish we could have biodiversity, conservation and restoration purely for just keeping our systems as intact as they were before humans or not destroying them anymore ... I wish we didn't have to frame it in terms of 'this is environmentalism for environmentalism's sake' without the ulterior motive. (Participant 1)

The contrasting of the two worldviews as human-centric versus eco-centric expresses different values and intentions toward environmental management, and, by association, shapes the way that the Māori worldview has been influential. Similar to the ideas expressed by Participant 1, understandings of the Māori worldview were indicative of recognising value in

taking care of the environment for the environment's sake. There was also recognition of how the Western-influenced system affects daily practices, with kaitiakitanga being a part of the wider system.

> On a personal level, I value kaitiakitanga a lot more, for stewardship and sustainable development are both fundamentally human-centric. This places us at the centre of that and that's fine in terms of the fact that we are the ones who have the biggest impact on ourselves in particular. But, at the end of the day, if we weren't here, there would still be an environment and we are completely reliant on both the natural and the man-made [sic.] environment to survive. So, kaitiakitanga, for me, looks at it more that we need the environment, the environment does not need us - so we should have to look after the environment for the environment's sake. It [the Māori worldview] decentralises [the Anthropocene]. In terms of daily practices, I don't think that's very well-reflected. If I was to lay blame, rightly or wrongly, I would say that's partly to do with the way that the resource management system is set up. The resource management system is set up around the idea of sustainable management/ sustainable development which is fundamentally human-centric, kaitiakitanga comes into it but it is only one part of the wider system. (Participant 3)

The trope of differentiating inherent intentions and 'environmentalism for environmentalism' was followed in the sense that the natural resources are looked after for their own protection rather than as resources for humans to use.

> Learning more about kaitiakitanga, that concept is very interesting. For me, it's more of a point of view that, not so much sustainably harvesting natural resources more, but just protecting it; not from an anthropocentric viewpoint but rather just the environment as a whole - rather than 'how do we do this-look after this environment, these resources, for us' - but rather see it as a whole. I really like that concept – it's not just a short fix for us. We keep harvesting so that we don't run out of it, and I

think that is selfish, you're still trying to keep the system in balance but maybe for the wrong reasons, that's what I feel anyway. (Participant 4)

Theme two illustrates the ways in which the different aspects of the participant's environmental worldviews have been influenced by ideas of stewardship and kaitiakitanga. Most participants were aware of the notions of stewardship and kaitiakitanga yet hold different interpretations and place differing levels of significance on these terms. There were distinguishing comments relating ownership to stewardship versus statements that implied a link between coexisting and kaitiakitanga. Closely working with legislation was understood as being a contributing factor to kaitiakitanga, with this term having closer regard and being distinguished from interpretations of stewardship, demonstrating that interpretations can be shaped by societal factors.

Theme 3: Outward Environmental Attitudes and Beliefs

Just as an individual's identity is shaped over time from a combination of life experience, new perspectives, and general changes, the identity that a person holds in relation to the environment was described by participants as shifting over time. These shifts were shaped by the influences of place, the input of family and friends, and the refinement of internal values. A particular theme emerged that expressed the belief that Aotearoa New Zealand's environmental setting had influence over changing environmental views. This theme may be broken down into three subthemes. First, viewing the ways that career connectedness is related to the Aotearoa New Zealand government's environmental approach. Second, viewing how Western and Indigenous values present themselves within the participant's workplaces. Third, viewing how participants feel Aotearoa New Zealand follows the 'green' imagery that has dominated tourism promotions.

Subtheme 1: Career Connectedness through Aotearoa *New Zealand's Environmental Approach*

The interviewees reported that intrinsic, intrapersonal values toward the environment have been a motivating factor behind working in an environmental field. In understanding how these values connect to the companies for which the participants work, it was evident that an alignment with company values was shaped by cultural norms in Aotearoa New Zealand.

Reminders of a greater whole seem to be what influenced the persistence of work amongst participants, even during the undertaking of mundane tasks.

> Most of my work right now is in the labs and in a very sterile setting, I am working with a lot of fish that I got to collect from the wild, which was cool, but it's very sterile and away from the environment and so I actually do have to keep reminding myself that I am doing this for a reason, my work matters, and will have an impact toward my goals. (Participant 1)

When responding to questions on how one's worldview has shifted since being in Aotearoa New Zealand, answers focused on the uniqueness of the ecosystem when compared to other countries.

> You have the New Zealand environment compared to others, New Zealand is a unique ecosystem, and it isn't like the United Kingdom where you get on the car ferry and you just drive your car on and drive off suddenly you're in France, here we have this biosecurity because we have such a unique ecosystem and we do try and keep it that way. (Participant 2)

Along with the unique environmental setting, environmental roles and university experiences were accepted as being a significant influence in this connection shift.

> Coming from Holland, there's not much of connectivity with nature nor the environment, rivers, and streams and not much wildlife from where I am from, so moving to New Zealand changes that obviously and then moving into an environmental role definitely changes it because you just become more aware of what the impacts are with people on the environment. (Participant 4)

> It has changed since I got out into the outdoors a lot more ... and education has been the largest source of shift. My whole outlook changed a massive amount during university. It made me a lot more aware of a lot of aspects, in particular, the Māori aspects and that whole worldview. I found I associated with it and have agreed with it quite a bit more with that view since I have as I have gotten a bit older. Going through high school up until university, I think I was pretty detached, to an extent, probably ambivalent – didn't really care all that much necessarily and getting that education, particularly in a very environmental-focused context, has changed that quite a bit more. (Participant 3)

Furthermore, holding onto similar views within a small, community work environment was something that also influenced connectivity.

> It's really wonderful right now to be at a place where everyone is there for the same reason as you. I think really having that connection to people in that setting where you are all there for the same reason and not caught in the wheel of some corporate machine, we're all there because we care about the environment. (Participant 1)

Based on the open-ended answers from survey responses, both Aotearoa New Zealand and Californian respondents shared similar themes relating to how their sense of place is enhanced by their work environment, their education, and their interest in creating an eco-cyclical perspective of one's place within the natural world. For example, respondents from Aotearoa New Zealand highlighted the importance of education and employment to their outlooks:

> I have always seen our natural environment as a taonga. With my qualification and

job, I understand the seriousness of environmental impacts industrialisation/modernisation has caused. (Respondent 2)

> By observing ecosystems I've gained a greater appreciation of them, and I have also taken on some of the values/perspectives from the people I've worked with. (Respondent 9)

> Yes, I find that my views have shifted and believe that my work as well as my studies in the environmental field has influenced this stance. If I had not been involved or studied the environmental field, I would still have thought that humans are at the top of the hierarchy but now I am neutral on that notion. (Respondent 11)

Similarly, respondents from California referred to the importance of their education and work experience.

> To some degree. I've always felt connected with nature and part of the whole, but my education and experience and given me a better understanding of my natural surroundings. (Respondent 4)

> Working in an environmental field opens your eyes to the bigger picture, and how interconnected our actions are with the world. (Respondent 6)

> I believe my work experience and the more I engage in work relating to the environment, helps shape what it means to me and how minimal I am in comparison. It humbles and grounds me. (Respondent 7)

Subtheme 2: Stewardship and Kaitiakitanga (Indigenous Values) in the Workplace

Interviewees agreed that Aotearoa New Zealand is constantly improving engagement with kaitiakitanga around environmental decisions and practices. Respondents emphasised that, although the Māori worldview is often incorporated into workplaces, the overarching ideology underpinning structural practices adhered to Western constructs.

> The professional environment definitely relates more to stewardship, for the district [worked for] being in rural South Island, predominantly white, low Māori presence, the public eye has definitely a lot more Western thought processes. Moving over to Hamilton and being involved in restoration projects and such, I feel like there is a much stronger kaitiakitanga focus there. (Participant 3)

> Normally we'd work as a team, just us, but often we collaborate with the local iwi, and they are happy to educate us on how they see things and their knowledge of the ma tangata Māori in their areas, of trees, birds, fish and everything and it does influence it [the work] a lot I think. But my job is more of a Western approach, you know, you work with science - that scientific approach of things which is separate from mātauranga Māori, but I think they can work together quite well. (Participant 4)

> My work environment does a great job of incorporating both as we research using Western methods and also incorporate mātauranga Māori and iwi involvement for most projects we work on. (Participant 5)

As with other interviewees' use of the term 'science,' Participant 2 described the Western view of environmental conservation as a system and interpreted this practice as being the only accurate application of the word 'science'. Thus, for Participant 2, the incorporation of Māori knowledge was best used as an 'assistant' or a 'tradition' within Western science practice.

> I think it's purely in the idea of science - when you write a method everything is done in past tense, you don't say 'I did this', it was just '20 mls was added to that beaker.' We are taught to [look at it from the Māori perspective] a lot more, but you've got to balance that being scientific, impartial, and standardised is across the world – 'this is how we do things' ... you'd tend to talk about a system like 'there are these trees, these trees, and these trees - in this forest, these are these animals, this species of animals.' ... Old traditions can play a role in science. I know one of the local iwi have a story about Taupiri, the mountain near Hamilton, being sick and that's how we know, 23 and a half thousand years ago, the Waikato River changed directions and

> luckily that story of the river changing directions mentions our scientific history and I think they developed that for a lot of soil testing - so we do use that sort of Māori knowledge to drive what we do and you can match things up. ... I guess in a way it's used to assist it, I think. We always say in earth science, 'you've always got to listen to the locals' because if they have been living there their whole life, they know that area of land very well. Although they might not be able to explain things like the scientists might, they will have a better idea of the [biology of] the area. (Participant 2)

In some areas, there is a lack of Māori representation. Thus, as explained by Participant 1, Māori representation has been used as a kind of checkbox, or form of tokenism, a requirement to be met when working on projects.

> I think some people don't appreciate the Māori viewpoints [in my workplace], we have a specific office that specifically focuses on Māori culture and how that relates to the science. Some people don't appreciate that office nor the Māori values and they get really [indignant] when they are forced into doing some cultural pieces. It seems like an obligation that in order to get their proposal they have to checkmark that they've talked to the iwi, that they're going to be culturally sensitive, that they are working with the community. (Participant 1)

When speaking about how the influence of Māori values impacts the organisation for which they work, Participant 3, who has experience within the local government sector, discussed how the progression of the values being represented within organisations will change the ways through which issues are worked.

> If you're thinking about Māori representation and voice, you are also potentially thinking about how Māori and how tikanga would guide people in, let's say, resolving disputes or resolving issues that would have quite a different change on how decisions are made generally. There is a difference there between how, say, the

> hapū would work through a decision versus how a more Western company might, so I think that's where the changes would be and I think the University [of Waikato] would potentially have quite a different outlook on its role in society [on] how it [can] fix what's wrong - how it could best serve Hamilton, New Zealand in the world. (Participant 3)

In relation to the separation between the Western interpretation of the term 'science' and the inclusion of Māori ideals, Participant 4 highlighted how the use of this knowledge has expanded certain areas of the organisation for which they work.

> I am not sure if there's a lot of companies that do that [have a team dedicated to working with iwi and expanding the māturanga Māori], probably not, but it is nice to be a part of something that incorporates it a lot more and there's room for that ... it's influencing other teams as well, the way they operate, there's a lot more awareness on how to engage with iwi and the right protocols. It does differ within teams as well I think in the organisation so there are some teams that probably don't have a need for it, like a chemistry lab or something, potentially not that applicable - versus like a freshwater ecology field team, can exchange that knowledge a lot easier, so yeah, I think it is going the right direction. (Participant 4)

Some participants reflected on how the collaboration between the two ways of performing environmental science are paving the way for the adoption of this practice among other organisations across the country, with it becoming increasingly common for this type of practice to express the status quo.

> The way that [the organisation worked for] incorporates Māori representation through collaboration and having a Māori team garners them a lot of respect and collaborative work across New Zealand. An organisation that is not as inclusive or open to involvement/collaboration will likely face pushback and lose environmental research contracts in the long run. (Participant 5)

In the open-ended answers from survey responses, both Aotearoa New Zealand and Californian respondents reported on the importance of the representation of and care for Indigenous outlooks. The work of Californian respondents was less engaged with Indigenous values and outlooks than was the case with Aotearoa New Zealand participants. There was a significant difference in the specificity of practical measures described by Aotearoa New Zealander respondents in comparison to those mentioned by Californian respondents. Thus, respondents from Aotearoa New Zealand discussed the value of engaging with local iwi and Māori knowledge:

> The environmental/conservation work I have done in multiple countries has always involved the local people and their views, beliefs, and connection to the area and animals of interest. Specifically, in New Zealand, the involvement of multiple iwi groups through our projects has been a great opportunity to understand their connection to that particular area or animal and how our work plays into that. (Respondent 1)

> My [university] lab group often discusses issues relating to Matauranga Māori and its relationship with 'Western science', and how we can best learn from and support this knowledge and the people who carry it, without exploiting it or them. (Respondent 12)

Respondent 8 conveyed that the introduction of Māori views, along with other cultural inclusions, was a rather recent experience.

> I moved here from the Netherlands 13 years ago and, until the last few years, I have not been introduced much to Māori views of the natural world or other Indigenous cultures. (Respondent 8)

Respondent 9 and 11 relayed their understanding that the representation and involvement

was placed-based, with their experiences in the Waikato Region and the University of Waikato enhancing their connection to Māori cultural values.

> More so since working in the Waikato Region, where the groups I have been involved with and university papers I have taken, have had aims aligned with, and take input from, Indigenous Māori values. (Respondent 9)

> I believe my educational environment supports Indigenous values and respects them, taking into consideration many aspects of how they operate - at least from what we are able to see but the depth of it - in my opinion, needs to be ascertained. (Respondent 11)

In the experience of Respondent 1, this connectivity spanned more than just the Waikato Region and expressed significant rapport in terms of direct work collaboration with iwi.

> We work hard to ensure iwi groups in the area we are working in are involved from the beginning of a project in whatever capacity they wish. Sometimes they just want to know what's going on and other times they want to come out and get hands-on, and both are great. We have developed relationships with Indigenous groups all across the country, where we have relationships that allow us to share information/knowledge/training in both directions. (Respondent 1)

Improvement was mentioned by Respondent 9, acknowledging that there is a system in place in terms of the decision-making processes within local government.

> New Zealand local government work has statutory requirements to involve iwi in decision making and to take Indigenous perspectives into account. I see room for improvement though. (Respondent 9)

For California respondents, positive affiliations with Indigenous representation were expressed through references to personal values.

> Yes, I believe that they [Indigenous peoples] were the first to use that land the way it was meant to be replanted and used but never used up as an unlimited resource. (Respondent 5)

> My personal values include the acknowledgement and appreciation of Indigenous culture, knowledge, and efforts for the environment. (Respondent 6)

> Not necessarily [work-related values relating to Indigenous outlooks] but I do appreciate the aspects and values of other cultures and would never step over them. (Respondent 7)

Educational experience was of importance to California respondents. Respondent 10, for example, spoke of historical understandings.

> I gained a deep understanding of Indigenous struggles, particularly as they relate to environmental injustice when pursuing my bachelor's degree in California. Since then, I have been passionate about making others aware of Indigenous oppression - both environmental and otherwise - and hope to continue this commitment in my career. I further learned about Indigenous sustainability practices and gained a newfound respect for them when visiting Oaxaca on a school trip in 2020 and speaking with several Indigenous people about their livelihoods and how they use Indigenous practices to sustain them. (Respondent 10)

There were a variety of survey responses to a question about whether respondents' work environments support an Indigenous perspective or values.

> No, they haven't once brought up Indigenous values. Previous jobs have, but not my current job. (Respondent 3)

> No. (Respondent 4)

> Hopefully. (Respondent 5)

> My work environment does not exclude Indigenous perspectives per se, but I don't

> see efforts to do more than acknowledge Indigenous work. (Respondent 6)
>
> My work environment doesn't have any correspondence to Indigenous values, but if one came up, I feel strongly that they would address it appropriately. (Respondent 7)
>
> As I am about to embark on a new job, I am uncertain of their perspectives on Indigenous rights. However, it is imperative for me that my workplace promotes equity and environmental justice, and I ensured this during my interviews with them. Having knowledge of their practices around equity, I am now confident that my new workplace will share my perspectives regarding Indigenous rights and values. (Respondent 10)

Subtheme 3: "Green" Aotearoa New Zealand

When asked about efforts in Aotearoa New Zealand to present a national identity or brand that reflects close ecological stewardship, participants felt that, as environmentalists living in the country, there are aspects of this imagery of which they were critical. However, the culture and community of the nation, especially as they relate to outdoor recreation, have cultivated a unique, place-based environmental point of view.

Farmland and the dairy industry were significant points of discussion among participants, with the agricultural sector being promoted as being part of the 'green' brand while simultaneously contributing to pollution and waste.

> I think New Zealand has drastically tried to sell itself as a very green and untouched environment which I don't think is true. I mean, not too long ago I flew down south to Invercargill for work and farmland is all you see, no big pockets of native bush. I don't think we are doing enough; I think we are just very focused on dairy which is obviously the biggest contributor, which is a no brainer, but let's not kid ourselves, it's not gonna help the environment exactly. So, look at all of the protests going on,

> against government regulations on the farming industry - I think we've got a long way to go, and it depends on who is in government. (Participant 4)

Resource management was raised in relation to short-term decisions contributing to the lack of transparency on a 'clean, green' environment in Aotearoa New Zealand.

> We talk a pretty big game, like with '100% Pure' side of things, but we also fall short in so many ways with particularly short-sided decision-making; making decisions that seem like they are good for now but aren't necessarily the best decisions ongoing. Particularly, resources, how we use, for example, water, involves a lot of decision making for short-term means and short-term profits. I do think it seems to be changing, but it is slow. (Participant 3)

A more positive viewpoint was expressed in relation to the 'green' community, the catch-all phrase for those individuals and groups that were viewed as having made a positive contribution to the outdoor environment of Aotearoa New Zealand. For example, Participant 2 described the role of the 'green' community as being part of a generational connection.

> I like looking back at the old tramping journals - and you see, they've always had this idea, going back into the 20th century with the back-country huts and New Zealand is using nature and enjoying nature. There's always been that idea of connection to the bush here in New Zealand. Which, I think, is really cool because you've got those generations that have always done it. (Participant 2)

On connecting to the bush, Participant 2 went on to describe a "bush culture" which they related to a culture of looking after the environment, with the relatively small population of Aotearoa New Zealand being a possible reason for the country's unique ecosystem:

> I do stress that New Zealand does have that culture of looking after the environment, that bush sort of culture, I guess as a country, we have been very sparse in population, and we definitely did go out to the bush a lot more. (Participant 2)

Being a recent arrival to the country, Participant 1 used a story to demonstrate how environmental connectivity to local iwi, land, and country created a close-knit, special community in Aotearoa New Zealand.

> Something that has been really cool to see is that one of my friends, who is also doing her Master's research at my organisation, does fieldwork out in Whakatane every other week, and, late at night, she's in the river collecting fish in the dead of night, in the dead of winter, when it's snowing on them, been below freezing, it's insane conditions - a few people from the local iwi are out there every single time to help her because they care about her. That's the thing that she is most excited about is she is collecting cool data, but the community is there. She has gone and given talks at schools and the kids get so excited about it, and so I think that is really special and shows a little piece of how New Zealand is as a whole. (Participant 1)

The findings in this study are determined through the three overarching themes mentioned above. These involved associations of 'nature' being unanimously described as detached from humankind, and associations of 'environment' linked to humankind, place, community, and a sense of belonging. Views of kaitiakitanga and stewardship reveal that the distinction of the ideology does create different associations. Specifically, kaitiakitanga is associated with resource protection and looking after the environment and stewardship is viewed as ownership of the land. Also, a robust understanding of kaitiakitanga iss linked to working closely with an understanding of the legislation. Finally, Aotearoa New Zealand has provided influence over a shifting environmental worldview linked to connectedness with one's

environmental career, the way the workplace is inclusive of Māori values, and connectivity with national imagery of a ‘green’ environment positively influencing Aotearoa New Zealanders.

3.2 Discussion, Limitations, and Future Research

This research studies attitudes and beliefs to gain insight into environmental consciousness as is emerging from the coming together of two contrasting approaches. This section considers emerging themes that may be ascertained from the analysis of primary data and relevant conceptual works. Key findings include a discussion of the relevance of inherent worldviews stemming from environmental discourses, systematic social and political structures, shared values, international cultural differences, differing interpretations of environmental concepts, and how Aotearoa New Zealand presents a ‘green’ community. Suggestions are made toward consideration of implications of the findings, and the findings are considered in regard to future research.

Interpretations of Nature versus Environment

Walton and Jones (2018) report that people hold a range of identities within themselves, and measurements of nature connectedness are best understood as an expression of contextual meanings toward behavioural and cognitive experiences. Therefore, asking participants for their interpretation of the terms *nature* and *environment* provide a cognitive expression that is based on individual experiences.

Viewing nature as ‘untouched’ is an ecocentric position that contrasts to the ownership views on nature that dominate a Western worldview. However, the interpretations of the nature

association discussed by the majority of participants expressed the idea that nature is a separate category of being that bears no traces of humanity. This narrative, as described by Wareka (2020), relies on the anthropocentric otherness of humans from nature. Some of the participants who held this interpretation still referred to the natural world as a resource, an expression of the underlying influence of a Westernised worldview. Based on Wareka's (2020) findings, this discourse gives centrality to ecological and cultural threats that can hinder engagement with Indigenous ontologies. This suggests that inherently held, unconscious attitudes and beliefs displayed through discourse, can contradict a value system with which one might consciously identify. This enables existing thinking to remain the status quo.

Following this conceptualisation of nature, interpretations of the term *environment* were perceived by participants as being inclusive of humanity. There were differing comprehensions of what this term means, such as there being the interaction between the human environment and the natural environment, humans being a relatively insignificant factor in a large environment, and environments being society-based but spread spatially. The overall idea of humans overseeing these different environments adheres to the anthropocentric view that humankind is central to the existence of nature

Engaging with these cultural influences and backgrounds is critical when researching attitudes surrounding conservation, being that human-nature connectedness is multidimensional (Klaniecki, 2019). The description of the environment provided by Participant 1, which referred to ideas around the politicisation of climate change and global warming, linked to conceptual work about stewardship and systemic structures (see, for example, Fisher et al. 2012). The nuanced embodiment of being an 'environmentalist' can direct different discourses, depending

on the systematic structure from which they emerge. Participant 1 is from America and, as such, their connotation of divisiveness from the term environment may be derived from the divisiveness that exists within the current political climate of the United States. This suggests that environmental management and conservation messages to the public may be interpreted more politically, and more negatively, depending on the cultural climate. Such an interpretation would affect environmental outcomes and sustainability goals.

The data revealed that through place attachment and deep value orientation to the natural world, local environments impacted identity. Attachment to the areas in which interviewees lived contributed to a deep emotional connection to outdoor environments. Restall and Conrad (2015) suggest that researchers extend CNT research toward multi-dimensional measures and place attachment to help predict environmental commitment. Analysis of primary data exposed a link between dimensions of place attachment to the country and pro-environmental behaviour. Participants described holding a connection to the outdoors, a bond to their roots as a human, a pull to be at peace, and the power of nature. These descriptions unveil holistic imagery and locate shared value in making connections to the land. This viewpoint links to the Māori concept of mana and reinforces the importance of recognising similarities between the Māori and Western approaches toward policy and planning (Andersen, 2012). Given the effects of place attachment on PEB are positive and influence environmental beliefs (Daryanto & Song, 2021), and the shared, holistic values connect to place attachment in Aotearoa New Zealand, it may be suggested that strengthening this kind of non-Western ideology can positively influence levels of environmental commitment. Such a suggestion is tentative, however, as there is a risk of values and beliefs being compromised.

Survey results of measurements of CNT in individuals working in environmental sectors, comparing Aotearoa New Zealand and California respondents, showed that Californian respondents held slightly higher scores than those of the Aotearoa New Zealand respondents. This score difference may be understood, firstly, by the fact that the majority of the Californian respondents live and work near beach environments, away from big urban centres. Most respondents from Aotearoa New Zealand were from Hamilton, which is the fourth largest city in Aotearoa New Zealand by population. The influence of the natural environmental settings could have raised the connectivity scores. Secondly, this discrepancy may be attributed to a response bias stemming from the cultural attitudes held in each country. From my experience, I have witnessed American culture to fabricate dialogue or exaggerate points. In Aotearoa New Zealand, I have witnessed a more humbled, straightforward tone to dialogue. American culture seems to be more verbally fabricated than Aotearoa New Zealand culture, a cultural context that means individuals will present their views as being of much importance. Such 'high regard' contrasts with the straightforward views expressed by Aotearoa New Zealand respondents. Finally, the environmental sector and society in an area are shown to produce significant effects on human-environment connectedness.

Individual Worldviews of Stewardship and Kaitiakitanga (Indigenous Influence)

In the Māori worldview, connectedness is a principle that acknowledges the value of togetherness and the accord between people, their surroundings, and the wider environment (Selby et al., 2010). In assessing how ideas of stewardship and kaitiakitanga are viewed within the context of environmentally-minded individuals, it is possible to identify indications of how global citizenship is presented in Aotearoa New Zealand. Macfarlane (2019) explains that in the

context of global citizenship for Māori, there are lessons to be learned from Indigenous perspectives of place and authority. Thus, Macfarlane's (2019) Educultural Wheel suggests that the values of manaakitanga, whanaungatanga, rangatiratanga, and kotahitanga, should be used in working toward the outcome of mauri ora, or flourishing. In locating these values amongst interview data, participants expressed shared worldviews across three of four values, the exception being rangatiratanga. Participants mentioned procedures within the workplace that are dedicated to working with iwi and progressing protocols toward Māori self-determination. These procedures, however, appeared to be at the beginning stages of their development and only exist within certain departments. This suggests a need for further collaboration and training in relation to Indigenous liberation and the widespread removal of systematic inequalities.

Welchman (2012) explains that within stewardship in sustainability sciences, it is argued that combining science and social knowledge increases the resilience of a system. Depending on the type of knowledge, whether scientific, relational or narrative, this resilience may find expression in the collaboration and involvement of Māori within the largely hegemonic Western environmental and sustainability sciences field. Welchman (2012) suggests that the aim for the future of stewardship is to explore relationships between ecological processes, value systems, decision-making processes, individual connective actions, economic systems, and public policy. Respondents' respect for and inclusion of Indigenous ideals suggests this aim is in the process of being met, albeit within a context dominated by Western ideals.

There is tension with kaitiaki being defined as 'stewardship'. This dissonance occurs because contemporary ideas of stewardship have their roots in traditional ideas of Western imperialism and associated notions of conquest and ownership. Such concepts, where humans

possess nature, do not align with arguments for nature and biodiversity conservation (Welchman, 2012). For respondents, kaitiakitanga was understood as the general concept of guardianship over the environment and as management separate from humanity. Respondents discussed the concept of stewardship as being responsible for human impacts on the Earth, as humans coexisting with the Earth, and as managing the environment for humanity's sake. Drawing on these comments it is evident that each individual's perception of each term varied, and that Indigenous knowledge is not directly translatable into existing Western cultural frameworks. As such, caution is best applied when employing Indigenous concepts in legislation, amongst environmental organisations or by the public.

The idea of 'looking after the environment for the environment's sake' rather than for humanity, was an idea that was expressed consistently by interviewees. This idea finds a close association with Māori environmental ideology and the person's environmental philosophies. As such, conservation values are influenced by Māori ideas, with these beliefs accepted by the individual as a morally aligning discourse. This association differs from the involvement of Indigenous values in the Californian survey respondents. They showed respect and appreciation toward Indigenous liberation, yet did not express a coherent engagement with how the ideologies were understood in relation to their own values-based identity. This suggests that education and the addition of Indigenous perspectives into school and workplace training would be helpful in areas that have been colonised and that lack cross-cultural inclusion. Ultimately, such an approach may encourage the shift of environmental management from a human-centric, economic focus to that aligning with the idea of 'environmentalism for the environment's sake.'

Outward Environmental Attitudes and Beliefs

The fundamental ideology of CNS, based on the work of Aldo Leopold, is that environmental issues are constructively communicated through individuals feeling that they are a part of the natural world (Mayer & Frantz, 2004). This aligns with the understanding of kaitiakitanga, where humans are closely connected with and are a part of the natural world (Royal, 2021). Through examining data on how each individual connected their values and the values of their employer, ties to interconnectivity with the natural world were found as an important shared value within the workplace. This feeling of oneness with the natural world was strengthened through the location of employment in Aotearoa New Zealand, and through being connected with like-minded people. The majority of the interview participants expressed that their environmental identity has been influenced by the Māori worldview. This supports the world of Wareka (2020) on how, when included in contemporary resource management practices, Indigenous cultural values and practices can contribute positively to environmental management solutions. Peterson (2021) leaves space for questioning the emotional or cognitive connections between environmental organisations in a community where non-Western worldviews are included in social and political systems. Based on the findings of this research, it may be suggested that environmental organisations can significantly impact individual connections, especially when indigeneity is included.

There were minor gender differences in the way in which interviewees expressed understanding of the separation of the term 'science' from Indigenous knowledge. The responses suggested that Western science is accepted as the most 'advanced' way of knowing. The participants who shared these views, referring to science as being a seemingly unambiguous way

of knowing that is more ‘advanced’ than traditional knowledge, were male. Considering the findings of Beauvoir (2011), these results indicate a belief in the idea of nature as feminine, subordinated by patriarchal views, and, by association, that Indigenous knowledge is also subordinate to Western hegemonic ideology.

There was a lack of agreement among respondents as to the nature of engagement between Indigenous knowledge and individual workspaces. Following Gadgil et al. (1993), Indigenous ‘data’ may be understood as being diachronic and, as such, holding more value than synchronic Western knowledge. This view of Māori knowledge was not considered by some participants, with Māori knowledge being understood to be ‘used’ as an aid for environmental science practices. Therefore, there was a disconnect that remained in terms of the progression of the Crown and iwi collaborative processes. One reason for this disjuncture can be found in the work of Selby et al. (2010) and their argument that difficulty stems from the inability to quantitatively measure indigeneity. Indigenous world views add depth to universal value, and the status quo maintains the support of a majority-rule democracy that lacks equity in relation to minority rights. This cultural clash was also demonstrated through Participant 1 speaking of this ‘checkmark’ indignant attitude that some people in their workplace showed toward cultural inclusion. This shows how there is a need for education on why this cultural inclusion is necessary, and how engagement can avoid tokenism and move toward authentic inclusion. This is also an area that provides an opportunity for the advocation of understanding of Indigenous science protocols, practices that focus on the deep connection between self and the morality of the natural world.

Participants touched on the economy and the research landscape of Aotearoa New Zealand by mentioning water management and the dairy industry as examples of how the 'green' national promotional imagery masks the need for environmental improvement. Aotearoa New Zealand promotes a 'clean, green' image yet, in the opinion of participants, favours short-term dairy industry profits over long-term environmentally focused decision making. Selby et al. (2010) argue that environmental management in Aotearoa New Zealand is characterised by a lack of adequate hindsight; ignoring the past and the long-term future affects the ability to exercise kaitiakitanga. By bringing indigeneity into economic and environmental management, the commitment embedded in kaitiakitanga can link past and future.

Overall, for participants, the 'green' promotional imagery did manifest positive ties to creating a sense of togetherness and community unique to Aotearoa New Zealand. Comments around a sense of connectivity to bush landscapes, community involvement, and support of the local environment, reflect a sense of eco-consciousness, despite what is suggested by the dominance of economic messages. This eco-consciousness is foundational to the Māori narrative where the world is made sense of through relationships, and connections and commitments to people and the natural world are built around personal and cultural relationships. The overarching valued-oriented discourse to emerge from participants from the Waikato Region was a belief in wanting one's career and place in the world to matter, and that there are benefits in caring for nature to mend what has been broken.

Implications from this Study

- Shared views on the natural world that are attached to a specific geographical area can positively influence pro-environmental behaviour within that local area.

- Contemporary ecocentric and non-Western environmental discourses can be adapted and employed to challenge colonial constructs of environmental ownership and degradation. By strengthening relevant protocols, organisations should ensure that the use of Māori knowledge is not compromised.

- International environmental discourses can differ based on political assumptions surrounding views on such facets as climate change and global warming. Active awareness of how media and political consciousness is shaping one's identity can be helpful in strengthening core environmental connectivity.

- There is a lack of understanding of systematic inequalities and the use of the Māori worldview in Western science by employees. It is essential that stronger collaboration efforts and training surrounding Indigenous approaches be implemented across all areas of an organisation, not exclusive to one department.

- The influence of Māori values has positively contributed to contemporary resource management in Aotearoa New Zealand. Progress in this area is actively strengthening the way environmental issues are addressed.

- When non-Western worldviews are included in social and political systems, individual emotional and cognitive connections can be strengthened within a community.

Limitations of this Study

The analysis conducted within this study concentrated on individual perceptions within the Waikato Region of Aotearoa New Zealand, with the addition of the analysis of data from individuals from the southern and central coast of California. The nature and size of the sample

in this study mean that generalisations are not possible, especially surrounding gender roles and the political climate of different regions throughout Aotearoa New Zealand. Due to the time frame of the research, participants were recruited mostly through close network connections. Such recruitment limits the diversity of results that more expansive network perceptions could have contributed. Additionally, the study might have better benefited from using focus groups as a methodology due to the ability to elicit conversations amongst participants in similar demographic groups.

Suggestions for Future Research

This study underlines four possibilities for future research in this area. First, future research can take an approach of interpreting how individuals who identify as Māori experience the social-structural effects of cultural collaboration within the workplace. Second, a broad range of geographical and demographic analyses can elicit additional results in this area. Third, further exploration of shared values toward place attachment theory and CNT may contribute to determining the prevention of the compromise of cultural values and beliefs. Finally, the concept of green international ideals provides a potential path for research in place attachment theory and CNT research.

3.3 Conclusion

Indigeneity can help strengthen environmental management and evidence shows that the Land of the Long White Cloud holds a unique space in the global environmental sector through the cultivation of a ‘green’ community and a sense of togetherness that is shaped by the influence of Māori culture. This study provides insight into the attitudes and beliefs surrounding environmental connectedness toward environmental engagement in Aotearoa New Zealand,

examining cultural influences surrounding Māori beliefs and values. This research also provides a comparison of two national environmental contexts within a framework of environmental connectedness and Indigenous influence. Through semi-structured interviewing, structured surveying, five findings were produced that contribute to social science, sustainability, and environmental identity literature. First, Western discourses of ownership and humans as 'other' are systemically instilled into individuals and their interpretations of the natural world, even when describing views intended to reflect non-anthropogenic ways of thinking. Despite terms such as kaitiaki being widely used across the country, the concept is not directly translatable and may potentially be compromised by blanketed or tokenised interpretations of its meaning. Second, where there is a clash of cultural ideals, finding underlying, shared values toward the natural world can strengthen environmental commitment and behaviour. Third, the reason for Indigenous self-determination in the environmental sector may not be well-understood by non-Māori in this field. Fourth, conservation values among Aotearoa New Zealand participants lean toward ecocentrism, having been shaped by the education on the Māori worldview. Finally, cultural clashes in the environmental science sector of Aotearoa New Zealand are still prevalent, a trend that may be linked to the Western association of Indigeneity's place within Western science.

This work is relevant to social science research in that it supports progress in environmental management and protection, as well as exposes the internal values and beliefs of this currently Western-dominated field. It demonstrates the importance of connectivity as a means of measuring relational morals and provides an alternative view of comparison between constructs. A move toward strengthened inclusion of Indigenous knowledge within this field,

with a hyper-awareness of how the information is being translated, used, and respected, is crucial for a progressive society and sustainable environmental management.

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Appendices

Appendix A: Participant Information Sheet and Consent Form

DIVISION OF ARTS, LAW, PSYCHOLOGY & SOCIAL SCIENCES

HUMAN ETHICS RESEARCH

INFORMATION SHEET

Topic: Exploring Western and Indigenous Environmental Ideals: Stewardship vs. Kaitiakitanga in Aotearoa, New Zealand

Approval Statement: *This research project has been approved by the Human Research Ethics Committee of the Faculty of Arts and Social Sciences. Any questions about the ethical conduct of this research may be sent to the Secretary of the Committee, email HYPERLINK "mailto:alpss-ethics@waikato.ac.nz" alpss-ethics@waikato.ac.nz , postal address, Division of Arts, Law, Psychology and Social Sciences , University of Waikato, Te Whare Wananga o Waikato, Private Bag 3105, Hamilton 3240."*

Principle Researcher:
Haley Jones
Researcher Contact:
Phone: 027 232 1434
Email: haleyejones.116@gmail.com

1) Interview participants are to answer a series of questions conversationally and add commentary that they feel could pertain to the topic. This interview should take up to one hour.
2) Expected outcomes of the research include insight into how one's culture and education shape the role of identity in the unique setting of Aotearoa, New Zealand under the Treaty of Waitangi. This research is expected to contribute to contextual understandings of how the Treaty's promise is expressed by those working in a Western-dominated political sector within which environmental policies and regulations are created. Examining cultural and career identity within this context contributes insight into how one adopts a different environmental perspective or connection; in terms of stewardship or kaitiaki discourses.
3) These findings will be published/disseminated in a Masters Thesis and may be used in conference papers or journal articles.
4) The information provided by the participant will remain confidential and participant anonymity is an option. The researcher will be the only person who will have access to the raw data provided by the participant. This information will be stored on a University of Waikato password-protected server. Digital data will be deleted from the server after five years.
5) The participant will be provided with access to findings/publications.
6) The participant has the option of declining to answer any particular questions, can withdraw from the project up until two weeks after the interview and can ask any further questions about the research that occur to them during their participation.

UNIVERSITY OF WAIKATO
DIVISION of ARTS, LAW, PSYCHOLOGY & SOCIAL SCIENCES

PARTICIPANT CONSENT FORM

Name of person interviewed: ____

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

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

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

Please complete the following checklist. Tick [] the appropriate box for each point.	**YES**	**NO**
I wish to view a transcript of the interview		
I wish to receive a summary of the key research findings		
I wish to remain anonymous, with the researcher allocating a pseudonym of their choosing		

Participant :		Researcher :	
Signature :		Signature :	
Date :		Date :	
Contact Details :		Contact Details :	

Appendix B: Ethics Approval Letter Granted by University of Waikato

Te Wānanga o Ngā Kete | ***Division of Arts, Law, Psychology & Social Sciences***

The University of Waikato
Private Bag 3105
Hamilton 3240
New Zealand

Te Piringa – Faculty of Law
Dr Nathan John Cooper
Tel: +64 7 838 4463
Email: nathan.cooper@waikato.ac.nz
www.waikato.ac.nz

THE UNIVERSITY OI
WAIKATC
Te Whare Wānanga o Waikato

Haley Jones

Colin McLeay

School of Social Sciences

21 June 2021

Dear Haley

Re: **FS2021-16: Project Title: Exploring Western and Indigenous Environmental Ideals: Stewardship vs Kaitiakitanga in Aotearoa, New Zealand**

Thank you for submitting your revised application to the ALPSS Human Research Ethics Committee. We have reviewed the final electronic version of your application and the Committee is now pleased to offer formal approval for your research activities as detailed therein.

Please contact the Committee should issues arise during your data collection, or should you wish to add further research activities or make changes to your project as it unfolds. We wish you all the best with your research. Thank you for engaging with the process of ethical review.

Kind regards

Nathan Cooper, Chair
Division of Arts, Law, Psychology & Social Sciences Human Research Ethics Committee

Appendix C: Interview Questions

1) What is your career focus or interest in the environmental field? Would you be able to explain your history and any current jobs or roles? This can be volunteer, paid, or recreational activities related to sustainability and environmental matters.
2) How would you define "nature?" a) Describe your connection to nature. b) How does this shape your identity?
3) How would you define "environment?" a) Describe your connection to the environment. b) How does this shape your identity?
4) What does Kaittiakitanga mean to you?
5) What does stewardship mean to you?
6) How would you say that these identities have changed over time? a) (Has your connection to nature gotten stronger? More disconnected? Has your view of the environment shifted?) b) What would you say have been the largest influences of this shift? (Culture, living place, family, school, etc.)
7) In your own relationship with nature and the environment, would you say you value Māori outlooks, such as Kaititakitanga, or more that of stewardship, sustainable development outlooks/practices. a) Would you say this value reflects your daily practices? Why/why not?
8) Do you feel connected to the environmental work that you partake in? (volunteer, paid employment, recreational) a) How does your identity in relation to nature and the environment play a part in this work? b) Do you think your values in your workplace are unique to Aotearoa New Zealand? c) Can this connection be strengthened? If so, how? If not, why?
9) How do you feel Aotearoa New Zealand represents kaitiakitanga? Stewardship?
10) How would you say that Aotearoa New Zealand is unique in its approach to maintaining community environmental connections compared to other countries? How so?
11) Would you say that your work environments (volunteer, paid employment, recreational) present more under the stewardship outlook or relate more to kaitiakitanga?
12) Do you feel that these work environments (University included) give enough space for Māori representation and voice? What impacts might this have on the organisation?

Appendix D: Survey Questionnaire

"Kia ora, thank you for participating in a survey toward the research for my master's thesis. This survey should take you approximately 10-20 minutes. My project looks into environmental connectedness and identity relating to Western and Indigenous perspectives in New Zealand. (Ethical approval from Waikato University was received) Your responses will contribute to a comparison of environmental attitudes in two countries where Indigenous cultural inclusion, within the environmental field, may be more or less prominent. The survey begins by gathering some information on your background and location. Next, there are 14 questions from the Connectedness to Nature Scale (see Mayer & Frantz, 2004) to measure agreement toward beliefs about nature. Lastly, there are three questions about your work experience in which you may expand on."

Please check the boxes that apply to you:

I have environmental work-related experience in California.
I have environmental work-related experience in another state in the U.S.
I have environmental work-related experience in New Zealand.
I have environmental work-related experience in the Waikato Region of NZ.
I have a Bachelor's Degree.
I have a Postgraduate degree.
I am in the process of completing my post-graduate degree.
How many years of environmental work-related experience do you have?
Under two | Two Years | Three Years | Four Years | Five Years | 5+ Years | 10+ Years

Survey Questions: Connectedness to Nature Scale
1: Strongly Disagree | 2 | 3: Neutral | 4 | 5: Strongly Agree

1. I often feel a sense of oneness with the natural world around me.
2. I think of the natural world as a community to which I belong.
3. I recognise and appreciate the intelligence of other living organisms.
4. I often feel disconnected from nature.

5. When I think of my life, I imagine myself to be a part of a larger cyclical process of living.
6. I often feel a kinship with animals and plants.
7. I feel as though I belong to the Earth as equally as it belongs to me.
8. I have a deep understanding of how my actions affect the natural world.
9. I often feel part of the web of life.
10. I feel that all inhabitants of Earth, human, and nonhuman, share a common 'life force'.
11. As a tree can be part of a first, I feel embedded within the broader natural world.
12. When I think of my place on Earth, I consider myself to be a top member of a hierarchy that exists in nature.
13. I often feel like I am only a small part of the natural world around me, and that I am no more important than the grass on the ground or the birds in trees.
14. My personal welfare is independent of the welfare of the natural world.

Open-answer questions:

15. Do you find that your views in response to these statements have shifted or been shaped by your work experience? Please expand on this if you wish.
16. Do you feel that your personal values or those relating to your work experience include an Indigenous outlook(s)? Please expand if you wish.
17. Do you feel that your work environment supports an Indigenous perspective or values? Please expand on this if you can.