VOLUNTEERS MATTER

THE GEOGRAPHIES OF COMMUNITY-BASED ECOLOGICAL RESTORATION GROUPS IN THE WELLINGTON REGION

FIGURE 1 AUTHOR AT ISLAND BAY WITH ISLAND BAY BEACH CARE. PHOTO KINDLY PROVIDED BY WILLEMIJN VERMAAT. OCTOBER 2008.

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> *"Restoration has a critical role to play...not only as a way of actively conserving what cannot be preserved but also as a way of knowing the natural landscape, of testing and refining our ideas about it, of intensifying and raising our awareness of it and the value we place on it, of participating in its economy, of exchanging gifts with it, and, finally – and crucially – of coming to terms with the inadequacy of what we offer back to nature in return for what we take from it."*
>
> - William R. Jordan III (abridged 2000:26).

ABSTRACT

The Community-based ecological restoration movement is a growing phenomenon here in New Zealand. While the role of volunteers and human agency is integral to ecological restoration; most academic attention has been paid to the science of ecological restoration and its practical applications. The scant amount of literature which examines the social worlds of community-based ecological restoration, both internationally and here in New Zealand, warrants further investigation of this topic. This study explores the Geographies of the community-based ecological restoration movement in the Wellington Region by investigating 1) what these groups are doing, 2) who these volunteers are and what draws them to this work, and 3) what keeps these volunteers coming back. This study found that the volunteers of these groups, motivated by a wide range of both social and environmental concerns, do a stunning amount of work for their group which would be completely unaffordable if done by anyone except dedicated volunteers. The members of these groups are generally older, with the time and money to be able to take on this kind of commitment. And while seeing the results of their hard work is a major motivating factor in returning to volunteer for the group again and again, volunteering in this sector is not always as altruistic as it may seem to bemused passers by; the vast majority of members have received a range of new skills and knowledges as well as a number of social benefits as a result of their membership to these groups. As New Zealand's population ages, the number of potential volunteers willing and able to do this work will increase significantly, posing implications for the agencies that currently fund and support these groups.

Keywords

ACKNOWLEDGEMENTS

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Early mornings, wet feet, sunburn, southerly gales, rain, blearing heat, sore backs and public opposition and indifference – as one passer by commented, "You guys must be crazy!" Why would anyone work, let alone volunteer for a community-based ecological restoration group? But the puzzling thing is that people do, in their thousands around New Zealand. There is a quiet environmental revolution going on.

According to the Society for Ecological Restoration (SER, 2004:2), "ecological restoration is the process of assisting the recovery of an ecosystem that has been degraded, damaged or destroyed". Interventions for restoration can include removing or modifying a specific disturbance, introduction of native species, or the eradication or strict control of invasive species (SER, 2004). From its beginnings in the late 1980's the ecological restoration movement has continued to grow in popularity, as a response to anthropogenic damage of the environment, especially in developed countries (Clewell and Aronson, 2006; Palmer et al, 2006; Campbell-Hunt, 2008a). However it must be noted that the term 'ecological restoration' is often a misnomer, as restoration sites are seldom able to be entirely rehabilitated and usually require continuing human management to combat forces such as invasive species, human impacts, climate change and other potentially threatening phenomena (Elliot, 1997; Campbell-Hunt, 2008a).

Community-based ecological restoration focuses on "the environmental benefits which...communities experience as a result of their initiatives" (Buchan, 2007:3). Often termed as 'friends' groups, these organisations usually begin with a few key community members who see an area as worth saving and/or restoring and become the driving force behind the establishment and running of the community-based ecological restoration or friends group (O'Bryne, 2006). As these groups are often formed in

reaction to a threat to a landscape, their beginnings can be based on fierce battles which have the potential to divide communities and come at both a financial and emotional cost to those attempting to save particular areas (O'Bryne, 2006). Therefore, it must be recognised that community-based ecological restoration is not always the simplest approach to restoration. As it occurs in human landscapes, where people live, work and play, community-based ecological restoration can be a challenging approach due to competing values regarding land management and use, often within a single community (Horn and Kilvington, 2004).

Despite the potential challenges of community-based ecological restoration, according to Hugh Logan, the New Zealand's Director General of Conservation (in Campbell-Hunt, 2002:7), "There has been a remarkable upsurge in recent years in conservation initiatives by community groups in New Zealand." Schroeder (2000) argues this is due to the combination of a shift in public perception of the environment, now seen as a holistic system of which humans are an intrinsic part, and the shrinking budgets of agencies that have come to rely on and encourage volunteer effort.

Agencies such as the Ministry for the Environment, the Department of Conservation and many of New Zealand's regional and territorial authorities offer funds to facilitate and support environmental enhancement in their communities. Funds specifically set up to support community-based ecological restoration include:

- the Ministry for the Environment's Sustainable Management Fund[1],
- the Department of Conservation's Community Conservation Fund[2],

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[1] The due to reprioritisation of objectives, the Sustainable Management Fund 2010/11 funding rounds have been cancelled. However, multi year projects approved in previous funding rounds continue to receive funding.
[2] Similarly, the Community Conservation Fund is not inviting any new applications as all funds have been allocated.

- Environment Canterbury's Environment Enhancement Fund,
- Environment Waikato's Beach Care Programme,
- the Hawkes Bay Regional Council Restoration Programme,
- Environment Bay Of Plenty's Environmental Enhancement Fund,
- the Northland Regional Council Environment Fund.

In Wellington, the Regional Council's programme "Take Care" is another such initiative which supports 35[3] community-based ecological restoration groups in the Wellington Region. The programme began in 2000 and aims to support community-based groups to restore wetlands, estuaries, river, stream and lake margins, coastal escarpments and dunes (GWRC, 2009). Of these 35 groups, 13[4] are working to restore Wellington's coastal environments including dunelands, coastal wetlands and coastal forests and escarpments.
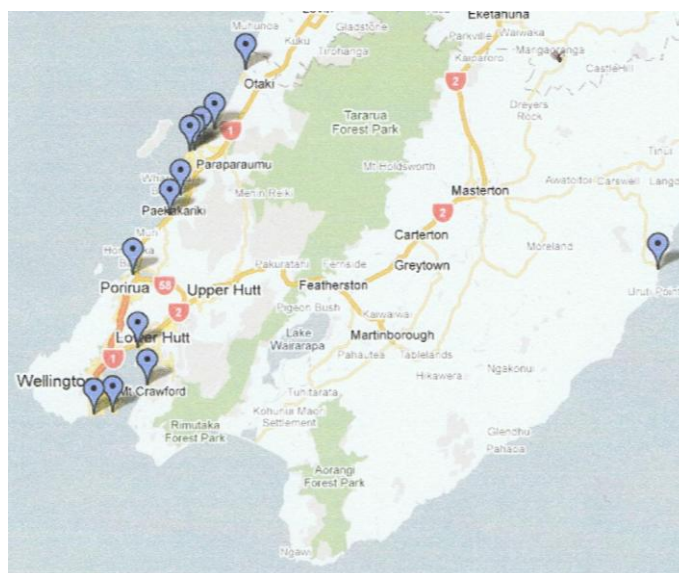
FIGURE 2: LOCATION OF TAKE CARE'S 13 COASTAL RESTORATION GROUPS

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[3] While this number was correct at the time, it is subject to fluctuations as projects end and new groups are funded.
[4] Over the course of this research two groups included in this study came to the end of their Take Care funding, while two new groups which were not included in this study were accepted into the scheme.

These groups are:

- Waitohu Stream Care Group
- Pekapeka Dune Restoration Group
- Waikanae Dune Restoration Group
- Waikanae Estuary Care Group
- DUNE (Delivering and Understanding the Natural Environment) Paraparaumu Beach
- Friends of Queen Elizabeth Park
- Nga Uruora – Kapiti Project (NUKP)
- Onehunga Bay Beach Care
- Friends of Petone Beach
- Eastbourne Dunes Protection Group
- Island Bay Coast Care
- Tarakena Bay - Places for Penguins
- Riversdale Beach Care Group

My goal was to examine the geographies of this movement by asking what these groups were doing, who the volunteers were and why they volunteered for community-based ecological restoration groups supported by the Take Care programme. For the sake of manageability, this study examined 13 of Take Care's coastal community-based ecological restoration groups to answer this question.

Ecological restoration is a creative act of human agency whereby people actively shape the ecology of landscapes. Areas which have been or are currently being restored are fundamentally cultural landscapes or "man [sic] expressing his place in nature as a distinct agent of modification" (Sauer, 1996:307). However as people attempt to restore an area to its original or natural state, they create a liminal landscape which is both cultural and natural. As this review of the literature will reveal, while ecological restoration initially regarded ecological restoration as a human act, with debates around its ethical nature, currently technical information regarding restoration theory and practice dominate the literature, with little attention paid to the practice's social dimensions. While a handful of academics continue to examine ecological restoration as a fundamentally social act, this review argues that the current level of attention is insufficient. Within this general dearth of social research, a gap becomes especially apparent regarding what these groups are doing, who these volunteers are and why they choose to volunteer as ecological restorationists.

In the early years of ecological restoration as an academic discipline and practice, the fact that ecological restoration was fundamentally based on the human manipulation of landscapes raised major issues for environmental philosophers, principally Robert Elliot (1982) and Eric Katz (1985, 1992a, 1992b).

At the time, ecological restoration was primarily associated with mining, forestry and other environmentally destructive, financially driven practices (Hughes, 1990; Elliot, 1997). Critics also argued that restoration of already degraded areas would detract from the conservation of pristine wilderness environments (Cowell, 1993; Elliot, 1997; Higgs, 2003). However the

arguments of both Elliot (1982) and Katz (1985, 1992a, 1992b) centred on the claim that wild nature has a worth and value that restored nature cannot attain. They argued that human intervention fundamentally alters the ontological character of a landscape (Elliot, 1982; Elliot, 1997; Katz; 2000). According to Katz (2000), "the presence of human intentionality in the intervention into natural processes changes the fundamental character and meaning of these processes." Therefore, restoration makes natural landscapes into human artefacts and detracts value from that landscape (Katz, 2000). Elliot (1997: xi) concurs, arguing that "faked nature is less than the value of original or authentic nature" as human intervention destroys wild nature's intrinsic value.

While concerns regarding restoration's association with destructive environmental practices and the potential to detract efforts for conservation seem to have subsided in the literature, concerns about the value of restored nature persist (Katz, 1993; Katz, 1995; Katz 1996; Elliot, 1997; Katz, 1997; McQuillan, 1998; Lo, 1999; Jordan, 2000; Katz, 2000; Light, 2000; Allison, 2007; Ridder, 2007).

However according to Redford (1992:412), a major advocate for protectionism in the conservation literature, "anthropogenic effects are ubiquitous and...sought-after virgin habitat may not exist." If this is the case, then all nature is artefactual and restoration merely lies on a continuum between landscapes where human effects are minimal such as the depths of the Amazon, to landscapes of intense human development such as cities. Therefore, Katz and Elliot's argument, that we can make choices between nature and artefacts, is false. Following this argument, nor can restoration ever be absolute as the omnipresence of human impacts, such as human induced climate change, has altered the natural world forever.

While this debate continues, technical and theoretical information has come to dominate ecological restoration literature, with only a handful of academics investigating the practice as an act of human agency.

Jordan, an environmental philosopher and contemporary of Katz, is one such academic. In his paper "Restoration, Community and Wildness" (2000), he examines how restoration offers an opportunity for human agents to reconnect with the natural world through the intentional, social act of 'rewilding' a landscape. He argues that the physical act of restoration is a human ritual which creates meaning and connection to a landscape through performance (Jordan, 2000). And in a reply to restoration's creation of artefacts, argues that while restoration entails deliberate human manipulation of natural processes, it does not amount to domestication, but to a communion with nature (Jordan, 2000).

Miller (2005:430) also argues that as human development and urban sprawl continues, people have become "increasingly disconnected with nature." This has caused people's knowledge and expectations of the natural world to decline, with negative implications for people's personal wellbeing and public support for conservation efforts (Miller, 2005; Pyle, 2005 and Dunn et al., 2006). Miller (2005:430) argues that the restoration of urban ecosystems can "provide opportunities for meaningful interactions with the natural world."

Rosenzweig's theory of reconciliation ecology (2001 and 2003) further embraces the significance of human choice and needs. He argues that *"the goal is not necessarily to produce a semblance of previously existing habitats, but rather to modify the places dedicated to human activities so as to provide for the needs of a wider variety of native species"* (paraphrased by Miller, 2005:432).

Similarly, Allison (2007) argues that while human choice is often downplayed in the literature and by restorationists, it is an integral part of ecological restoration. According to Allison (2007:601) the role of human agency is downplayed

"partly because we see the choice to restore as obvious and inherently good and partly because we feel the restoration of more natural conditions for a habitat will lessen the impact of human choice over time."

He argues that choice in restoration should be embraced as it offers an opportunity for humans to engage with the environment (Allison, 2007). Further, when restorationists acknowledge the importance of human choice, they are better positioned to restore landscapes in a way which benefits both people and the environment (Allison, 2007).

While the number of academics who have examined ecological restoration as a social science seems scant, after a review of the literature, just three international studies were found which specifically asked why people give up their time as environmental volunteers.

In an American study by Bruyere and Rappe (2007), the motivations of 401 conservation volunteers were surveyed. The most cited response for why people chose to volunteer in environmental organisations was to help the environment, followed by improving areas for personal recreation, expressing values, learning about the environment and socialising with people with similar interests (Bruyere and Rappe, 2007). Similar American research by Grese (et al. 2000) studied the benefits of environmental volunteering through a survey of 190 members of 5 environmental stewardship groups. They found that these benefits were: helping the environment, exploration of nature, spirituality and connection to the land and personal and social benefits. Lastly, a study by Schroeder (2000:248) investigated the themes he found in 27 newsletters of nine volunteer restoration groups to draw out "what their work means to them, and what

specific motives, values, and rewards" persuade volunteers to work as restorationists. He found a wide range of themes and argued that ultimately a sense of urgency about the state of the environment, a belief that volunteers could make a difference and tangible results of their work were the main factors which caused some volunteers to become highly motivated and committed to their group's cause (Schroeder, 2000). Finally, while rarely quantified, the commitment, in terms of time spent, of volunteers in biological conservation programmes has been found to be substantial (Hopkins-Murphy & Seithel, 2005, Leslie, et al. 2004), with volunteers often called upon when funding is insufficient (Newman, et al., 2003).

Although the ecological restoration literature gives few examples of why people choose to act as volunteer restorationists, assuming that volunteering for restoration projects is a pro-environmental behaviour, the wider literature on pro-environmental behaviour and its drivers and the psychological motivations of volunteers generally, offers a more comprehensive insight.

In their article "Mind the Gap: why do people act environmentally and what are the barriers to pro-environmental behaviour?" Kollmuss and Agyeman (2002) provide a comprehensive overview of commonly used frameworks to explain the drivers and barriers to pro-environmental behaviour. Their review found that while the answer to this question is almost ridiculously complex, there are a number of factors which do have some influence on pro-environmental behaviour (Kollmuss and Agyeman, 2002). These factors were:

- Demographic factors – women more likely to engage in pro-environmental behaviour. Years of education also has a positive correlation.
- External factors – these included the necessary infrastructure to behave pro-environmentally e.g. public transportation, economic

factors such as the price difference between pro-environmental and anti-environmental choices, and social and cultural factors such as the cultural norms of people in small, resource poor societies and those in large, resource rich societies.

- Internal factors – these include people's motivations, their environmental knowledge, their values, attitudes, environmental awareness, emotional involvement, locus of control and feelings of responsibility and priorities.

Each of these factors was found to be influenced by a number of other factors, demonstrating the complexity of the issue.

In studies by Chawla (1998 and 1999) environmental professionals were interviewed to explore why these people chose environmental careers. She found that formative experiences had sensitised people's awareness of the environment and motivation to conserve it (1998). In decreasing significance, Chawla (1999) found that the factors most often attributed to environmental sensitivity were;

- Childhood experiences in nature
- Experiences of environmental destruction
- Pro-environmental values held by the family
- Pro environmental organisations
- Role models
- Education

These factors were influenced by life stage; with pro environmental organisations, such as community-based ecological restoration groups, the most influential factor for adults (Chawla, 1999).

Psychologists argue that people perform pro-social action due to a number of interacting factors (Clary and Snyder, 1999 and Snyder, 2009). According to Snyder (2009), the most significant factors which promote volunteerism

are: community concerns, career reasons, personal development, esteem enhancement, and social concerns (meeting people/new friends). Further, people are more likely to join a volunteer group and sustain volunteer action if their motivational factors are matched by the practical volunteer action (Clary and Snyder, 1999 and Snyder, 2009).

While the New Zealand literature follows the international trend, by concentrating on the technicalities of ecological restoration, the remaining social research is dominated by reports on how institutions such as the Department of Conservation or Landcare Research-Manaaki Whenua can more effectively interact with and facilitate (Horn and Kilvington, 2004; Allen and Greenaway, 2005; Wilson, 2005; Allen and Apgar; 2007) or establish (Fitzgerald, 1999; Forgie et al., 2001) community based ecological restoration groups. However, a unique study of the experiences of those involved with the establishment of the Karori Sanctuary in Wellington by Campbell-Hunt (2002) provides a contrasting angle as a handbook for community volunteers hoping to establish a restoration project and group from the community level up. The following paragraphs will examine the small body of New Zealand literature which has examined the social dimensions of ecological restoration in New Zealand.

The Greater Wellington Regional Council has commissioned two reports regarding their support of volunteers in the region which examined the benefits volunteers experienced as a member of a community-based ecological restoration group linked to Greater Wellington.

The first reviewed community and interest groups involvement in the restoration of Wellington's regional parks, with an aim to improve how Greater Wellington engages with volunteers (Buchan, 2001). Together with meetings with parks rangers and other Greater Wellington staff, the author interviewed twelve "key volunteers" (Buchan, 2001:3). The report found

that volunteers experienced a range of benefits through working as restorationists including: a sense of achievement or pride, mental stimulation through learning new skills and gaining new knowledge, and a chance to meet likeminded people and increased social skills, along with a host of potential and tangible benefits received by the Greater Wellington Regional Council and its park rangers through involving volunteers (Buchan, 2001).

The second Greater Wellington Regional Council report by Rush and Buchan (2005) evaluated how well the Take Care programme was meeting its intended educational and social outcomes, and how well the programme was "connecting the council with the community and communicating our environmental messages" (Loader, 2005:1). The report's major findings were that: the programme had increased participant's awareness of the environment, had imbued participants with a sense of responsibility for the environment, had enabled participants to gain new skills and knowledge, had provided people with the opportunity to be active restorationists, had an impact on community pride and ownership of the restoration area, had promoted a better impression of the council, was helping to build the capacities of groups to carry on once Regional Council funding concluded, with most participants satisfied with the level of support they received from Greater Wellington (Loader, 2005).

A review by Buchan (2007) examined the social and economic benefits generated by three community-lead conservation projects in New Zealand that received funding from WWF's Habitat Protection Fund. Her report found that the three projects surveyed provided "significant social and economic benefits" (Buchan, 2007:42). These were: social and psychological benefits for volunteers, increased social capital, personal development and increased quality of life, raised awareness of the natural environment, reduced pest damage for commercial growers, increased viability of Māori medicines and culture, the generation of new income

earning opportunities and economic benefits for local businesses (Buchan, 2007:41).

The role of human values in ecological restoration is a research topic of Phipps (2008, 2009). Phipps argues that ecological restoration is done to satisfy ecological, personal, socioeconomic and cultural human values. According to Phipps' (2009), there are a multitude of factors which people value about ecological restoration which satisfy both social needs such as a sense of community and the opportunity to learn and share knowledge and environmental values such as enhancing native biodiversity and removing harm from an area.

A report prepared for Landcare Research examined 6 community-based integrated catchment management restoration projects in Auckland (Scott, 2007). The study examined the lessons learnt regarding "factors which support community engagement, strategies for enhancing community engagement and capacity building and partnerships with local authorities and industry" (Scott, 2007:6). Ultimately, the report demonstrated the depth of knowledge and experience held by these groups, the importance of institutional support and the potential for knowledge sharing and collaboration between groups (Scott, 2007).

The late Diane Campbell-Hunt (2008a) researched community-driven ecological restoration projects which use pest exclusion fencing as an effective method of excluding introduced mammals (Campbell-Hunt, 2008a). Her research looked at the costs involved with this form of pest control and restoration, the role of ecotourism as a strategy to meet these costs and the role of volunteers and the community as these groups become professionalised (Campbell-Hunt, 2008a). Her tentative conclusion was that community-based biodiversity sanctuaries are fundamentally about

changing the relationship between people and the natural world on a local level (Campbell-Hunt, 2008b).

Finally, Samantha Jamieson (2010) recently submitted a thesis which asked if dune restoration in New Zealand is drawing on the available scientific information in the carrying out of restoration projects and whether current restoration efforts were leading to biodiversity gains. Her objectives focused on monitoring, management and biodiversity gains but also explored the motivations for carrying out dune restoration (Jamieson, 2010). Jamieson (2010) used small web-based questionnaire survey to determine why groups carried out ecological restoration of dunes. She found that the number one motivation was foreshore stabilisation and erosion control (68%), followed by plant conservation (28%) and animal conservation (4%) (Jamieson, 2010). While this research provides some indication of why people may become involved in ecological restoration of coastal dunes, comparisons with this research are limited as her questionnaire also included paid workers and only received a relatively small number of responses to both her first questionnaire and a second questionnaire which was used to further probe respondents about monitoring practice and for clarification (Jamieson, 2010).

While these studies form a sound basis for further enquiry, none of the New Zealand surveys above examined the demographics of participants or directly asked for the volunteer's motivations to sacrifice their time by joining a restoration group, nor did they attempt to survey the effort volunteers put into their project or closely examine the environmental benefits volunteers perceived had resulted because of their restoration group's work.

Overall, other than a few reports by local agencies and a handful of academic investigations, in recent times there has been a palpable neglect

of the study of volunteers who are widely responsible for the remarkable amount of restoration work currently underway. This oversight calls for research which re-examines ecological restoration as an act of human agency where volunteers make choices to shape, change and manipulate the ecology of landscapes. This research therefore seeks to understand the geographies of this movement by asking what these volunteers are doing, who these volunteers are and what drew them to this work, and what keeps them coming back.

CHAPTER THREE: AIM, SCOPE, OBJECTIVES, METHODOLOGY AND METHODS

1 AIM

The aim of this research was to explore the geographies of these groups by asking 1)What are these groups doing, 2) Who are these volunteers and what drew them to this work, and 3) What keeps these volunteers coming back?

1.1 SCOPE

As stated above, at the time this research was published Greater Wellington Regional Council supported 35 care groups through the programme Take Care. This programme supports the restoration of not only coastal landscapes but also of wetlands, and river, stream and lake margins. While the restoration of wetlands and riparian margins is important and an area which deserves academic attention, this research examines the responses of volunteers from 12 of the 13 coastal community-based ecological restoration groups[5] funded by the Take Care programme (during the period of data collection) to enable a thorough investigation of the group's members and their work.

1.2 OBJECTIVES

For clarity, the objectives of this thesis have been divided into 3 sections;

Section 1 – What are these groups doing?

- Objective 1: How many hours and what types of work are these groups doing?

Section 2 – Who are these volunteers and what drew them to this work?

- Objective 2: What kinds of people volunteer for these groups?

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[5] Due to time constraints I was unable to distribute questionnaires to the volunteers of Places for Penguins, Tarakena Bay, although I was able to interview their coordinator, Jenny Lynch.

- Objective 3: Why did respondents join these groups?

Section 3 – What keeps these volunteers coming back?

- Objective 4: What skills and knowledges have been developed within these groups?
- Objective 5: What social benefits do members of these groups perceive their group generates?
- Objective 6: What environmental outcomes do members perceive their group generates?

1.3 METHODOLOGY

This research was built on the foundations of an interpretive social science research paradigm. This assumption acts as the counter to the positivist research paradigm (Davidson and Tolich, 2003). While my thesis is concerned with observable phenomena and factual information commonly used in positivist research, ultimately the findings of this research must "resonate or feel right to those who are being studied" if it is to be considered valid (Davidson and Tolich, 2003). This research therefore sits within the environmentalism approach to geography, which seeks to appreciate the interactions between the physical world and the human agent (Johnston, 1986). As a research project which is people centred, the values, opinions and beliefs of participants are considered as important as facts and observations. While I have attempted to collect, collate and represent my findings to be reliable in the sense that it could be repeated across time and participants, the variability, nuanced understandings and meanings and subjectivity of the participants are also important if we are to properly understand the volunteers of community-based ecological restoration groups.

1.4 METHODS

The intention of this thesis is to understand what the volunteers of community-based ecological restoration groups supported by the GWRC programme Take Care are doing, who they are and why they are doing it, through the use of multi method research. This research is predominantly exploratory as much of the information, especially the tasks carried out, demographic profiles, views and opinions have not been extensively studied, especially in a New Zealand context. It is hoped that this research will help to validate the Take Care programme as valuable and worthwhile, both socially and environmentally, and an interesting insight into the views, opinions and demographic profile of volunteers, some of which may assist volunteer and council facilitators to better understand how to effectively work with these volunteer groups.

Information was collected with three methods. Information was gathered by participant observation, by working as a volunteer with 12 of the 13 groups, in some cases very extensively (qualitative), with a semi-structured interview with the 13 group coordinators (qualitative and quantitative) and with a volunteer member questionnaire distributed to 12 of the 13 groups in this study (qualitative and quantitative).

1.4.1 PARTICIPANT OBSERVATION

Participant observation is a research method most commonly associated with social and cultural Anthropology. According to Rosman and Rubel (2004:G-5) participant observation is "the anthropological method of collecting data by living with other people, learning their language, and understanding their culture." Although this method is traditionally used in cultures and societies which are foreign to the researcher, it relates well to my research as I worked closely along side many of the groups as a volunteer. By participating with these groups I learnt the language of restoration, such as common plant names and technical and botanical

terms. I learnt how to act appropriately as a restorationist, learning how to perform common tasks like planting, releasing, mulching, pricking out seedlings and potting up plants, which was foreign to me at the beginning of my research. I shared morning tea with the groups and was even welcomed into the homes of many people sharing cups of tea and getting to know my participants on a personal level. I attended community and committee meetings and mid winter swims with some groups. As I engaged with the culture of community-based ecological restoration I began to identify with it which made it difficult and uncomfortable to detach as an observer and researcher at times. Rosman and Rubel (2004) identify this issue as the main challenge of participant observation. They argue that it is impossible to interact with others without developing an inherent bias in ones observations and research. Therefore, it can be difficult to look at things objectively when you are no longer a detached stranger, but in many cases a fully fledged member of the group (Rosman and Rubel, 2004). Despite this challenge, I believe this method was the most important and powerful as it allowed me to learn a great deal about both the practicalities of these groups and the culture of their members, as well as the personal rewards I received through getting to know many people very well and now being able to count them as friends.

1.4.2 COORDINATOR SEMI-STRUCTURED INTERVIEW

I conducted semi-structured interviews with the 13 coordinators of the coastal community-based ecological restoration groups to gather information about the age of the groups, their motivations, focuses, members, methods, funding, goals and challenges.

I chose to only interview the coordinators of these groups because as representatives of their respective groups, they were most likely to have the information I sought readily available to them and be capable of acting as "key informants for [my] particular communities of interest" (Tolich and Davidson, 2003:131).

In most cases I made first contact with the coordinators via email or telephone call, informed them of my intentions to research their group and offered to come along and help as a volunteer. I had volunteered with most groups for a couple of months before I conducted the interview. This meant I had developed a good rapport with most coordinators, who were extremely accommodating in making time to do the interview with me. 11 of the 13 interviews were solely done face to face, while 2 coordinators chose to fill out the questions I intended to ask (which I had provided them with at least a week before the interview) and I returned for a face to face session with further questions or requests for clarifications.

Interviews were recorded with a Dictaphone. An approved Ethics Approval and Consent Form was signed before each interview and stated that the interview was neither anonymous nor confidential, but made clear that participants were able to withdraw the information they provided in the interview at any time before the data collection and analysis was complete.

The interviews were conducted in a semi structured format based on 27 questions that were asked of all 13 coordinators. Due to the semi structured nature of the interview however, further questions were commonly asked during the interviews for clarification or to encourage elaboration. This technique allowed flexibility for me as the researcher to "capture unexpected issues and information" (Barbour and Schostak, 2004:42) and also allowed the participant to branch out in their responses to discuss issues that they felt were important to them, their group and my research.

While the flexibility of this method was a key advantage, semi structured interviews where not all questions are asked every time, can reduce "the conditions for generalization (sic) across populations" (Barbour and Schostak, 2004:42). Further, Barbour and Schostak (2004:42) argue that

interviews in general are an impositional research strategy which can "reinforce the power of the interviewer over that of the interviewee and create the suspicion that the other is 'hiding something' which must be found out." Issues of meanings and their interpretations also problematise interviews as a research method (Barbour and Schostak, 2004). As Eyles (1988:7) states "while people obviously know what their actions mean to themselves, they may not always be clear on what they mean to others." Therefore, these types of surveys should be undertaken "in circumstances where people seem able to communicate what they are doing and what it means" (Eyles, 1988:7). To mitigate the problems inherent to this method I asked the 27 questions to all coordinators, provided the questions prior to the interview so interviewees could prepare how they would answer my questions, allowed the interviewee to pick the time and place for the interview, returned for clarification when needed and provided a transcript of the interview so interviewees could edit, clarify or elaborate on their original responses.

In this report I have used the information gathered in these interviews to convey and elaborate important issues which became apparent in the course of this research. At all times I have endeavoured to present their responses in an objective, contextual and fair way.

1.4.3 VOLUNTEER MEMBER QUESTIONNAIRE

Finally, a questionnaire for volunteer members of coastal community-based ecological restoration groups was administered. The questionnaire was handed out at working bees with a stamped addressed envelope so that the questionnaire could be easily returned, free of charge. The majority of questionnaires were handed out by me personally, however a number were very kindly handed out by coordinators and by a Greater Wellington facilitator at working bees that I was unable to attend or to members who weren't present. Questionnaires were marked to identify which group the

respondent belonged to, however this was the only form of identification in the questionnaire which was otherwise anonymous.

The purpose of the volunteer member questionnaire was to find answers to what work these volunteers were doing, who they were and why they choose to (objectives 1-6 above).

The sample size of 105 returned questionnaires gave me a response rate of just over 80% (131 were distributed). Handing out questionnaires to volunteers at working bees was an effective method as most people knew that I was a student researching their group and had got to know me, which encouraged a degree of trust and a willingness to take part in my study. Working along side volunteers also gave them opportunity to ask me questions about the questionnaire and seek clarification. Most importantly, I believe the mutual respect gained by working alongside the volunteers significantly contributed to my unusually high response rate. My response rate was also helped by coordinators of these groups, many of whom actively endorsed my research and encouraged their members to return their questionnaires and to whom I owe a great deal of thanks.

The copy of the questionnaire was sent to the 13 coordinators for critique before it was administered to check that the questions were clear, uncomplicated and easy to answer. A number of amendments were made in light of the helpful and astute critiques that I received. The final questionnaire was intended to take about 15 minutes to complete.

According to Tolich and Davidson (2003:133), questionnaires are a useful research tool as "they take a 'snapshot' of a group's attitudes, values or behaviour at one point in time." They also assume that "it is the actual research participants who are the experts" and it is from them that we can

learn the most important information (Bartley, 2003:189). However questionnaires can be costly in terms of printing and mailing costs, are often slow to be returned, are unable to be clarified or explained in person and typically have low response rates (Bartley, 2003). I was lucky enough to receive a $500 grant from the School of Geography, Environment and Earth Sciences at Victoria University which was used for printing and some mailing costs, I also received a generous donation of postage paid envelopes from a member of the Waikanae Estuary Care Group, a group in this study. As stated above, members could come to me for clarification during working bees and the mutual respect gained by working alongside volunteers certainly helped in gaining such an unusually high response rate with this research medium. However, by only handing out questionnaires at work bees I limited the type of members this questionnaire could reach, such as inactive or sporadic volunteer members. In some cases coordinators sent out questionnaires to members who weren't present, which helped to capture less active members of these groups.

To my knowledge the volunteer member questionnaire is the largest survey of volunteer members of community-based ecological restoration groups in New Zealand. Buchan's 2001 report, commissioned for the Greater Wellington Regional Council, interviewed 12 volunteers as part of her investigation into volunteers in Greater Wellington's Regional Parks. The GWRC report mentioned earlier interviewed 33 members to determine how well the Take Care programme was meeting its educational and social outcomes (Loader, 2005). Buchan (2007) also examined the social and economic benefits generated by 3 community-lead conservation projects in New Zealand by conducting field visits of 2-3 days where staff, participants and other key stakeholders were interviewed. Follow up telephone interviews also took place (Buchan, 2007) however the exact number of volunteers interviewed is unclear and unlikely to be more than 50 (about 30 people identified as volunteers are directly quoted in the report). Lastly, Jamieson's (2010) report conducted a small web based questionnaire which included questions about volunteer motivations to restore coastal dunes. It

received 28 responses to the initial questionnaire and 10 to the follow up questionnaire used to clarify answers and probe further (Jamieson, 2010).

My questionnaire asked 16 questions about the participant's personal involvement in their respective coastal community-based ecological restoration group, as well as personal details about their age, gender, nationality, ethnicity, qualifications and occupation.

The questions 5, 6 and 7 in my questionnaire (below) were similar to those asked in the GWRC report which did not solely focus on coastal restoration groups (Loader, 2005). These questions were useful because if the responses I elicited were similar to those in the GWRC report, it would validate my findings and would also suggest that the responses I received to these questions would be representative of other community-based restoration groups.

5: Have you learnt new things or developed new skills from being a member of a coast care group – if yes, what new things have you learnt/or what new skills have you developed?

6: Have your attitudes towards conservation and environmental issues in general, changed after becoming a member of the group – if yes, how?

7: Do you think the group has impacted the wider community – if yes, how?

An opportunity for the validation and generalisation of my findings was repeated with question 4 (below), which asked about social benefits, similar to those explored in Buchan's (2007) report which again did not solely focus on coastal restoration groups.

4: Do you feel you receive social benefits from being a member of this group – if yes, what social benefits?

Finally, to my knowledge the remaining questions about member's motivations and involvement have not been formally asked of volunteer members of any community-based ecological restoration group in New Zealand. Nor have any questions been formally asked about the gender, age, nationality, ethnicity, qualifications or occupation of members of these groups. These questions are important as they fill a current knowledge gap in the literature.

1.5 POSITIONALITY AND DISCIPLINARY CONTEXT

As part of my involvement with these groups, I was privileged enough to be nominated for the position of committee member for the Waikanae Estuary Care Group and also successfully applied for a job as the community coast care assistant for the Hutt City Council. As a member of many of the groups and a paid support person to those in the Hutt City, my position as a researcher is clearly biased and open to subjectivity. While I have endeavoured to present my findings in a fair and unbiased way, my personal involvement with community-based ecological restoration of Wellington's coasts, the passion of volunteers doing this work and the results they are achieving, makes me sure that these groups are vitally important to the natural character of Wellington's coastal landscapes.

The findings of this study are of most relevance to three main areas of study; geography, ecology and environmental policy. This research pertains to geography as it examines both how people interact with natural landscapes and the meanings, ideas and opinions they gain through this interaction. It is relevant to ecology as it examines the methods these groups use to restore coastal ecologies and the success they have found in their methods. Lastly it concerns environmental policy, as the key feature of these groups is the sponsorship they receive from the Take Care programme which stems from GWRC's environmental policy. This study hopes to show the importance and astuteness of institutional assistance, as

an example for other institutions which are yet to develop targeted sponsorship programmes to support community-based ecological restoration initiatives.

1.6 SUMMARY

Participant observation, coordinator semi-structured interviews and volunteer member questionnaires have helped me gain an insight into what these groups are doing, who these volunteers are and why they choose to volunteer for these groups. An examination of these questions allows me to collaborate with available evidence as well as to fill gaps in the literature about volunteer's motivations and opinions as well as discovering who these volunteers are. Ultimately this research hopes to illuminate the great work Take Care is supporting by providing insights into the social worlds of ecological restoration, in the hopes of strengthening the movement further.

FIGURE 3 GRAEME AND KERRYN WORKING ON THE BEACH WITH THE WAIKANAE ESTUARY CARE GROUP. PHOTO TAKEN BY AUTHOR. JUNE 2009.

> *"Conservation volunteers give many thousands of hours each year to undertake a variety of activities, from track maintenance and bird and plant surveys to office duties, such as records management. All of this work is very important to the future of this beautiful country of ours."*
>
> - Department of Conservation (2001. Quoted in Bell, 2003:4)

Before we begin to ask who these volunteers are and why they volunteer for these groups, it is important to examine the work that these volunteers are doing. As this chapter will demonstrate, volunteers of community-based ecological restoration groups carry out a staggering amount of volunteer work for their group. When measured, the time spent by environmental volunteers confirms that their efforts are substantial (Leslie, et al., 2004; Hopkins-Murphy and Seithel, 2005). However, beyond a general acknowledgement of the vast commitment to environmental volunteering by groups such as these, few studies have attempted to quantify the amount of work being done. To quantify how many hours and what types of volunteer work was being carried out by the groups in this study, both volunteer member questionnaire respondents and coordinators were asked to report on these issues.

1. METHOD

In the volunteer member questionnaire respondents were asked to recall:

"What tasks do you carry out for the group?"

Responses were collapsed into 21 distinct codes and will be discussed below.

Respondents were also asked to mark with an 'x' approximately how many hours per month, from less than 1 to more than 10 hours in two hour intervals, they spent working on their group's project. If they marked that they worked more than

10 hours per month they were asked to specify exactly how many hours they worked.

Group coordinators were asked in the interview how regularly their group scheduled work on the project and how long volunteers usually worked at a scheduled working bee. They were also asked to approximate the average volunteer member attendance to these scheduled working bees.

The responses to questions asked of the group coordinators and the volunteer questionnaire respondents are limited in their validity, as they rely on people's ability to accurately recall the time spent and the work done on the project, which is reasonably difficult (Davison and Tolich, 2003). Therefore the validity of the following findings is constrained, as responses may not accurately reflect the actual amount of time spent and work done by respondents and these groups more widely.

This research was restricted to these proxy measures due to the time and resource constraints of both me as the researcher and those involved in this study. Overall, I was mindful of the busy lives of my research participants and felt that asking volunteers to keep detailed records for the purposes of validity was inappropriate and would require an excessive commitment. While both the questionnaire and interview responses are only proxy measures, they provide an indicative gauge of the amount and types of work that was being carried out by the groups involved in this study.

2. RESULTS

2.1.1 WORK DONE

The responses given by respondents regarding what types of work they did for the group were so varied that 21 different codes had to be developed to reflect this

diversity. The graph below shows that the majority of the codes were carried out by very few respondents and were often forms of work that required specialised skills or knowledge. Examples of these are; *fundraising, pest control* and *seed collection,* which all require a specific set of skills, limited to a few respondents of this study. Generally, the less specialised codes were mentioned more regularly. As one would expect the most often cited codes were *nursery work, plant care: weeding and releasing,* and *planting*.

TABLE 1.

Work Done by Volunteer Respondents

Category	Percentage
Equipment maintenance	1%
Monitoring	1%
Fundraising	2.1%
Meet and greet volunteers	2.1%
Meetings	2.1%
Liaise with council	3.1%
Seed collection	3.1%
Pest control	3.1%
Publicity	3.1%
Litter pickup	4.2%
Supervising	4.2%
Providing food	5.3%
Newsletter	6.3%
Plant care: other*	6.3%
Coordinating the group	7.4%
Building/fencing	9%
Committee work	11%
Admin	14%
Nursery work	30%
Plant care: weeding/releasing	67%
Planting	74.5%

*The code *Plant care: other* refers to work such as staking plants or watering established plants during dry spells.

2.1.2 HOURS WORKED: QUESTIONNAIRE RESPONDENTS

The table below demonstrates the frequency at which respondents cited each option regarding average hours worked per month. As the table shows, most

respondents worked less than 5 hours per month on their group's project. The frequency of options cited was converted into percentages when collapsed into the responses of men and women to make comparisons valid, as slightly more women responded to the questionnaire.

TABLE 2 HOURS WORKED BY FEMALE AND MALE RESPONDENTS

Hours Worked	Frequency cited[6]: total	Percent cited: female	Percent cited: male
less than 1	10	7.2%	12%
1 to 2	13	9.1%	16%
2 to 3	10	9.1%	10%
3 to 4	21	21.8%	18%
4 to 5	10	10.9%	8%
5 to 6	6	7.2%	4%
6 to 7	2	0%	4%
7 to 8	4	1.8%	6%
8 to 9	4	7.2%	0%
9 to 10	7	7.2%	8%
more than 10	15	14.5%	14%

On average, 38.1% of female respondents reported working more than 5 hours a month. This was slightly higher than their male counterparts at 36%. For both sexes, the option *3-4 hours per month* was most commonly cited (see tables below).

TABLE 3
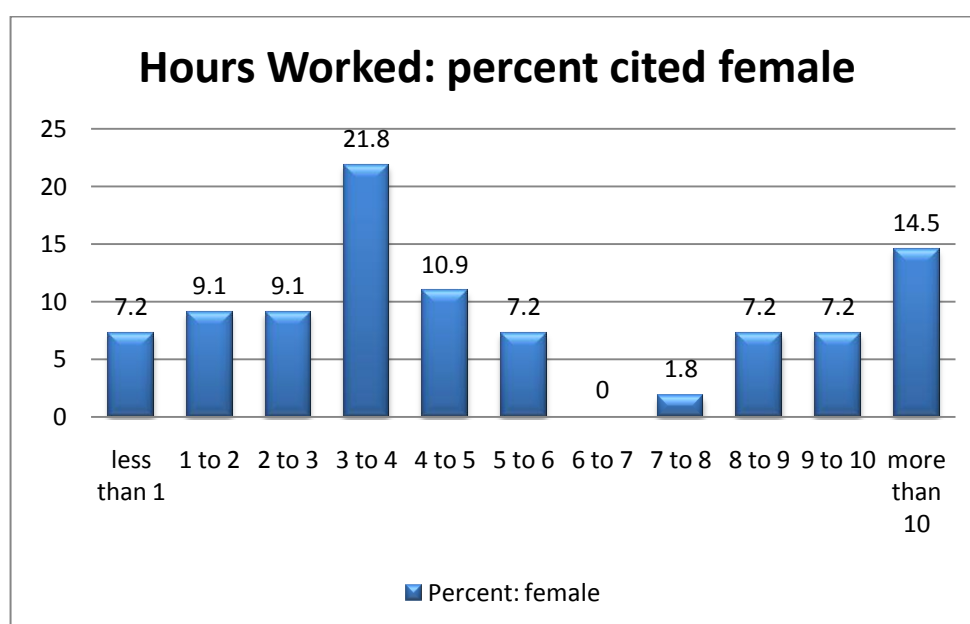
_____
[6] There were two non responses to this question.

TABLE 4
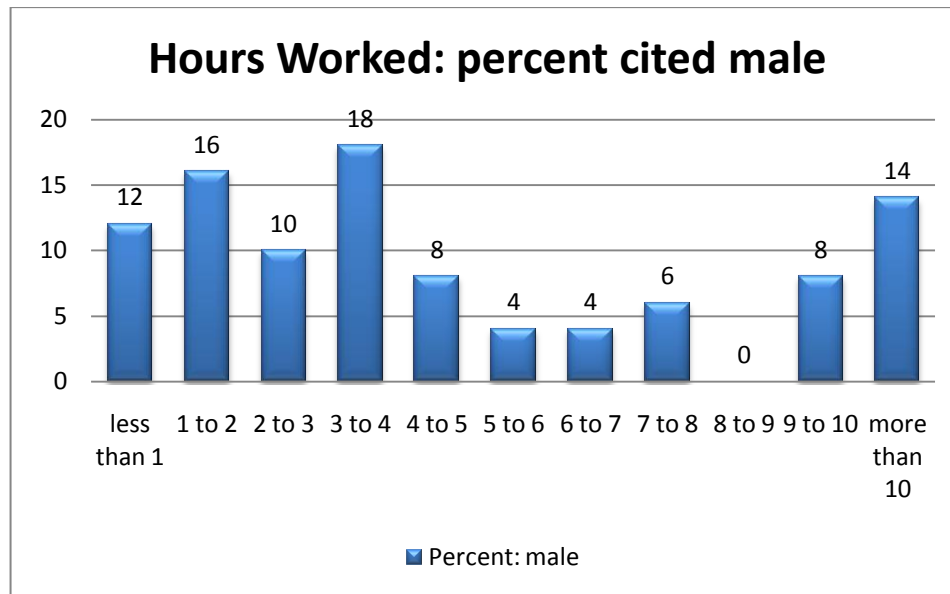
The total hours spent by respondents per month was calculated by multiplying the average amount of time spent by respondents per month[7] on work for their respective groups, by the frequency of respondents citing this option. For example, when respondents cited they usually worked 1-2 hours per month I multiplied the number of respondents citing this option by 1.5 hours (half way between 1 and 2 hours). Using this method I calculated that per month questionnaire respondents roughly worked about 634 hours, or 6,944 hours per year.[8]

2.1.3 HOURS WORKED: GROUPS TOTAL

The table below illustrates the answers given by group coordinators regarding the regularity, duration and average attendance rates to work scheduled for their group. The regularity of work scheduled varies greatly from group to group, as does the average attendance, while the duration of work on the project is reasonably similar.

TABLE 5

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[7] For those who marked over 10 hours per month they were asked to specify exactly how many hours they spent. Of the 15 respondents who marked over 10 hours per month the specific hours stated were; 25, 11, 11, 23, 18, 20, 20, 11, 12, 15, 21,16, 27.5, 29, and 30 hours/month.
[8] If respondents worked roughly the same amount of hours every month for 11 months, factoring in that most groups have a break for at least a month over summer.

Regularity, Duration and Average Attendance of Work Scheduled for Each Group			
Group	Regularity	Duration	Average Attendance
Riversdale	4-5 times/year	about 5 hours	6
DUNE	6-7 times/year	3.5 hours	5
EDPG	1st Saturday of every month (about 11 times/year)[9]	2 hours	10
Waikanae Dunes	1st and 3rd Tuesday of every month (about 22 times/year)	2 hours	15
Waitohu	Every Monday (about 48 times/year)	1.5 hours	9
Island Bay	9 times/year	2.5 hours	9
Onehunga	3 to 4 times/year	2-3 hours	6
NUKP	once a week[10] (48 times/year)	2 hours	8
Petone	Twice a month (about 22 times/year)	2 hours	6
Waikanae Estuary	Once a fortnight, nursery crew every Thursday, committee about once every two months (about 78 times/year)	2.5 hours	15
Tarakena Bay	Once a month (11 times/year)	3 hours	30
QE Park	Once fortnight between May-August, nursery crew every Wednesday, committee (62 times/year)	3 hours	18
Pekapeka	No work scheduled as yet[11]	N/A	14

Using these approximate measures, I was able to roughly calculate the total person hours spent by all groups in this study. While the total hours spent by these groups is substantial, it fails to include the numerous acts of individual volunteers which are not usually noted, such as organising equipment before and after working bees, newsletter writing, leaflet dropping and other small but necessary jobs which are frequently carried out.

[9] Most if not all of January is taken as a holiday by all groups and is therefore not included here or elsewhere in calculations of how regularly work is scheduled/year.

[10] According to Nga Uruora's coordinator, they aim to have a volunteer day once a week. This is supplemented by work in the group's two nurseries and a small group of paid workers and volunteers who work up to 3 days/week on the coastal escarpment. Due to the complicated nature of this extra work it is not included and therefore the actual hours worked is largely underrepresented by this table.

[11] At the time of the interview the group was yet to have a volunteer day as it was just forming.

TABLE 6

Group	Hours Spent/Year
QE Park	3348
Waikanae Estuary	2925
Tarakena Bay	990
NUKP	768
Waikanae Dunes	660
Waitohu	648
Petone	264
EDPG	220
Island Bay	202.5
Riversdale	135
DUNE	113.75
Onehunga	52.5
Pekapeka	N/A
	Total: 10,326.75

The total of 10,326.75 hours per year represents a staggering amount of hard work and dedication from these groups.

3. DISCUSSION

These findings show that the Take Care programme receives a great deal of action from its investment. However, to effectively represent the significance of this effort, it makes sense to convert it to dollar terms. In their own calculations, both Greater Wellington and the Ministry for the Environment set the value of one hour of voluntary work at $20. Using this as the standard rate, the combined hours worked of questionnaire respondents was worth about $12,680 per month, or $138,880 per year. Using the total number of hours worked per year by the groups in this study, at a rate of $20 per hour, per person, about $206, 535 worth of work a year was being undertaken.

This is especially significant when it is noted that the entire Take Care budget is only $250,000 per year to support 35 different groups. While these 13 coastal restoration groups generate over $200,000 worth of work per year, they receive

only a fraction of this value back in their Take Care grant[12]. On average these groups receive 3,800/year[13] or $49,400 of the Take Care budget, but in return carry out work to the value of $17,211.25/year, around 4.5 times more value than they receive from their Take Care grant. This figure clearly demonstrates that the Greater Wellington Regional Council receives an impressive return from their funding of these groups.

4. CONCLUSION

Overall this chapter has shown that questionnaire respondents carry out a variety of work which range from tasks which require specialised knowledge to tasks which require only a basic understanding of certain concepts. Generally, less specialised tasks were cited more often than those which required specialised knowledge or skills.

Female questionnaire respondents were more likely to spend more time volunteering on their project compared to male respondents. Each gender most commonly cited working on average 3-4 hours per month.

In total, questionnaire respondents represented nearly 7,000 hours per year of voluntary work. The wider groups in this study which the questionnaire respondents represent reported over 10,000 hours of voluntary work per year. When converted into dollar terms the monetary value of this work is substantial and only a fraction of this value is reciprocated in Take Care grants. The varied tasks volunteers carry out for their groups and the magnitude of volunteer effort discussed in this chapter has provided some background into what these groups do. With this information as a backdrop we can examine who these volunteers are and what drew them to these groups in the first place.

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[12] This shortfall is compensated for by other sources such as resources and support from territorial local authorities, miscellaneous grants, donations and prizes, and for the Friends of Waikanae Estuary and Nga Uruora, direct and substantial grants from the Ministry for the Environment's Sustainable Management Fund.

[13] If $19,000 is split evenly over 5 years. The actual payment per year varies according to the stage each group is in, in their 5 year Take Care grant. Each group receives a maximum of $19,000 over 5 years which is broken down into different amounts according to the year the group is in: Year one is a maximum grant of $3000, year two, three and four is a maximum of $5000, and year five is a maximum of $1000, with a maximum total of $19,000 over 5 years for each group.

FIGURE 4 THE PUKERUA BAY ARM OF NGA URUORA PLANTING A QEII COVENANT ON A FARM ABOVE PUKERUA BAY. PHOTO KINDLY PROVIDED BY GAY HAY. TAKEN JUNE 2009.

> *"People ask, "Who are these people, who are these volunteers?" and the thing is that we just don't know."*
>
> – Rosie Doole, Community Liaison Officer, Hutt City Council (pers. comm., 2009).

Perhaps, because anyone who has spent time with community-based ecological restoration groups will have a general idea of what kinds of people volunteer for these groups, there has been no New Zealand research on this subject. However when examined, the demographic profile of these volunteers is an important factor which may work to draw certain types of people to this work. Understanding who these volunteers are may also allow for potential recruits to be identified. In this chapter the demographic information of volunteers captured in my volunteer member questionnaire will be presented and discussed.

1. METHOD

To answer the question, 'what kinds of people volunteer for community-based ecological restoration groups?' my volunteer member questionnaire asked respondents to cite their gender, age, nationality, ethnicity, level of education and occupation (including past occupation for those who indicated they were retired) and if respondents were involved with any other community groups or activities. The information I received from the volunteer member questionnaire was compared with Statistics New Zealand 2006 Census data on *2006 Census Boundary Areas* and *Quick Stats about Other Voluntary Work* to determine whether these volunteers represented a distinct group in their communities or whether they were representative of their communities.

Census Boundary Areas are part of the Statistic New Zealand's Census 2006 *Quick Stats About a Place*. *Quick Stats About a Place* provides "Overviews of New Zealand's

communities in geographic and local government areas" (Stats NZ, accessed 15/12/2009). To qualify as the corresponding boundary area, the boundary area had to contain most if not all sites on which the corresponding group worked. There were two exceptions to this method. First, Nga Uruora has sites ranging over a number of boundary areas (Clarkson, 2009). While much of Nga Uruora's activity is based at Paekakariki, the boundary area, 'Pukerua Bay' was chosen for this group as there are a distinct group of volunteers from Pukerua Bay who volunteer in Pukerua Bay for Nga Uruora, and this is where questionnaires were handed out for that group. The second exception is the boundary area for Queen Elizabeth Park. Because of the size of the park and the fact that much of the work there has been done in the park's interior, there is no one community which clearly includes most if not all of this group's work sites. A further issue is that many of the Friends of Queen Elizabeth Park's members come from a range of communities to volunteer for the group (Lancashire, 2009). Despite this, many of the group's main supporters come from Raumati South and after consulting with the Chair of the Friends Committee, John Lancashire, it was agreed that Raumati South was the most appropriate corresponding boundary area to use for comparison.

Statistics New Zealand's *Quick Stats about Unpaid Work* provides information about unpaid work 2006 Census respondents participated in, in the four weeks prior to Census night. Statistics New Zealand categorises unpaid work into three categories; 1) Unpaid work within the household, 2) Unpaid work outside own household, and 3) Other voluntary work. While category 1 and 2 refer primarily to childcare and caring for the ill and disabled, category 3 refers to "unpaid work for or through any organisation, group or marae" and is therefore the most suitable category for comparison (Stats NZ, accessed 16/12/09).

My results along with their comparisons to relevant Statistics New Zealand 2006 Census results are presented below.

2.1 GENDER OF VOLUNTEERS

As the graph below shows, the overall ratio of male to female respondents is remarkably even and reflects the ratio of men to women in the Wellington Region which is also reasonably even, with slightly more women than men (Stats NZ, accessed 16/12/09).

TABLE 7

Gender of Respondents

	Male	Female
Gender of Respondents	50	54
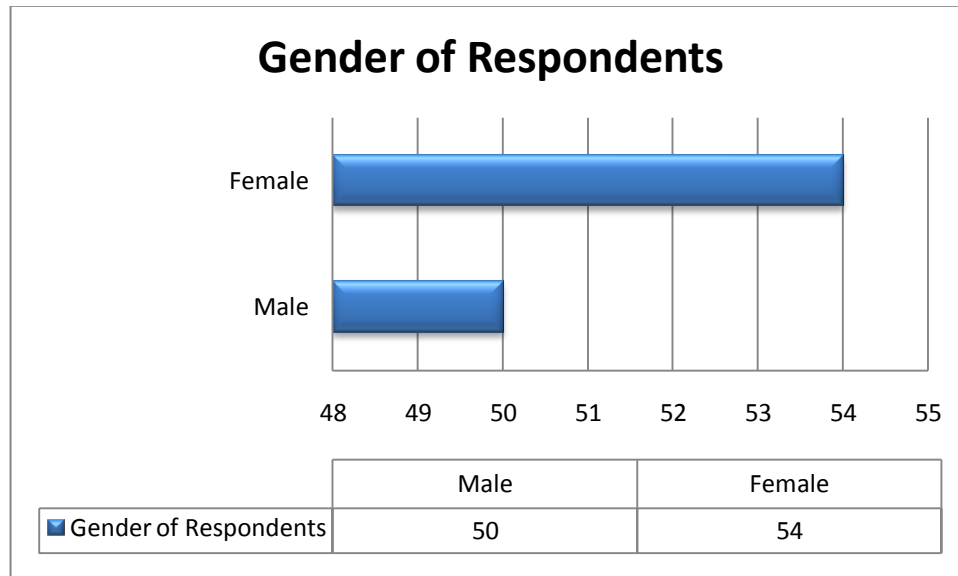
The even ratio of men to women volunteering for these groups is also consistent with 2006 Census information about voluntary work in New Zealand (Stats NZ, accessed 16/12/09). According to Statistics New Zealand (accessed 16/12/09), 13.9% of men and 16.8% of women participated in voluntary work in New Zealand four weeks prior to 2006 Census night. While Kollmuss and Agyeman (2002) found that being a woman had a positive effect on rates of pro environmental behaviour, the data suggests that volunteering for community based ecological restoration groups is an activity which is attractive to both genders.

2.2 AGE OF RESPONDENTS

The age of respondents ranged from 23 to 86 with the overall average age being 57.13 years and the overall median age being 60.5 years.

TABLE 8

Respondents by Age Group
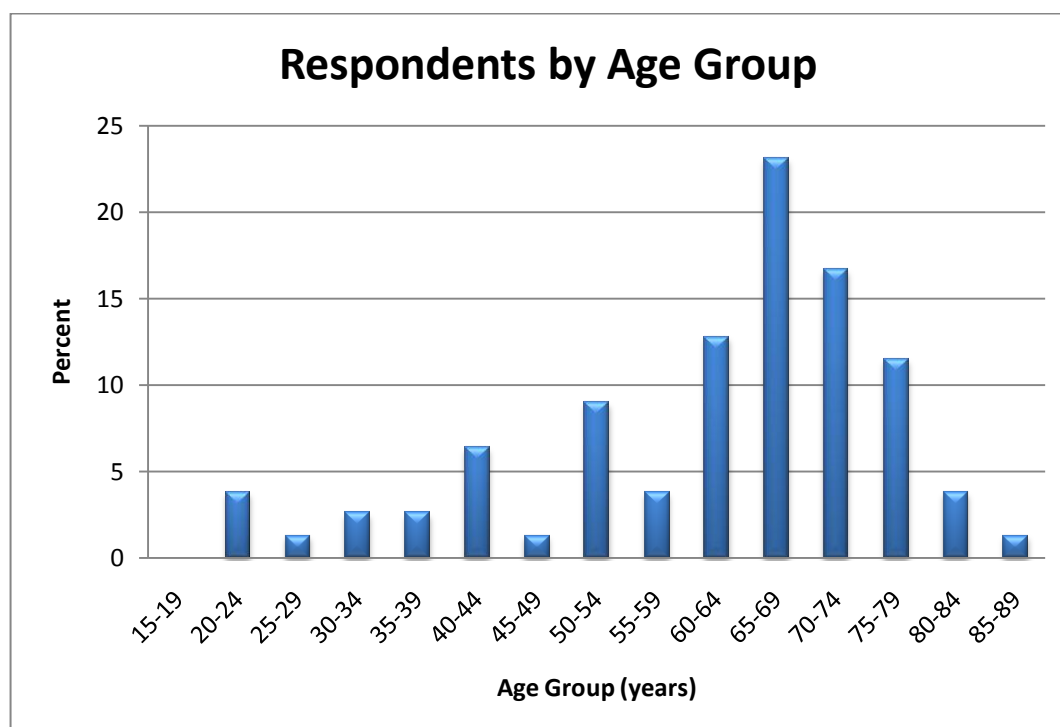
According to the 2006 Census 19% of those in the age group 60-64 participated in volunteer work, making them the most likely to volunteer out of all age groups in New Zealand (Stats NZ, accessed 16/12/09). In my research, those in the 65-69 age group were most common at 23.1%, followed by those in the 70-74 age group with 16.7%, with those in the 60-64 age group third at 12.8%. Both my research and that of the 2006 Census suggest that "rates of voluntary work typically increased with age" (Stats NZ, accessed 16/12/09).

By group, the mean age ranged from 39 years for the group Onehunga Bay Beach Care, who work at Whitireia Park in Titahi Bay, and 69.5 years for the Group Waikanae Estuary Caregroup, who work primarily at the northern end of Paraparaumu Beach. Half of the groups mean age was less than 65 years, while the other half was more than 65 years.

TABLE 9

Average Age of Respondents by Group

Group	Average Age of Respondents
Waikanae Estuary	69.5
Petone	69
Riversdale	69
Waitohu	68.8
Waikanae Dunes	68.4
QE Park	68.3
EDPG	62.5
DUNE	53.8
Pekapeka	49
NUKP	48.7
Island Bay	48.5
Onehunga	39
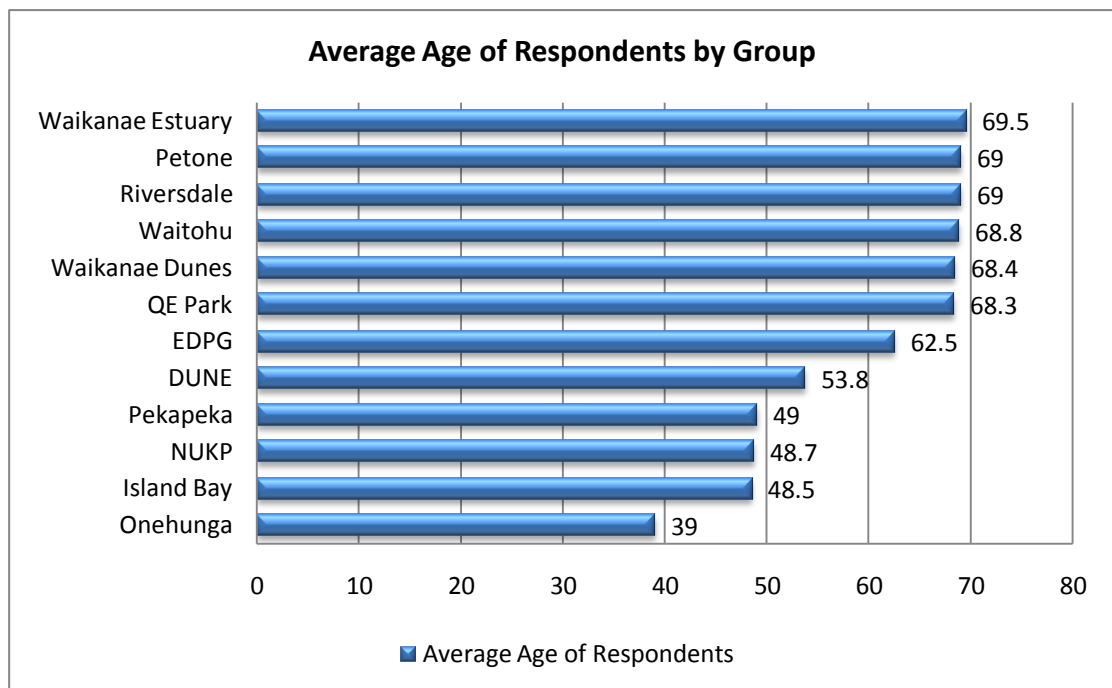
While information about mean ages of the respective communities in this study was unavailable, using 2006 New Zealand Census data I was able to compare the percentage of respondents per group who were over 65 years old, with the number of residents over 65 years in the corresponding census boundary areas.

TABLE 10

Percentage of Respondents 65 Years+ Per Group Compared with Residents 65 Years+ in Corresponding 2006 Census Boundary Areas

Group	Percentage of Residents 65 Years and Over in Corresponding 2006 Census Boundary Area	Percentage of Questionnaire Respondents 65 Years and Over
Pekapeka - Pekapeka	14.3	0
Oku-Island Bay - Island Bay East	8.9	16.7
Onehunga Bay - Titahi Bay North	11.2	20
DUNE - Paraparaumu Beach North	17.6	25
NUKP - Pukerua Bay	8	28.6
EDPG - Eastbourne	14.4	50
Waikanae Dunes - Waikanae Beach	19.9	58.3
Waitohu - Otaki	22.9	66.7
Riversdale - Whareama	7.7	75
Petone - The Esplanade	11.1	75
QE Park - Raumati South	10.8	83.3
Waikane Estuary - Paraparaumu Beach North	17.6	85.7

The bar graph above shows that in all but one group, Pekapeka Dune Restoration Group, the number of respondents over 65 was significantly higher than the number of residents over 65 in the corresponding 2006 Census Boundary Area.

TABLE 11

Birthplace of Respondents

New Zealand   The UK and Ireland   USA
Malaysia   Australia   Finland

1%
1%
1%
1%
2%
16%
78%
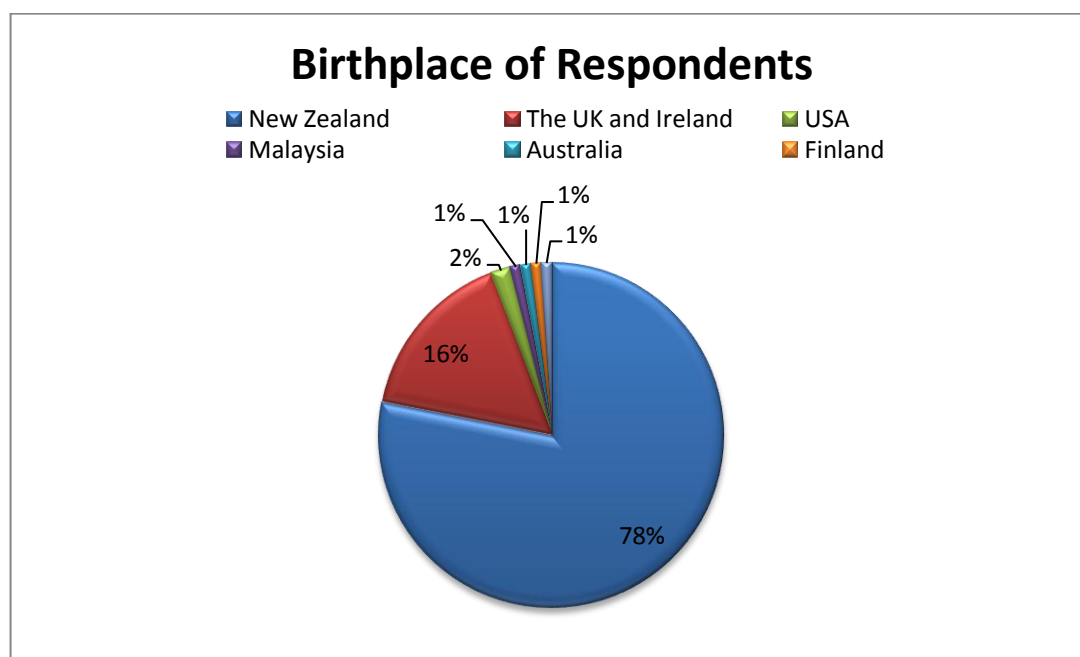
The pie chart above demonstrates the birthplace of all respondents in this research. Over three quarters of respondents were born in New Zealand, with the UK and Ireland being the most common place of birth for those respondents not born in New Zealand. This is representative of 2006 Census data which also cites the UK and Ireland as the most common birthplace of those not born in New Zealand for the Wellington Region (Stats NZ, accessed 15/12/09).

2.4 ETHNICITY OF RESPONDENTS

TABLE 12

Ethnicity of Respondents

2%

- Pakeha/NZ Euro
- and Maori

98%
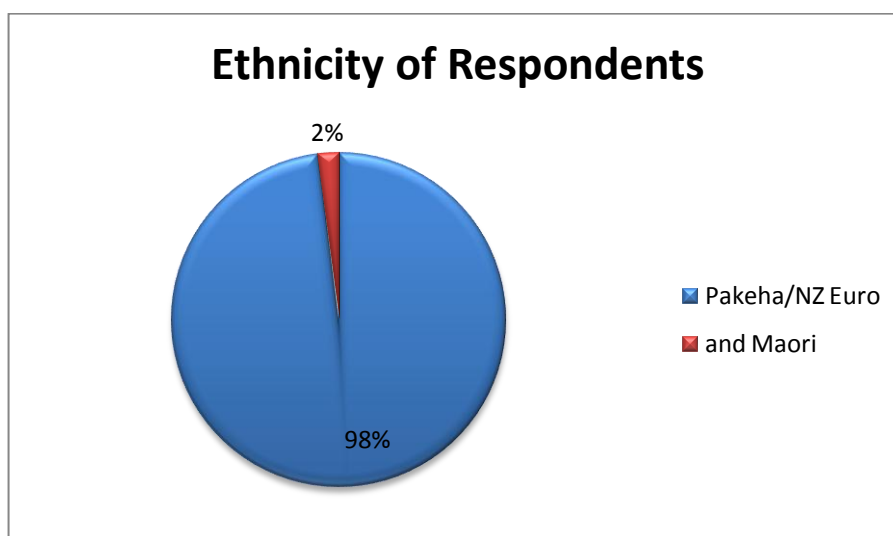
The Ethnicity of questionnaire respondents was overwhelmingly cited as *Pakeha/NZ European*, with only 2 respondents citing *Pakeha/NZ European* and *Māori* as ethnicities that applied to them. This data is not representative of the Wellington Region, as demonstrated in the chart below.

TABLE 13

Ethnic Groups in Wellington Region, 2006 Census

- European
- Maori
- Pacfic Peoples
- Asian
- Middle Eastern/Latin America/African
- Other

1%
9%
8%
7%
12%
63%
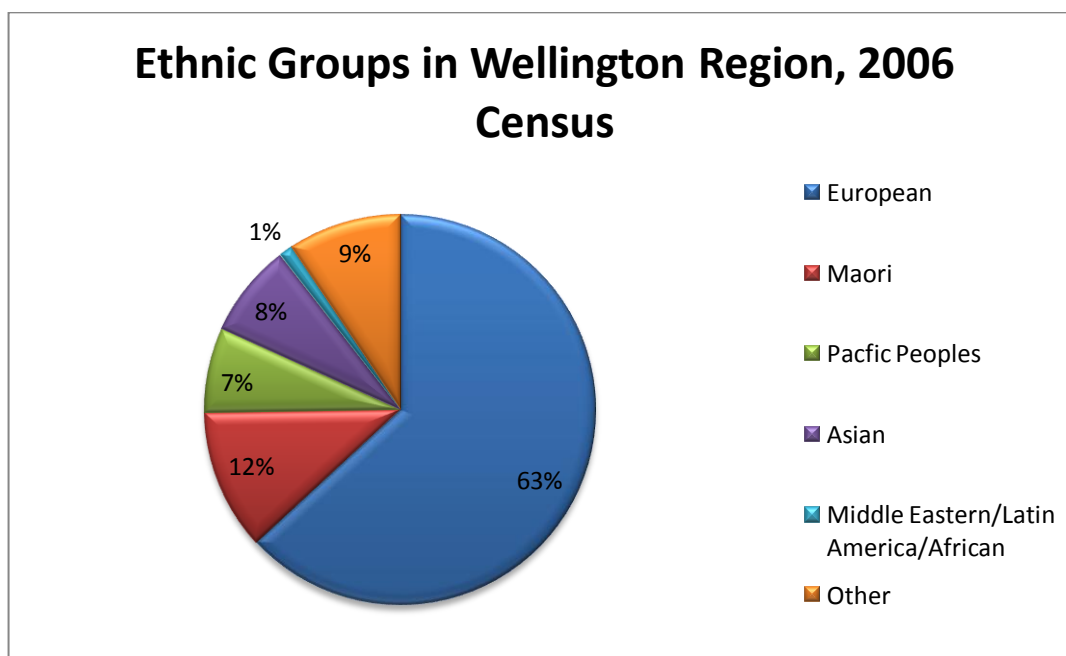
According to 2006 New Zealand Census data, 19% of those who identified their ethnicity as Māori participated in voluntary work, compared to 15% of the population overall (Stats NZ, accessed 16/12/09). Therefore, while Māori participation in voluntary work generally is high, voluntary work in community-based ecological restoration groups in this study was not an activity commonly carried out by Māori.

2.5 HIGHEST QUALIFICATION OF RESPONDENTS

Kollmuss and Agyeman (2002:248) found that years of education had been established as having a positive influence on pro environmental behaviour as, "the longer the education, the more extensive the knowledge is about environmental issues". In this research, just over half of the 104 respondents[14] who answered this question held an undergraduate university degree or higher. While 82 of the 104 respondents held a post school qualification of some kind. Overall, respondents were significantly better educated than the greater population in both the Wellington Region and New Zealand with over 78% of questionnaire respondents holding a post school qualification, compared to just over 46% of Wellingtonians and just over 39% of all New Zealanders (Stats NZ, accessed 15/12/09).

[14] There was one non response to this question.

TABLE 14

Highest Qualification of Respondents

TABLE 15

Percentage of Respondents with a Post School Qualification Compared to 2006 Census Data
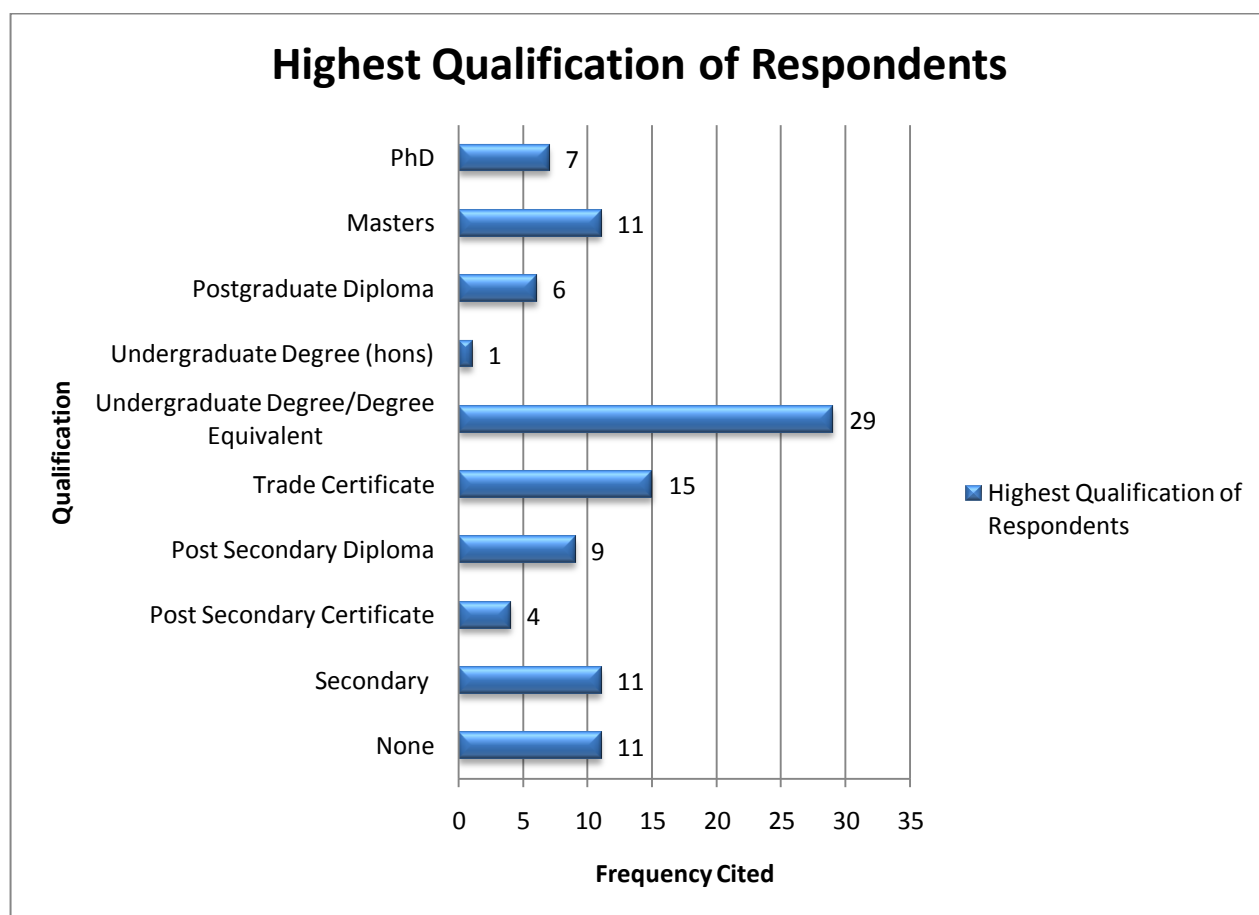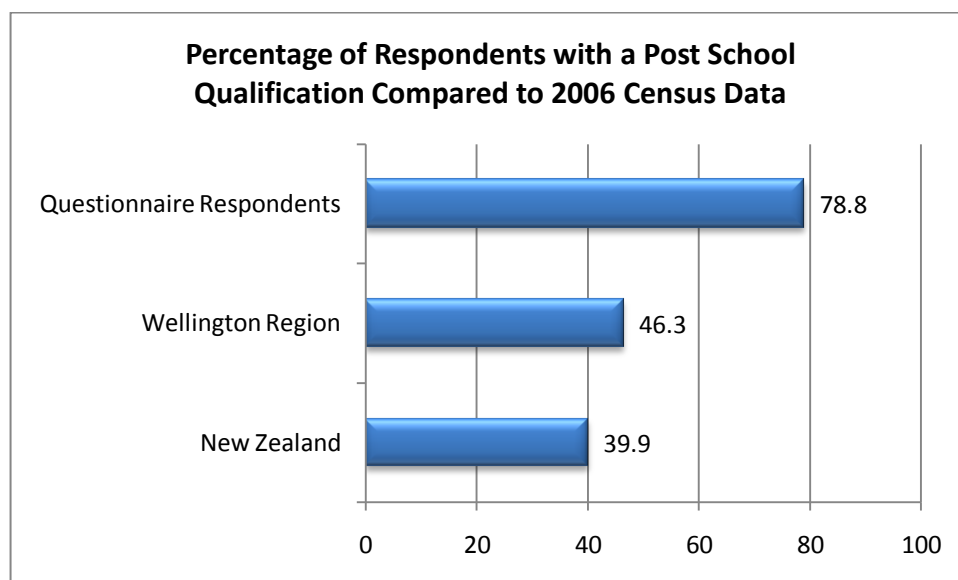
While Statistics New Zealand found that people who work part time are most likely to volunteer and those in full time employment are least likely (Stats NZ, accessed 16/12/09), the most common employment status for questionnaire respondents in this survey was *retired*, with those in full time employment the second most common response.

TABLE 16

Employment Status of Respondents

Category	Value
Student	3
Unemployed	1
Full Time	28
Part Time	3.8
Semi-Retired	6.7
Retired	59

Legend: Percent Employed this way
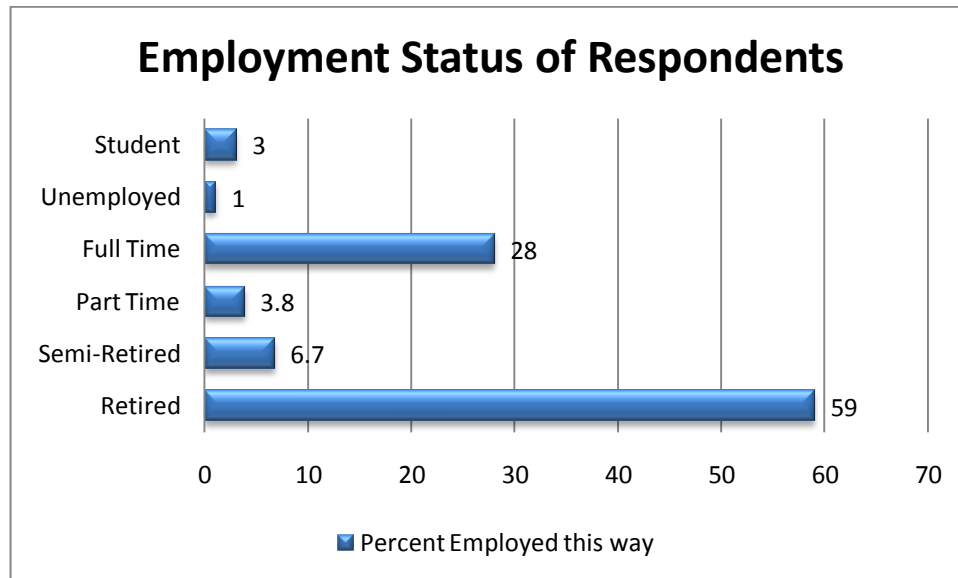
Half of the community-based ecological restoration groups examined in this study had over 50% of their group's respondents citing that they were retired.

TABLE 17

Percentage of Retired Respondents Per Group
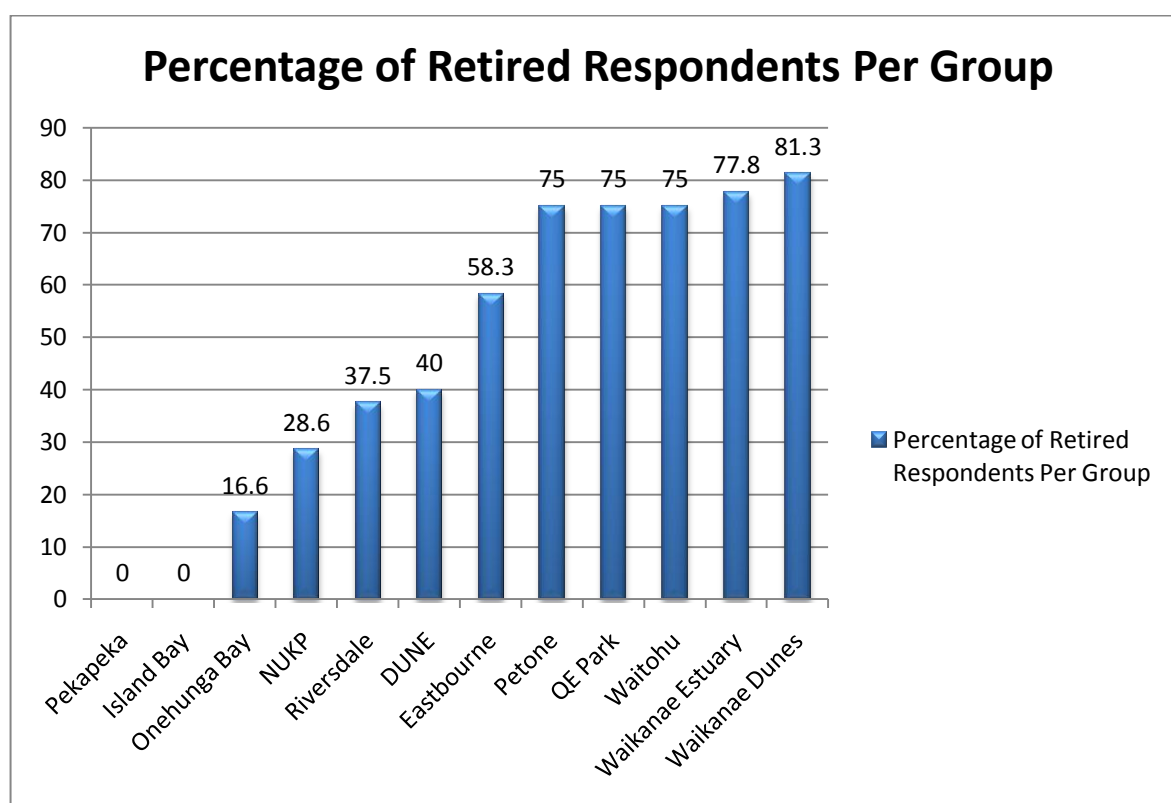
For those who stated they were retired the questionnaire asked respondents to state their main form of employment before retirement to better understand who the respondents were and if their employment history was representative of the current employment statistics of their wider community. Using the Australian and New Zealand Standard Classification for Occupations (Stats NZ, accessed 15/12/09), the occupations of respondents was categorised into the 9 broad categories below.

TABLE 18

Occupations of Respondents - including past occupations of respondents now retired

Occupation	Times Cited
Residual Categories	8
Labourers	1
Machinery Operators and Drivers	4
Sales Workers	
Clerical and Administrative Workers	6
Community and Personal Services Workers	7
Technicians and Trade Workers	13
Professionals	53
Managers	14
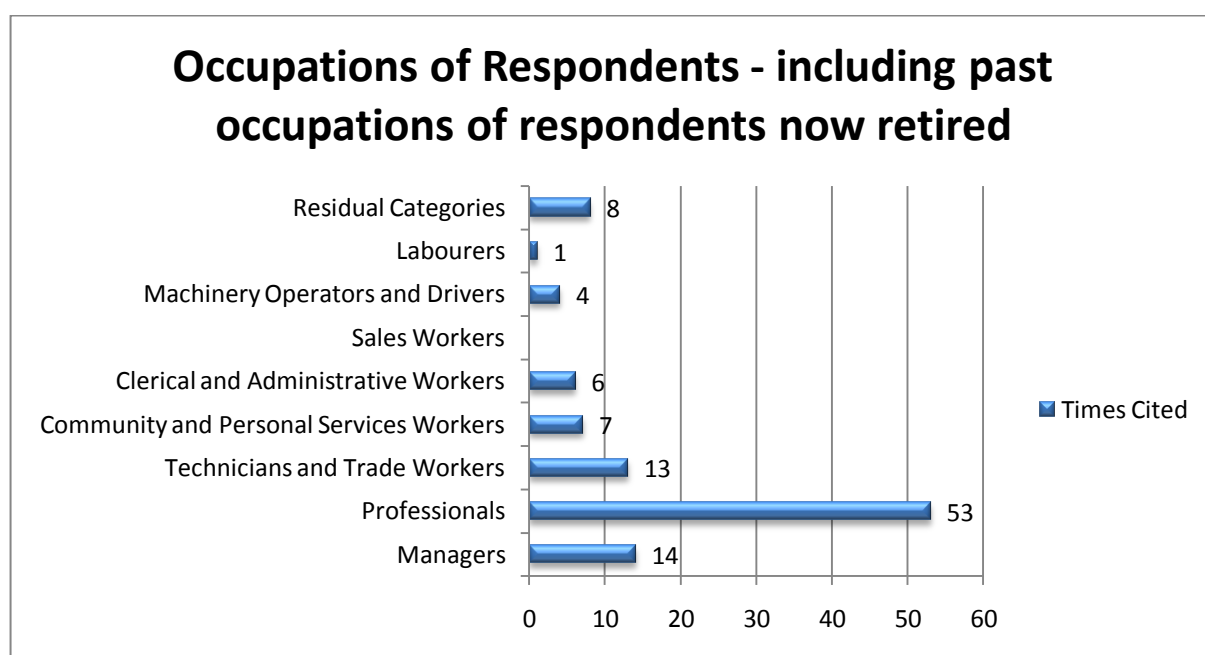
The most common occupational group of the total responses was *Professionals*. This is representative of the 2006 Census data for which the most occupational group is *Professionals* for both the Wellington Region and New Zealand (Stats NZ, accessed 15/12/09).

Collapsing the data further, Waitohu Stream Care Group, Oku-Island Bay Beach Care, Waikanae Dune Care Group, The Friends of Queen Elizabeth Park, Pekapeka Dune Restoration Group and Eastbourne Dunes Protection Group are all representative of their corresponding 2006 Census Boundary Area, with *Professionals* as the most common occupational group in both questionnaire responses and boundary area statistics. Riversdale Care Group was also representative of its boundary area with *Managers* and *Professionals* the most common occupational categories for both the questionnaire responses and census data. However, DUNE, Onehunga Bay Beach Care, Nga Uruora, Friends of Petone Beach and Waikanae Estuary Caregroup were not fully representative of their corresponding 2006 Census Boundary Areas.

DUNE and Waikanae Estuary Caregroup share the 2006 Census Boundary Area *Paraparaumu Beach North*. According to the 2006 Census Boundary Area statistics for *Paraparaumu Beach North*, *Professionals* and *Clerical and Administration workers* were the most common occupational groups. While *Professionals* was the most common response from both groups, no respondent from Dune cited the category *Clerical and Administration Workers* while this category was only the third most common response from Waikanae Estuary Caregroup respondents.

The occupational groups for Onehunga Bay Beach Care respondents was evenly split between *Professionals*, *Technicians and Trade Workers* and *Residual Categories*, unlike the corresponding 2006 Census Boundary Area, *Titahi Bay North*, of which *Professionals* was the most common occupational category.

Nga Uruora's respondents cited *Technicians and Trade Workers* and *Community and Personal Services Workers* as the most common occupational groups while *Professionals* was the most common category in the corresponding boundary area *Pukerua Bay*.

Professionals and *Residual Categories* were the most common occupational responses for Friends of Petone Beach while *Professionals* was the most common category for the corresponding 2006 Census Boundary area *The Esplanade*.

2.7 INVOLVEMENT IN OTHER COMMUNITY GROUPS OR ACTIVITIES

Most respondents were involved in other community groups or activities. Only 13 respondents stated they were not involved with any other community groups or activities while 6 respondents cited involvement in 7 other community activities or groups. On average respondents were involved in 3 other community groups or activities which included local gardening clubs, local branches of Forest and Bird, sports and tramping clubs, church groups, music groups, lobby groups, book clubs and many more. As the graph below demonstrates, respondents from Petone

Beach cited the highest level of involvement in other community groups and activities.

TABLE 19

Average Number of Other Community Groups or Activities Respondents are Involved In by Group

Group	Value
Pekapeka	0.5
Onehunga	1.3
DUNE	2
NUKP	2.3
Waikanae Estuary	2.3
Island Bay	2.3
Riversdale	2.8
Otaki	3.1
QE Park	3.1
Eastbourne	3.8
Waikanae Dunes	3.8
Petone	5

Average Number of Other Community Groups or Activities Respondents are Involved In
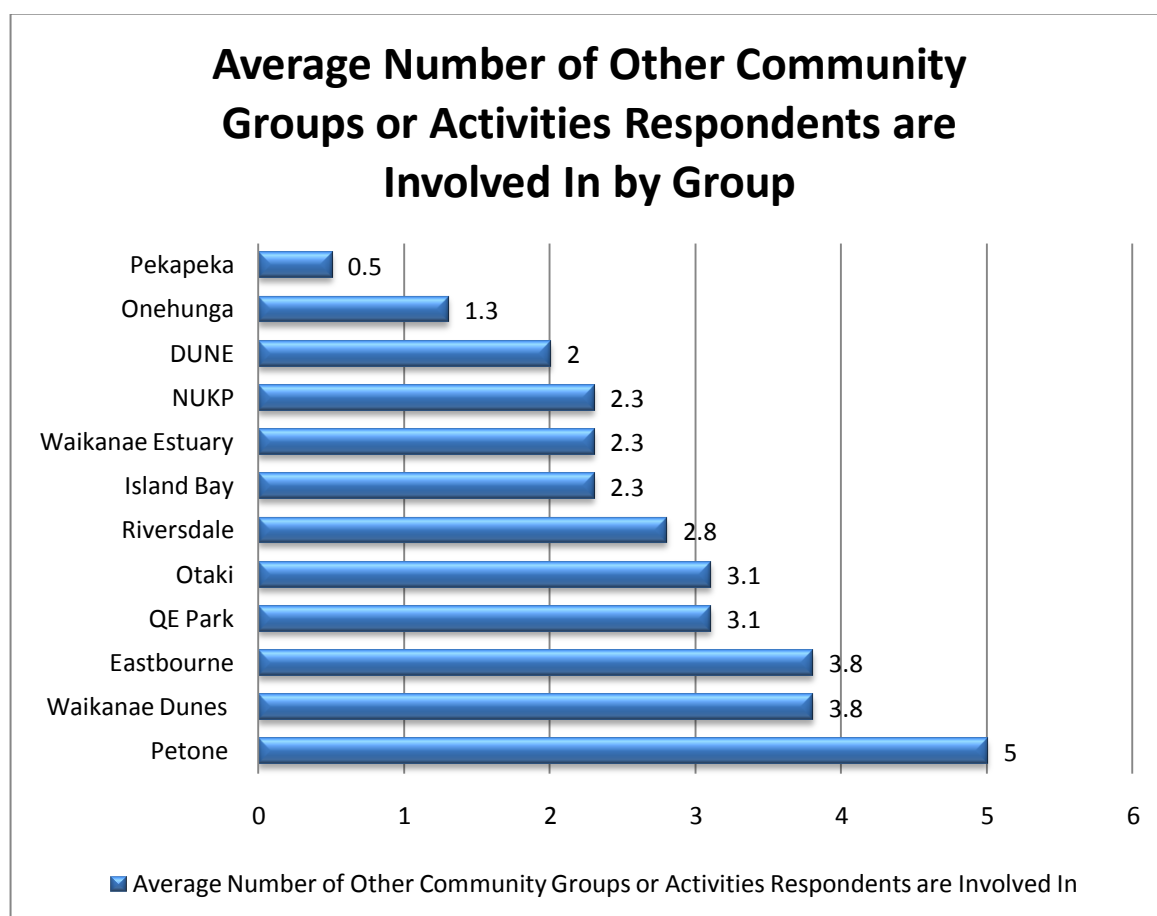
3. DISCUSSION

The data above demonstrates that in significant ways the questionnaire respondents are not representative of their communities or of the Wellington Region or New Zealand and represent a distinct group of individuals with a number of unique qualities:

- Participants were much older than the general population, with significantly more over 65 year olds in each group (excluding Pekapeka) than their corresponding 2006 Census boundary areas.
- They were overwhelmingly of Pakeha/NZ European descent and did not represent the ethic diversity of the Wellington Region.
- They were highly involved in local community groups and activities.

- They were highly educated in comparison to the Wellington Region and the greater New Zealand population.

These unique qualities suggest that members of community-based ecological restoration groups are generally individuals with comparatively high levels of *cultural capital* (Bourgois, 1987) and *capabilities* (Aya, 1984). The theories of *cultural capital* and *capabilities* are based on how an individual's socio-economic position, or *class*, affects their ability to navigate and participate in institutional structures. While Marx (1957) theorised *class* as a social relationship between classes which were determined by resource control, Weber's (1986) explanation, based on authority, income, education and prestige, seems more pertinent in this case. *Cultural capital* as discussed by Bourgois (1987), refers to ones ability as a knowledgeable, capable actor to understand the dominant culture's rules of the game – how to act appropriately according to dominant cultural norms in relation to others and institutions. The theory of *capabilities* refers to a person's ability to lead, staff and support a cause according to their socioeconomic standing – according to Aya these people are those "of local standing and substance, however modest...intertwined in community networks" (Aya, 1984:330).

Using Weber's definition of class, the measures of age, nationality, ethnicity, level of education and occupation indicate that those who responded to the questionnaire generally receive, or did receive a relatively good income and have a high level of education which in turn grants them a relatively high level of status in New Zealand. As Pakeha/NZ Europeans respondents belong to the dominant culture and are therefore able to affectively navigate social and cultural structures - seeing these behaviours as just common sense. The high level of retired respondents and the high levels of involvement in other community groups and activities suggest that their finances are such that they are able to retire and live comfortably and therefore have the time to devote to things other than just getting by. Overall my findings suggest that questionnaire respondents represent a unique group of people with high levels of cultural capital and capabilities whose socioeconomic position means they have the time and money to participate in these groups.

These findings are mirrored by Jones and Eyles (1977:256) who found in their study of public participation that active participants "were on the whole, more middle class, more middle aged, better educated, more politically active" with only 5% of their sample not involved in other existing voluntary groups. Similarly, Bayliss-Smith and Owens (1994:120) discuss how environmentalism is "characterised by a complex 'world view' not restricted to environmental issues" often held by sections of the middle class whose basic economic and security values have been fulfilled.

The fact that many of the members of these groups are older and retired also poses possible implications as New Zealand's population ages. According to a report prepared by Ashley-Jones for Statistics New Zealand (accessed 31/12/09), current population projections suggest that the number of those over 65 will increase from the current level of 550,000 to 1 million by the late 2020's. While in 2009 one in eight New Zealanders was over 65, in 2031 that ratio will be increased to one in 5 (Stats NZ, accessed 31/12/09). As both my own findings and that of Statistics New Zealand suggest that rates of volunteering generally increase with age, the ageing population of New Zealand may provide a steady increase of people willing and able to participate in these groups.

This projected volume of potential volunteers poses policy implications for organisations which currently support community-based ecological restoration and conservation in general. These volunteers will potentially provide a greater availability for free labour in this sector and may therefore reduce the need for professionals employed in this work. However, if current projections are accurate and if rates of volunteerism increase with age, those who oversee and support these groups and the budgets these groups have access to may require expansion from current levels.

The findings of this chapter suggest that the gender ratio, birthplace and occupations of respondents were representative of the Wellington Region's general population. However, those who participated in this study differed significantly from the general population in terms of age, ethnicity, community involvement and education. These differences suggest that many people who volunteer for these groups have the time and money to do so and with an ageing population, the projected volume of potential volunteers for community based ecological restoration groups may help to strengthen and multiply these groups and those institutions which support and facilitate them.

> *"We need to get the community involved, we need to get the kids involved, we want to get the users of the Estuary involved; the whitebaters, the walkers, the runners, there's a raft of people who use the Estuary."*
>
> - Jeff Eaton, Waikanae Estuary Care Group Chairman.

When asked in the coordinator interview about the challenges their group faced, the majority of coordinators stated that they found recruiting new volunteers a significant challenge (Simpson, 2009; McDougall, 2009; Sinclair, 2009; Vermaat, 2009; Hulme-Moir, 2009; Clarkson, 2009; Eaton, 2009; Lynch, 2009; Lancashire 2009; Smith, 2009). This chapter presents the findings of my research in relation to Objective 1 – why do people join these groups? In order to understand what motivates people to join an ecological restoration group, my questionnaire asked, "How did you find out about the group?" and "What reasons motivated you to become involved with the group?" By understanding how and why respondents became involved with their community-based ecological restoration group, people attempting to attract volunteers may be able to maximise the outcomes of their recruitment efforts.

As demonstrated in the literature review, Phipps (2009) studied why people thought their biodiversity sanctuary projects were important, while international literature exists regarding why people engage in pro-environmental behaviour (Chawla 1998 and 1999; Kollmuss and Agyeman, 2002) and voluntary work more generally (Clary and Snyder, 1999; Snyder, 2009). However, no New Zealand research has been undertaken specifically to understand why volunteers chose to give up their time and join a community-based ecological restoration group. To answer this question I will discuss the methods used to define the themes expressed in the volunteer member questionnaire answers, examine the themes and their comparable strengths and discuss how my findings relate to similar international research.

1. METHOD

To identify the themes in the answers to how and why people join these groups I read through each questionnaire answer and found that I could code responses. I found that people became aware of their group by either *social introduction* or *remote introduction*. *Social introduction* represents an introduction through social contact with others. The code *remote introduction* represents introductions where a person became aware of the group through methods which did not involve direct social contact, such as posters, fliers and articles. In terms of why people join I found that responses could be coded into the broad and self explanatory codes of *environmental motivation* and *social motivation*.

From the broad codes identified above, finer distinctions were made by collapsing answers into the sub codes discussed below. While I have endeavoured to keep an open mind when coding answers and explained codes sufficiently so that this research could be repeated, this process is ultimately a subjective one. However, as this research is based on an interpretive social science paradigm as discussed in the methodology chapter, subjective understandings are not necessarily a bad thing, but rather an inevitability of people centred research (Davidson and Tolich, 2003). The following chapter will discuss the codes and sub codes for the questions *"How did you find out about the group?"* and *"What reasons motivated you to become involved with the group?"*, examine my findings in relation to the literature and discuss the implications of my findings for those seeking to recruit new community-based ecological restoration group volunteers.

2. RESULTS

2.1 HOW RESPONDENTS BECOME AWARE OF THEIR COMMUNITY-BASED ECOLOGICAL RESTORATION GROUP

The table below shows the frequency of ways respondents became aware of their community-based ecological restoration group. By reducing the initial codes, *social introduction* and r*emote introduction,* 10 clearly defined sub codes were identified. The table below demonstrates that the most common way respondents became aware of their group was through a friend, partner, relative, acquaintance or neighbour, while the remaining code's frequencies drop off sharply finishing with

the least common method of introduction, through a poster. It must be reiterated that while others who do not belong to the care group may also be aware of the group via the codes below, respondents are not only aware of the group but are active members. Therefore, by examining the frequency of the code it could be inferred that certain methods are more effective at informing *and* attracting active volunteers to the group.

TABLE 20

How Respondents Became Aware of Their Group		
Ways Respondents Became Aware	**Frequency Cited**	**Percentage**
Through friend/partner/relative/acquaintance/neighbour	47	38.8%
As a founding member	16	13.2%
Networking between groups	15	12.4%
Notice/article/advertisement in local paper	13	10.7%
Approached/saw the group working	8	6.6%
Asked directly be a member	8	6.6%
Group social events	5	4.1%
Letterbox flier	5	4.1%
Word of mouth	3	2.5%
Poster	1	0.8%

Blue - Social Introduction
Green - Remote Introduction

2.1.1 SOCIAL INTRODUCTIONS

As stated earlier, the code *social introduction* represents responses which involved some form of social contact with others. Responses which fell into this category were by far the most common, cited a total of 102 times in the answers of respondents. The seven sub codes of this theme are discussed below.

Through a friend/partner/relative/acquaintance/neighbour – According to this research, introducing people to a group through someone they already know is the most common way of drawing in new volunteers. This form of social introduction was the most frequent response to this question, mentioned forty seven times by respondents.

As a founding member – Sixteen respondents, from 10 of the 12 groups, stated that they had in fact been a founding member of their community-based ecological restoration group. While this is a valid response, it poses little insight into how established groups may attract new volunteers. However it does demonstrate the commitment many founding volunteers have made to these groups, most of whom that were founded more than 5 years ago.

Networking between groups – Fifteen respondents stated that they had found out about a group through involvement with another group. Perhaps surprisingly, these groups were not all directly involved with similar environmental efforts, such the Church, a local walking group and a community choir. However groups with similar interests featured strongly in respondents answers which cited local gardening groups, school shade house projects and the Royal Forest and Bird Society.

Approached or saw the group working – All twelve groups work at least in part if not entirely on public land in suburban settings. Therefore their activities inevitably enhance the group's profile as people wander past. Many groups take advantage of this by erecting flags and banners displaying the group's name and purpose while they work. Despite these efforts only eight people cited that they came across the group during a working bee.

Asked directly by a member – Eight people cited that they were personally invited by a person who was already a member of the group to join. This code differs from the code *through a friend/partner/relative/acquaintance/neighbour* as responses in this code clearly stated that they were directly asked or invited to join, rather than being casually informed about the group as per the *through a friend/partner/relative/acquaintance/neighbour* code.

Group social events – Social events run at least in part as a form of publicity for groups and their work, ranged from speeches at community meetings by group leaders, to open days, film evenings and AGMs. This form of social introduction was cited five times in questionnaire responses.

***"Word of mouth"* –** The sub code *word of mouth* was cited three times by respondents. This code is not as well defined as the others and if more information was provided I would expect that the 3 responses would fit into the better defined sub codes presented above.

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2.1.2 REMOTE INTRODUCTIONS

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Becoming aware of the group through remote introduction, an introduction where no direct social contact was made, was much more uncommon, cited a total of twenty one times.

***Notice/article/advertisement in local newspaper* –** Most groups use or have used the local paper to publicise upcoming events or notable achievements of the group as a way to gain support and new volunteers. In the questionnaire responses thirteen people said they had heard about the group through something in their local paper, making this the most common remote introduction cited in the responses.

***Letterbox flier* –** In my own work as the Coast Care Assistant for Hutt City Council I have found that fliers in people's letterboxes can be a relatively cheap but time consuming, geographically limited and ineffective way of generating publicity for groups. This method of introduction was cited by only four people as a way they had found out about the group.

***Poster* –** The limitations I have found with fliers are repeated with posters, with posters having the further disadvantage that people are less likely to take notice of a poster on the street than something delivered to them in their mail box. Unsurprisingly, posters were the least common of all responses to the questionnaire question with only one response citing a poster as the way they became aware of the group.

<div align="center">

2.2 WHAT MOTIVATED RESPONDENTS TO JOIN THEIR COMMUNITY-BASED ECOLOGICAL RESTORATION GROUP

</div>

In the questionnaire respondents were asked what motivated them to join their group. Answers were divided into the two broad categories *environmental*

motivation and *social motivation*. These were also identified in Phipps' (2009) who argued that environmental volunteering satisfied both environmental values and social needs of volunteers. The 15 sub codes of the *environmental motivation* and *social motivation* and the frequency at which they were cited are demonstrated in the table below. The sub code *caring for/an interest in the environment* is by far the most frequently cited motivation respondents cited. However, only four environmental codes were apparent in the questionnaire response, while social motivations make up the bulk of the sub codes with 11 separate motivations. The following section will discuss each sub code in further detail.

TABLE 21

What Motivated Respondents to Join their Group?		
Motivation	**Frequency Cited**	**Percentage**
Caring for/interest in the environment	66	62.9%
It's close to home	32	30.5%
An interest in restoration	24	22.9%
A sense of community	18	17.1%
A chance to meet new/likeminded people	15	14.3%
Newly retired/time to do it	13	12.4%
An interest in NZ native flora/fauna	11	10.5%
The rep/feel/aims of the group	10	9.5%
An interest in volunteerism	9	8.6%
To prevent the development of a landscape	8	7.6%
Self interest	8	7.6%
Encouraged by friend/partner/relative	8	7.6%
Giving something back	8	7.6%
An opportunity for outdoor physical activity	5	4.8%
For the benefit of future generations	4	3.8%

Green - Environmental Motivation
Blue - Social Motivation

2.2.1 ENVIRONMENTAL/ECOLOGICAL MOTIVATIONS

The four environmental motivations listed below were cited 109 times in the volunteer member questionnaire responses.

Caring for or an interest in the environment/conservation – Sixty six people stated they volunteered in these groups because they care about the environment

and/or conservation. As one respondent stated:

> *"My commitment to caring for our natural environment is the major motivation to becoming involved with this group."*

This theme is consistent with previous research on the motivations of environmental volunteers. Clary (et. al 1996) identified the theme *values*, environmental volunteering as a way of putting a person's environmental values into practice, while both Ryan (2001) and Bruyere and Rappe (2007) identified *helping the environment* as a major motivation for environmental volunteers. Overall, these groups provide an opportunity for people with a concern for the natural world to actively improve local environments and bridge the gap between environmental concern and environmental action.

An Interest in Restoration – Again while this code is similar to the first, it warrants its own distinction as 24 respondents specifically mentioned an interest in restoration as a motivation for their involvement in the group:

> *"Although planting native species was part of our political strategy, I became interested in restoration as an aim in itself."*

These groups provide an opportunity for people with such interests to take an active role in restoring local coastal landscapes. As one respondent stated,

> *"I saw this as an opportunity to restore a local native environment."*

This theme fits with the theme of *understanding*, an opportunity to develop skills and learn new things, discussed by Clary (et. al, 1996) and *learning* identified by both Ryan (2001) and Bruyere and Rappe (2007).

An Interest in New Zealand Native Flora and Fauna – This code differs from the sub code above as it requires a specific reference to New Zealand's native flora and/or fauna as a key motivational factor for joining the group. Examples of this response include,

> *"It is nice to see the birds coming back, making the place better for them."*
>
> *"I love our native bush."*

Like *an interest in restoration*, *an interest in NZ native flora and fauna* is consistent with the theme of *understanding* discussed by Clary (et. al, 1996) and *learning* identified by both Ryan (2001) and Bruyere and Rappe (2007). The focus on ecological restoration with native species provides an opportunity for volunteers to learn about the form and function of a number of native plants, some of which are found only in coastal environments and would rarely be found in people's gardens or in plant shops[15]. Six of the groups also have their own, or have access to, shade houses where volunteers are able to learn about process of growing and caring for the plant before it's put in the ground. Eleven respondents cited this as a reason they joined their group.

To Prevent the Development of a Landscape – Oku-Island Bay Coast Care, Friends of Queen Elizabeth Park and Eastbourne Dunes Protection Group began as opposition groups to proposed developments on coastal land,

> "[I came to] *The realisation that the natural features of the dunes and beach were irreplaceable once lost*"
>
> "[I joined] *To prevent the destruction of the last original native pingao on the south coast by authorities*."

Hence, only 8 respondents cited this as a reason, as this code is limited to these groups as a potential motivation for joining. While the code is limited to these groups, it seems to provide a strong impetus for action in individuals who are opposed to the proposed developments. However, only one or two members from the relevant groups mentioned this as a reason for joining, even when they had been involved with the group since its beginnings. While this theme is quite specific, it can be seen as fitting with the broader themes identified by Clary (et al, 1996) as *values*, putting values into action, and Ryan (2001) and Bruyere and Rappe's (2007) theme, *helping the environment*.

2.1.2 SOCIAL MOTIVATIONS

11 themes related to social motivations for joining a community-based ecological restoration group were apparent in the volunteer member questionnaire

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[15] *Spinifex sericeus* (spinifex) and *desmoschoenus spiralis* (pingao) are two good examples of this.

responses. Social themes were cited 128 times by respondents.

It's Close to Home – Inherent to these community-based ecological restoration groups was that they were in suburban settings, surrounded by or close to a community for example,

> *"Waikanae Estuary is a minute away from where I live."*

These groups provide people with the opportunity to do something locally where they are able to observe the positive impacts of their work over time,

> *"Living very close, I could see the need for their work."*

They allow people to be a part of the environmental movement on a global scale by making a difference on a local scale;

> *"I confess my real passion is for global issues – climate change and biodiversity loss – but I realise that it all starts locally and local projects are therefore important."*

Being close to home also reduces the costs to volunteers of participating and helps to improve areas which are frequently used by volunteers;

> *"I wanted to be involved with a local group that I didn't have to drive to"*
> *"My family, including the dog, walk there most days."*

While thirty two respondents cited this sub code as a motivation for joining their group, I could find no similar theme in previous research on this topic.

A Sense of Community - Creating a sense of community and belonging was cited as important by 18 respondents involved in these groups. People in these groups have a chance to meet their neighbours and reduce feelings of isolation,

> *"I wanted to be involved and get to know the local community."*

They allow members to feel like a contributing part of their community, which is especially relevant to those who have retired and are looking to contribute in other ways,

> *"Newly retired, I wanted to put something back into my own community."*

These groups also help to bring sections of the community together over a common goal,

> *"It's a chance for social bonding with friends and older members of the community and to help the community and improve my town."*

The theme, *a sense of community*, corresponds with Clary (et al. 1996), Ryan (2001) and Bruyere and Rappe's (2007) theme *social,* described as working with friends and family.

A Chance to Meet New/Like-Minded People – Fifteen volunteer member respondents said that they joined because the group offered an opportunity to meet new or likeminded people. The work of these groups is unavoidably social and provides the chance to have a chat with likeminded locals and make new friends,

> *"I wanted to meet local people involved with the same interests as me."*

As a volunteer myself, I've often left working bees with a buzz after meeting an interesting person or having a good catch up with friends. As one respondent surmised,

> *"For me it's also a learning and social opportunity, an opportunity for me to contribute and network with likeminded others."*

Again this theme is consistent with the theme social identified in previous research (Clary, et al. 1996; Ryan, 2001; Bruyere and Rappe, 2007).

Newly Retired/Time to Do It – Thirteen respondents said they joined because they were newly retired or had the time to do it and as Chapter 5 demonstrated, many of the questionnaire respondents are retired. For retirees these groups are attractive as they offer a productive way to spend time while staying active and involved with issues they are concerned about, for example:

> *"Recently retired, with plenty of time, I was looking for some ecological restoration voluntary work"*
>
> *"Being retired and fit, I had time to do things associated with the group."*

When volunteering for an ecological restoration group, there is always more to do with some retired volunteers taking this work on as their new 'job',

> *"Working on the Estuary has become a big part of my retirement."*

Perhaps because of selection bias, as I chose to examine Take Care groups while other research has examined environmental volunteers more generally, this theme has not been identified in previous research.

The Reputation/Feel/Aims of the Group - The reputation, feel or aims of the group was a motivating factor for 10 respondents,

> "The group are well-motivated and forward thinking, an admirable group who love the area."

Similar this theme was the theme *project organisation* identified by Ryan (2001) and Bruyere and Rappe (2001). In my research, respondents claimed they joined to support the *"generous work"* already being done, because of "*the enthusiasm of the members"* they encountered and because the group was organised meaning volunteer time wouldn't be wasted,

> *"I liked the relaxed, friendly atmosphere of the group. I could also see the results of some of their projects and could see they were successful because they were well thought out."*

An interest in Volunteerism – This code was cited by nine people as a reason they joined their community-based ecological restoration group,

> *"I needed to have outdoor volunteer work."*

Many respondents cited that their involvement in their community-based ecological restoration group was part of a history of volunteerism throughout their life,

> *"I have been involved with voluntary work all my life"*
>
> *"My late husband and I were always involved with local volunteer groups."*

While this was not a particularly strong theme, surprisingly it was not identified by previous research on the subject of volunteer motivations.

Self Interest – The code *self interest* captures the idea that respondents receive direct and tangible benefits because of the work of their group, for example,

> *"I'm interested in the health of the Waitohu stream as I am a passionate whitebater!"*

Eight respondents said they joined the group for a variety of reasons which benefitted them directly, including reducing windblown sand, improving the aesthetics of an area, as an opportunity to enhance an environment they used for learning purposes and to reduce coastal hazards which could potentially affect their property,

> *"Of course we will benefit from what we can accomplish because our properties are right on the beach/sand dunes."*

While this code is broader, Clary's (1996) theme *career*, a chance to build career experience, could be seen as fitting within *self interest.*

Encouraged by a Friend/Partner/Relative – Like the theme *social* discussed in previous research (Clary et al, 1996; Ryan, 2001; Bruyere and Rappe, 2007), spending time with a friend, partner or relative who was already involved with the group in some way was another social motivation respondents cited by eight people for joining these groups,

> *"My son encouraged me to get involved."*

These groups provide people with an opportunity to work alongside the people they care about.

Giving Something Back - *Giving something back* was a theme mentioned by eight respondents. People often mentioned that they wanted to give something back to

an area which they had enjoyed or used extensively,

> *"I have had lots of fun walking and riding horses in the park. I wanted to give something back."*

Bruyere and Rappe's (2007) theme *user*, working to improve an area the user enjoys, corresponds to this theme. Like Bruyere and Rappe's (2007) research, high use of an area instilled a sense of responsibility to reciprocate in the majority of this code's responses,

> *"I walk my dog frequently in the area, and enjoy it, so I felt I should contribute."*

An Opportunity for a Physical Outdoor Activity – This theme was cited by 5 participants. The groups involved in this research generally offer work which while physical, is manageable for most able bodied people. All groups work in areas of natural beauty, making it a pleasant way to spend a morning, while also providing low to medium impact exercise for participants,

> *"I enjoy the exercise in such lovely surroundings"*
> *"I felt the need to be physically involved in a local conservation project."*

Only Bruyere and Rappe (2007) identified a similar theme. In their research the theme *get outside* was identified as unique to their study (Bruyere and Rappe, 2007).

For the Benefit of Future Generations - Four people cited that they joined the group to improve the area for future generations.

> *"I and my children have used Eastbourne Beach extensively. I wanted to return and give this opportunity to the future generations."*

No previous research identified anything similar to the theme *for the benefit of future generations*. This motivation may be influenced by the age of participants and the possibility that as people age there is a growing desire to leave their mark. Respondents noted that while they may not be present to see the full impact of their work, they were still willing to *"protect and improve"* areas for others to enjoy in the future,

"Future generations will get the benefit more than I will."

3. MULTI FACETED ANSWERS TO OPEN ENDED QUESTIONS

An obvious problem with reducing the answers given by volunteers in the questionnaire to specific codes is that nearly 20% of answers regarding how they found out about their community-based ecological restoration group and 79% of answers regarding joining the group were multi faceted as demonstrated in the tables below.

TABLE 22

Number of Ways Respondents Became Aware of their Group		
Number of ways	Times Cited	Percentage
1	84	80%
2	20	19%
3	1	0.9%

TABLE 23

Number of Reasons Respondents Joined their Group Cited per each Questionnaire Response		
Number of reasons	Times Cited	Percentage
0[16]	1	0.9%
1	21	20%
2	40	38.1%
3	31	29.5%
4	4	3.8%
5	5	4.8%
6	1	0.9%
7	1	0.9%
8	1	0.9%

The number of multifaceted answers regarding why people joined their community-based ecological restoration group is particularly significant.

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[16] One questionnaire had a non response to this question.

> *"Recently retired, I was looking for a voluntary group to join. WSCG seemed ideal – caring for the environment, based at the beach, a group of people of similar age and interests."*

As this quote demonstrates, within only two sentences a multitude of reasons can be revealed. Therefore reducing quotes to singular themes disguises the fact that for an individual there are usually a number of factors which provoked them to action.

Further, 58.1% of responses contained a combination of both environmental and social motivations in their answer. While 22.8% contained only environmental motivations and 19% contained only social motivations. On average, of those answers which contained both environmental and social motivations, social motivations were mentioned on a ratio of 2.8 social motivations to every 2 environmental motivations, making social motivations the more common of the two, in answers which contained both motivations.

Overall the sub codes above must be viewed as only partial answers to how and why people join restoration groups, with nearly 20% stating they found out about the group via more than one way and nearly all respondents citing multiple reasons which lead them to join.

4. DISCUSSION

According to Johnston (1979 in Walmsley and Lewis 1984:4) "process can only be uncovered if attention is directed to the decision-making activities of the actors in creating a given pattern." These results demonstrate that after becoming aware of the groups, people make the decision to become an active member of a community-based ecological restoration group because people believe that these groups will allow them to put their values into action (Phipps, 2009). The multiple sub codes apparent in the answers of respondents suggest that there are a multitude of social and environmental values that volunteers perceive they put into action by being an active member. As stated by Clary (et al, 1996) "The acts of volunteerism that appear to be quite similar reflect markedly different underlying

motivational processes." This suggests that those working to recruit new members must promote their group as both an environmental and social organisation in an attempt to capture the wide range of motivations which encourage people to volunteer for groups such as these.

5. CONCLUSION

This chapter sought to understand why people join these groups. Through the coding of people's answers into *social introduction* and *remote introduction* and *environmental motivations* and *social motivations* and then further collapsing these into more defined themes, a number of clear sub codes have been identified for each code.

Again, it must be stated that the sample taken in this research is biased in the sense that the questionnaire was provided to people who were already active members of a community-based ecological restoration group and did not capture inactive members or community members outside of these groups. However, the multiple sub codes identified in the sections above demonstrate that the ways people become aware of these groups and the reasons behind their decisions to join are diverse. It is hoped that by incorporating these diverse motivations, those working to attract new volunteers may find greater success.

FIGURE 5 MEMBERS OF THE WAITOHU STREAM CARE GROUP AND AUTHOR ABOUT TO EMBARK ON A MID WINTER SWIM TO CELEBRATE THE GROUP'S 10TH ANNIVERSARY. PHOTO KINDLY PROVIDED BY BARBARA LITTLEJOHNS. JUNE 2009.

> *"I've learnt to see the beach quite differently. I'm always learning."*
>
> -Questionnaire respondent.

Community-based ecological restoration groups don't just restore landscapes. Just as important as the physical restoration of ecologies, they provide their members with a forum for learning a wide range of skills and knowledges[17]. This chapter will examine what new skills and knowledges questionnaire respondents reported they had received through their involvement in their community-based ecological restoration group and if their membership has influenced their attitudes to conservation in general. To answer this question, questionnaire respondents were asked;

"Have you learnt new things or developed new skills by being a member of a coast care group – if yes, what new things have you learnt and/or what new skills have you developed?"

"Have your attitudes to conservation and environmental attitudes in general changed after becoming a member of this group – if yes how?"

Understanding the skills and knowledges people have gained by being a member of these groups and how their attitudes to conservation and the environment have changed or been reinforced may provide an insight into this research's wider aim to understand what motivates people to keep coming back to volunteer for these groups in the first place.

While previous research has concluded that these groups provide members with a range of benefits including the opportunity to learn new skills and gain knowledge (Buchan, 2001; Rush and Buchan, 2005; Phipps, 2008), no previous literature has explored the specific skills and knowledges that

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[17] I use the term *knowledges* to represent the idea, consistent with this research's interpretive social science methodology, that knowledge is plural, contestable and dynamic.

members of community-based ecological restoration groups report they received through being a member of these groups. Fundamentally, ecological restoration groups provide their members with the chance to experience and learn about nature in an urban setting (Dunn et al, 2007). A number of studies have argued that people are more likely to perform pro-environmental behaviours when they have direct experiences with the natural world (Miller, 2005; Jacobson et al, 2006; Dunn et al, 2007). As ecological restoration is both a pro-environmental behaviour and a direct experience with nature, I also wanted to know if this created a positive feedback loop where the knowledge gained through experiencing nature changed or reinforced a person's attitudes to conservation and the environment more generally. To explore this question, this research asked respondents to reflect on whether their pro-environmental behaviour, in being a member of these groups, had an affect on their general attitude to the environment and conservation and how their attitudes had changed.

This chapter will discuss the methods used to distinguish themes in the answers given by respondents, describe the codes and sub codes derived from these themes and their comparable strengths and finally provide a discussion of my findings.

1. METHOD

By reading each questionnaire response to the question:

"Have you learnt new things or developed new skills by being a member of a coast care group – if yes, what new things have you learnt and/or what new skills have you developed?"

I was able to separate common themes into two broad codes; *environmental knowledges and skills*, and *social knowledges and skills.* Within these broad codes seven more specific sub-codes were created to represent the themes identified in the answers given by respondents.

Responses to the question:

"Have your attitudes to conservation and environmental attitudes in general changed after becoming a member of this group – if yes how?"

were divided into: those who agreed their attitudes had changed, those who stated their attitudes had not changed and those who stated their attitudes had been confirmed or reinforced.

2. RESULTS

The table below shows the frequency of the sub codes that respondents cited in their response to the open ended question *"Have you learnt new things or developed new skills by being a member of a coast care group – if yes, what new things have you learnt and/or what new skills have you developed?"*

TABLE 24

New Skills or Knowledges Respondents Gained through Being a Group Member		
New Skills or Knowledge	Frequency Cited	Percentage
Native Plant Knowledge	83	79%
Environmental and coastal knowledge	45	42.9%
Pest species identification and control techniques	23	21.9%
Seed collection and propagation	21	20%
Interacting with institutions	9	8.6%
How groups work	7	6.7%
Social skills	6	5.7%
Yes, but no specific skills or knowledge stated	1	0.9%
No new skills or knowledge	5	4.8%

Green - Environmental Knowledges and Skills
Blue - Social Knowledges and Skills

As the table demonstrates, sub codes of *environmental knowledges and skills* were the most commonly cited, with *native plant knowledge* most frequently cited by respondents in their answers. Sub codes in the *social knowledges and skills* code were cited much less frequently, with all sub codes mentioned less than 10% of the time in questionnaire responses.

While stated in less than 5% of questionnaire responses, the code no *new skills or knowledge* is a significant anomaly which will be discussed along with the other sub codes in the following section.

2.1 ENVIRONMENTAL KNOWLEDGES AND SKILLS

The code *environmental knowledges and skills* refers to knowledge and skills directly related to or about the natural world. The following section will explain and discuss the more specific sub codes of this code.

***Native plant knowledge* –** Eighty three people said they had had gained new knowledge about native plants through their volunteer work with these groups. New knowledges included;

The functions and uses of native species,

> *"I have learned such a lot about coastal plants and the reasons for using natives instead of introduced plants"*

The names of species and their identification,

> *"I didn't even know the names of any dune plants beforehand!"*

And how to plant and care for native species used in ecological restoration work,

> *"My knowledge of how to plant different species and where, and how to care for them has expanded considerably."*

As a volunteer myself, I have learnt a great deal about the native plant species used to restore coastal landscapes. As these groups are primarily focused with reintroducing and maintaining appropriate native species, the names and identification of commonly used species was one of the first things I learnt as a volunteer for these groups. As a new volunteer, who didn't know much about plants in general, people were happy to point out

the native species they had planted at their restoration site and kindly repeat the names to me as I tried to remember them. This research suggests that this is a common experience for volunteers in these groups.

Environmental and Coastal Knowledge – Environmental and coastal knowledge refers to statements 45 respondents made about the new knowledge about the coast and the environment they had gained as a member. New environmental and coastal knowledges responses often included learnings about the dynamic nature of the coast:

> *"I have learnt a huge amount about the geomorphology of the coast, the effects of storms and changes in the estuary. How sand dunes are developed and maintained and how groups such as ours can intervene in a positive way."*

Responses also mentioned learning about the natural cycles of coastal erosion and the disruption to these cycles that human development too close to the dynamic shoreline has caused:

> *"I have better understanding of the natural cycles that apply with coastal erosion – also the negative impacts from human behaviour such as sea walls encroaching too close to the shoreline".*

Other responses cited learnings about coastal management techniques:

> *"I had no knowledge of sand dune management or the use of native plants before I joined the group"*
>
> "[I've learnt] *How sand dunes can be protected and encouraged by the planting of natives."*

Finally, respondents mentioned a greater awareness of environmental issues and gaining an ability to reflect on past land management practices which they now see as environmentally destructive:

> *"It makes me aware of other similar areas and what is happening there"*
>
> *"I have acquired a much greater understanding of the value of wetlands, having been brought up when widespread drainage was encouraged to develop farmland."*

People often cited the Dunes Restoration Trust conferences and workshops as a significant resource for this kind of knowledge. I was lucky enough to attend both the 2009 conference in Piha and the one day workshop in Otaki. At both these events the form and function of sand dunes, the use of native species to create and enhance dunes, the impacts of human development on the coast and the role of these groups in restoring the natural cycles of dynamic beach systems was effectively conveyed.

Pest species identification and control techniques – All groups were working to control pest plant species while Waitohu, Waikanae Dunes, Waikanae Estuary, Queen Elizabeth Park and Nga Uruora's coordinators reported venturing into the monitoring and control of pest animal species such as mustelids, rats and possums. These skills and knowledges were mentioned by 23 respondents with responses such as:

> *"I've learnt efficient ways of controlling invasive plants"*
>
> *"[I have learnt] How sprays work and how selective and clever they can be"*
>
> *"I've learnt some more about mustelid control techniques."*

Seed Collection and Propagation – Eco sourcing, the practice of sourcing plant species from the same ecological zone as the group intends to restore,

is a practice which is insisted on by Greater Wellington as a way of maintaining the genetic diversity of plant species within the different ecological zones of the Wellington Region. When asked in the coordinator interview, all the group coordinators understood the importance of eco sourcing and stated that their group followed the practice.

In order to eco source the plants they use, most groups collect at least a portion of their own seed for propagation either by commercial nurseries or in their own shade houses. This was mentioned by 21 respondents, who said they had gained new knowledges and skills in this area.

> *"I've learnt the timing of flowering and fruiting and how to collect and grow the seeds"*
>
> "[I have] *Learnt about the gathering of seed, propagating from cutting and seeds, pricking out and potting up."*

Personally I found collecting seed as a great way to learn plant identification and when different species seed needs to be collected, while work at the different shade houses of these groups was an especially social, enjoyable and hands on way to learn about plants and propagation.

2.1 SOCIAL KNOWLEDGES AND SKILLS

The social knowledges and skills code encompasses responses which cited new learnings related to people's social worlds and interactions. The following section will explore the different sub codes of this theme.

Interacting with institutions – Nine respondents stated that they had gained new skills and knowledges about interacting with institutions. Responses included learning to work with media and the public:

> *"I have learnt more about how to use the news media",*
>
> *"I've learnt about interaction with the wider public."*

As well as Government Ministries and local government:

> "[I've learnt] *tolerance for Ministry Bureaucracy!"*
>
> "[I've gained] *The ability to make submissions and to talk at meetings when conservation issues are raised"*
>
> *"Yes, more about lobbying local government, making submissions and seeking funding"*

How groups work – Seven respondents mentioned that they had learned something new about how these groups function and the practical needs of these groups.

> *"I've learnt how these organisations are run"*
>
> *"The need for good back-up in the form of expert knowledge and ongoing financial support."*

Respondents also noted the high level of commitment that is required to successfully run a restoration project:

> *"If anything I think I have learnt a lot more about how much effort these groups put into environmental restoration. It has been a very positive and eye-opening experience for me to know that others care that much."*

Social skills – Of those responses which agreed they had gained new knowledge or skills through their membership to a community-based ecological restoration group, this sub code was the least mentioned of all

sub codes identified, cited by only 6 respondents. The new social skills were leadership skills, teamwork and how to work with young people:

> *"I have learnt leadership skills and what motivates people."*
>
> *"I get the opportunity to extend my own set of skills in a team environment."*
>
> *"I've learnt about working with youth."*

Along with networking skills, being a member of a committee and conflict management:

> *"Networking and looking for opportunities."*
>
> *"Yes, being on the committee and the role of secretary."*
>
> "[I've] *Learnt how to deal with people against the project."*

As a volunteer I've found that these groups have helped me develop my interpersonal skills as the activities of these groups always involve some sort of social and interactional element.

2.3 NO NEW SKILLS OR KNOWLEDGE

While I was confident that most members of these groups would agree that they had learnt new skills or gained new knowledges by being a member of a community-based ecological restoration group, I was careful not to assume this in the question, allowing people to state that they had not. In the end five people stated that they had not learnt something new or gained new skills through their involvement with their group. While two respondents just responded "*no*" others said they had "*done it all before*" or that it used "*skills I already had*", while the last response stated they just followed instructions and didn't really take an interest in the particulars.

As respondents were asked to list the new skills and knowledges they had gained through their membership to a community-based ecological restoration group, most answers listed different knowledges and skills which fell into a number of different sub codes.

TABLE 25

Number of Sub-Codes Cited Per Each Questionnaire Response[18]		
Number of Sub-Codes	Times Cited	Percentage
No new skills/knowledge	5	4.8%
1	30	28.6%
2	47	44.8%
3	18	17.1%
4	3	2.9%
5	1	0.9%

As the table shows, over 65% of the answers given by respondents contained new skills and knowledges that fell into more than one different sub code. This shows that these groups provide many people with a range of knowledges and skills. The sub codes also disguise the fact that many respondents had learnt a number of things which fell into one sub code. For instance in the quotes below while respondents have learnt about plant identification, plant names and planting techniques which all fall into the sub code *native plant knowledge*,

"I am learning to identify native plants and how to plant them, for instance spinifex. What species are natural to the coastal environment."

"I have added to my knowledge (names etc) of native coastal species and where on the coast/beach different species are planted and the method of planting different species."

"How to identify native plants. Planting techniques and correct plant location. Understanding plant names (common/Maori/scientific)."

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[18] One response simply stated "yes" and therefore no description of new skills or knowledges was provided.

Therefore it must be made clear that while this research has collapsed answers into discrete sub codes, most answers listed a number of new skills and knowledge, sometimes within the same sub-code.

5. CONSERVATION ATTITUDES AND COMMUNITY-BASED ECOLOGICAL RESTORATION GROUP MEMBERSHIP

Miller and Hobbs (2002:334) argue that,

> *"Community-based efforts establish a positive-feedback loop as they draw on local support and, in turn, foster even greater interest in local conservation issues."*

Along with understanding what skills and knowledges were being developed in these groups, I wanted to test this theory to see whether the knowledges members had gained through acting locally had caused them to think more about environmental and conservation issues more generally.

TABLE 26

Had Respondent's Attitudes to the Environment and/or Conservation Changed?[19]		
Response	Frequency Cited	Percentage
Yes	63	60%
No	23	21.9%
Confirmed	17	16.2%

As the table shows, 60% of respondents agreed that their attitudes had changed as a result of their membership to a community-based ecological restoration group. Responses included:

> *"I am more questioning of activities which impinge on the natural environment."*
>
> *"I now realise educated people who have learnt about conservation know what they're talking about!"*

---

[19] There were two non responses to this question.

> *"I'm more proactive about environmental issues and local and regional politics."*
>
> *"I became involved in local environmental issues like changing bylaws."*
>
> *"I have a greater awareness of human impacts on coastal areas."*

Just over 21% of respondents said that their attitudes had not changed. However, nearly all respondents who said their attitudes had not changed explained that this was because of a long history of conservation action and concern,

> *"My attitudes are the driving force in my involvement* [in this group]*"*
>
> *"I have always been involved in environmental issues."*

Finally, 17 people stated that while their attitudes had not changed, work with their group had confirmed the attitudes they already held,

> *"[The group] has not shifted my attitudes but has helped to cement them – doing something proactive gives flesh to the ideas in one's head."*
>
> *"My attitudes have not changed but I am more confident about my beliefs and am more prepared to defend them."*

Overall it seems my findings are consistent with that of Miller and Hobbs (2002), that participating in these groups provides people with the skills and knowledge to critically think about, and in some cases act on, wider environmental and conservation issues.

The results of this research suggest that community-based ecological restoration groups provide their members with an opportunity to learn a range of new skills and knowledges. While the main aim of these groups is to restore ecological communities, over 95% of respondents have learnt something new in the process, with over 65% of respondents listing new skills and knowledges which fell into more than one sub code used in this research. Unsurprisingly environmental knowledges and skills were most commonly cited by respondents, probably due to the strong environmental focus of these groups. However, while social knowledges and skills were mentioned much less often, they serve to remind us that ecological restoration work is an inherently social act carried out by human actors working together as a group. My findings also concur with previous research in which environmental action on a local scale can cultivate a concern with wider environmental and conservation issues (Miller and Hobbs, 2002).

While numerous studies have stated that participating in community-based ecological restoration provides people with an opportunity to learn new skills and knowledge, no one has gone so far as to say that the opportunity to learn new skills and knowledges may be a major factor in understanding why people choose to participate in these groups. While in Chapter 6 I identified the reasons people joined these groups, perhaps a major factor as to why people remain in these groups is the learning opportunities these groups provide. Personally, the constant opportunity to learn something new from other members in the group has meant that working as a volunteer for these groups is rarely boring or tedious.

There is no doubt that the development of skills and knowledges has a positive impact on volunteer members as they improve and increase their personal levels of cultural capital and capacities. Worryingly, a number of volunteers stated that the knowledge and experience held by these groups has at times been undervalued, underused, and unrecognised. These results ultimately demonstrate that these groups are an important resource

of knowledge and skills for the wider community and city, district and regional councils.

7. CONCLUSION

The diverse and varied volunteer work of community-based ecological restoration groups provide their members with a social forum in which it is almost impossible not to learn something new. This chapter has examined the answers of 105 respondents to answer the question what skills and knowledges have been developed within these groups? Although the responses to this question were varied, a number of codes and sub codes were developed to capture themes which were apparent.

Overall, the various sub codes demonstrate both the range of new skills and knowledges have been developed within these groups and the remarkable value of these groups as a resource of skills and knowledges for their members and their wider communities.

> *"Volunteering and community participation is an essential component in the development of any community. Without community volunteers and volunteer effort, the quality of life and many of the services and facilities that residents' enjoy would be diminished."*
>
> - Department of Labour Report (Sankar and Wong, 2003:9).

While most coordinators stated that their groups had both social and environmental goals, social goals were always secondary to the restoration of ecological communities. While it seems logical that this would be the case, there is no doubt that these groups generate significant social benefits for their members and their wider communities, and therefore, these social benefits should be examined more closely. To do this, I asked questionnaire respondents to reflect on the social benefits they personally received through their membership to their community-based ecological restoration group as well as asking them to reflect on how they thought their group had impacted the wider community. I also asked group coordinators about their group's attempts to involve the wider community in their project.

As reported in the literature review, a small number of reports have previously examined the social benefits generated by community-based ecological restoration groups (Grese, et al, 2000; Buchan, 2001; Rush and Buchan, 2005; Buchan, 2007; Bruyere and Rappe, 2007). I was interested to learn what social benefits questionnaire respondents perceived their group had generated for both them and their communities, and if their responses were consistent with those found in the previous literature. The following chapter will discuss the methods used to answer this question, produce my results and compare the differences and similarities between my results and that of previous research, and finally argue for the importance of groups such as these in New Zealand's wider society.

To determine what benefits members perceived they personally received, questionnaire respondents were asked:

"Do you feel you receive social benefits by being a member of this group – if yes, what social benefits?"

Questionnaire respondents were also asked to reflect on how they thought their group had impacted the wider community:

"Do you think the group's work has impacted the wider community – if yes, how?"

Finally, group coordinators were asked if the group actively tried to involve other groups and members of the community.

The responses of questionnaire respondents in regard to the benefits they personally received were coded into three major codes, each with a number of sub codes:

1) Increased quality of life;

- Likeminded people/new friends
- Exercise
- Learning new things/swapping knowledges

2) Increased cultural capital;

- Ability to advocate for the environment
- Developing relationships with institutions

3) Psychological benefits;

- Feeling of community/camaraderie
- Satisfying work
- Feeling close to nature

Community wide impacts were sorted into five distinct codes:

- Increased public awareness

- Changing attitudes and behaviours

- Aesthetic/biodiversity improvements

- Opportunity for local action

- Controversy

Both the personal and community-wide benefits questionnaire respondents perceived will be discussed in the following sections.

2. RESULTS

This section will discuss the responses given in the volunteer member questionnaire in regard to both the benefits members perceive they personally received as well as how respondents believed their group had impacted their wider communities.

2.1 PERSONAL BENEFITS

A significant 87.6% of respondents cited meeting new friends or likeminded people as a benefit they had received as a member of a community-based ecological restoration group (see table below). While the remaining codes were cited at much lower frequencies they clearly demonstrate that members of these groups perceive a wide range of social benefits through their membership. The codes displayed here will be discussed in more detail in the following section.

TABLE 27

Personal Benefits Reported by Respondents		
Personal Benefits	**Frequency Cited**	**Percentage**
Meeting likeminded people/new friends	92	87.6%
Feeling of community/camaraderie	31	29.5%
Satisfying work	17	16.2%
Greater awareness of the environment	13	12.4%
Learning new things/swapping knowledge	10	9.5%
Developing relationships with institutions	5	4.8%
Confidence to advocate for the environment	4	3.8%
Exercise	4	3.8%
Feeling close to nature	3	2.9%

Green – Increased quality of life

Light Blue – Psychological benefits

Dark blue – Increased cultural capital

2.1.1 INCREASED QUALITY OF LIFE

Likeminded people/new friends – These groups provide volunteers with a powerful opportunity to meet others with similar interests. This is demonstrated by 92 of 105 respondents citing meeting new friends or likeminded others as a social benefit they had experienced.

> *"It's good meeting likeminded people."*
>
> *"Expanding your group of contacts and friends makes it worthwhile."*

While many respondents stated that the group had widened their social circles to include people they would not have otherwise met.

> *"We have made good friendships with likeminded people and met people we would not have without the group."*
>
> *"I have met likeminded people I would not have otherwise met, some in my own street."*

This theme is mirrored in research by Buchan (2001 and 2007) and Bruyere and Rappe (2007) which also found that these groups provided a socialising opportunity to meet likeminded people.

Exercise – While work with these groups usually involves some form of physical labour, it is often low impact activities like weeding or potting up seedlings in a pleasant outdoor setting. The opportunity for *"Good exercise and outdoor activity"* was appreciated by four respondents as a benefit they received, however this author was unable to find literature which corresponded with this finding.

> *"I have several health problems and I found motivation for physical rehabilitation in working with the group."*
>
> *"I enjoy the physicality of restoration work."*

Learning new things/swapping knowledge - Ten respondents believed that these groups had provided them a social benefit by offering an effective forum for learning new things and swapping knowledges. As demonstrated in Chapter 5 and the wider literature (Buchan, 2001; Rush and Buchan, 2005; Buchan, 2007; Bruyere and Rappe; 2007), members of these groups are often highly educated professionals who are in a position to pass on a range of skills and ideas.

> *"I have learnt a lot from fellow members who are experts in their field – e.g. Ecology, geology."*

While just working as a restorationist had enabled others to learn a range of things:

> *"Learning about helping the environment."*
>
> *"Increased knowledge of plants and how to grow them."*
>
> *"I have learnt a lot about park ecosystems, restoration approaches and pest control."*

New/greater awareness of the environment – Rush and Buchan (2005) found that these groups had caused some members to become more aware of the general environment and their impacts on it. This research concurs, by finding that working with groups such as these caused some volunteers to think about the environment and environmental issues more generally:

> *"I have become more aware of conservation issues nationwide, especially concerning wetlands and coastal areas. [I have a] greater awareness of conservation projects especially within the Wellington Region."*

This "*new awareness of the environment*" caused one volunteer to comment in jest that he would never enjoy walking in the country-side again now that he was able to identify all the invasive and non-native species.

2.1.2 INCREASED CULTURAL CAPITAL

Confidence to advocate for the environment – These groups provide an opportunity for their members to learn a number of new knowledges and skills as demonstrated in Chapter 7. For four respondents, this had given them the confidence to speak to others about environmental issues and to act as an advocate for the environment:

> *"Greater confidence to speak on planning issues (local bylaws, resource consents) that effect the environment."*
>
> *"I am now prepared to speak out about environmental issues."*

Developing relationships with institutions – While the Greater Wellington Regional Council was the most important institutional entity for 10 of the twelve groups according to their coordinators in terms of funding, most groups interact with a range of institutions that help to facilitate and guide their work. This interaction was seen by five respondents to be a benefit that they had received. Most respondents cited the chance to meet and personalise relationships with officials in different institutions.

> *"Got to know the local DOC and GWRC people and also met local councillors."*
>
> *"Improved socialisation and working relationships with Regional and City Council."*
>
> *"I've had contact with many Regional Council staff and with landscape architects and roading experts."*
>
> *"It means cooperation between the group, the local council, Regional Council and DOC."*

One respondent cited that this interaction had lead to a better understanding of how these institutions worked:

> *"Understanding the workings of Greater Wellington."*

This is consistent with a report by Buchan (2007) which found that members of ecological restoration groups had experienced an increase of social capital, through the development and strengthening of relationships between both community and government sectors.

2.1.3 PSYCHOLOGICAL BENEFITS

Feeling of community/camaraderie – Unsurprisingly, as the members of each group worked together towards a common goal, 32 respondents stated that their group had given them a sense of camaraderie and community:

> *"Mutual support for promoting ecological values."*
>
> *"Being with people on the same wavelength as me, a feeling of community and caring."*

This benefit was especially important to respondents who were new to the area:

> *"Being new to the area I needed to meet new people with similar interests on a regular basis, so this group works well for me."*
>
> *"Definitely a social networking bonus especially as I am a new comer to the Kapiti Coast and have few opportunities to participate in other social settings."*

Some groups have developed this to such an extent that members regularly visit and helping other members of the group outside of working bees.

> *"We celebrate birthdays and other special events. We also support individuals in particular ways such as helping in the garden when the owner is unwell or unable to keep it in shape for some reason."*
>
> *"A strong and supportive network which extends beyond the work of the group – celebrating birthdays, helping out if someone is sick or absent for a long period."*

Satisfying work – These groups work primarily to physically manipulate landscapes in order to restore them to a more natural state. This often requires a large contribution of physical labour from volunteers. Volunteers stated that both their work and its outcomes created a sense of satisfaction and pride.

> *"I love being outside – it's so very satisfying doing the work."*
>
> *"It's rewarding seeing the improvement that can be made in a relatively short time."*
>
> *"I get a good feeling about contributing to future generations' enjoyment of an important feature of the landscape."*
>
> *"I take pride in telling/showing people what the community care group are achieving."*

Research participants in a Buchan's (2005:14) study also stated that they "get a real buzz from doing the planting."

Feeling close to nature – Feeling a connection with nature was also discussed by Grese (et al. 2000) and Buchan (2005) as a type of psychological benefit environmental volunteers experienced. In this research respondents mentioned both the passive and active ways that their work made them feel a connection with the environment.

> *"I enjoy the sounds and feels of nature."*
>
> *"I enjoy working with the group and crawling around getting down and dirty (literally)."*

In the coordinator interview, coordinators were asked to list organisations or individuals that had participated with their group. Schools were most often cited, however a range of groups and individuals were mentioned.

TABLE 28

Groups and Individuals who have Participated with These Groups	
Group	Times Cited
Schools	9
University/wananga/poly tech	3
Global volunteer network	2
Girl guides/scouts	2
Other local enviro' groups	2
Local church	1
Local surf lifesaving club	1
Local iwi	1
Local camp	1
Local gardening club	1
Grandparent's day	1
None yet[20]	2

The following section will examine how respondents perceived how their group and their work had impacted the wider community.

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[20] Two groups in this study had only just formed and therefore had not been able to include other groups or members of the community at the time of the interview. However both coordinators stated that they were planning to do so once the group was better established.

TABLE 29

Ways the Group has Impacted the Wider Community	
Codes	Frequency Cited
Increased public awareness by using/including:	
Schools	67
Corporate/adult groups	32
Passers by	15
Local paper	10
Other children's groups	9
Public open days	6
Changing attitudes and behaviours	40
Aesthetic/biodiversity improvements	8
Controversy	5
Opportunity for local action	2

Increased public awareness – The inclusion of others from the wider community and publicity in local papers was cited by many respondents as a way which the profile of the group and its work had been enhanced in the wider community. Groups, individuals and organisations cited by respondents were:

Schools and other children's groups such as the girl guides and scouts:

> *"School involvement is great as it gives children an insight into ecology and they can take pride in watching trees grow and attracting birds."*
>
> *"If children get involved they will tell their parents."*

And passers by, open days, the local paper and other adult groups:

> *"People often stop to ask questions about what we are doing when we work out on the beach."*
>
> *"I think it's appreciated going by comments of passers by."*
>
> *"The general public are becoming increasingly aware of their local beach restoration project."*
>
> *"The committee is endeavouring to involve the local residents and rate payers association."*

***Changing attitudes to the beach and its use* –** Forty respondents thought that their work had helped to change the wider community's attitudes to the beach and its use. This included a general appreciation for coastal vegetation, coastal landforms and an understanding of their fragility and need for respect.

> *"People see the roped off areas and notices informing people of the planting project which results in a greater awareness of our activities and greater respect for the dunes."*
>
> *"A lot of people now have an understanding of the importance of dunes and the need to protect them."*
>
> *"I think the appreciation of beach vegetation and native beach plants is increasing."*
>
> *"The local school did a planting day and now the children know to respect what they planted and avoid walking and playing in those areas."*

***Aesthetic/biodiversity improvement* –** The restoration and caring for coastal sites on public land by these groups was seen by eight respondents as a benefit which the community also enjoyed, as it increased the biodiversity of the area and had in turn enhanced the area's aesthetic quality.

> *"The community have an appreciation of how good the sand dune looks - no longer full of weeds and rubbish and full of natives."*
>
> *"I think people who visit the park notice that it is a nicer place to be."*
>
> *"A lot of people comment how nice it is to walk through the native planted area and watch the trees grow."*

***An opportunity for local conservation action* –** As examined in the literature review, Rush and Buchan (2005), Bruyere and Rappe (2007) and Phipps (2008) argue that these groups provide people with the opportunity to express their values by actively caring for the environment, while Johnston (1986:22) argues that people's options to act are "structured within the local environment". As two respondents noted, these groups had provided the community with an opportunity to participate in pro-environmental behaviours.

> *"Judging by participation it is meeting a latent demand for conservation action."*
>
> *"It creates a sense that 'something's happening' for the environment in my community."*

Division/controversy – not all respondents believed their work had exclusively positive impacts on their wider communities. The physical manipulation of landscapes was noted as divisive by five respondents:

> *"There has been some controversy. Some people have thought it unnecessary, expensive or increasing the risk of erosion. Some have taken this position without finding out more – this has been divisive, surprising and disappointing. We hope they will come around when they see success."*

Some members of groups which had initially began as opposition groups to coastal development noted that there was a continued level of controversy in their communities, years after the group's establishment:

> *"Even now not everyone is in favour of the restoration work, often due to the fact there still isn't always the appreciation of the place of the coastal environment has within the overall ecology of the land."*

3. DISCUSSION

> *"I think there is always social benefit when people work together for a common goal"*

Community-based ecological restoration groups are socially important as they represent a growing part of civil society in New Zealand. While civil society remains a contested term, most agree that it represents "the associational realm between the household or family and the state" (Edelman 2005:30). Associated with the voluntary or nongovernmental sector, rather than individual, contractual membership, these groups are based on interpersonal obligation, trust and reciprocity (Hann and Dunn 1996; White, 1996).

For their individual members, community-based ecological restoration groups work to reinforce and define community identities (White, 1996). Geographically, these groups encourage their members to forge identities based on "a geographic connection in place and territory" and provide a way to forge "imagined communities" in relation to both local geographies and common interests (Claval and Entrikin, 2004:42). Community-based ecological restoration groups both engender cultural capital, as members gain a range of new skills and knowledges, create and strengthen individual networks, while also addressing local concerns about the environment.

Groups such as these are part of a network of other non profit groups which White (1996:152) argues helps to create a "civic culture" in the wider New Zealand society. Therefore, while community-based ecological restoration groups provide a raft of social benefits for their members and their immediate communities, they also act as a part of wider civil society to create a culture of civic relationships between citizens, which Johnston (1992:46-7) argues forms the basis of modern democracy:

"Membership in democratic societies in fact consists in the web of relationships formed by memberships in neighbourhoods, clubs, families, and as many sorts of communities that may come together, and identity as a member of a democratic society is shaped by participation in these local groups."

4. CONCLUSION

The responses given by volunteer members of community-based ecological restoration groups demonstrate that these volunteers perceive that a wide range of benefits are generated by their groups and were generally consistent with the findings of similar studies. For individuals, they provide their members with an increased quality of life, increased cultural capital and psychological benefits. Most commonly, members stated that they had met new friends and likeminded people. While eight other sub codes were identified testifying to the wide range of benefits that members perceive. Volunteers also believe that their groups are making a difference to their communities, from making people more aware of the value of natural coastal ecosystems to controversy, and as one respondent put it "*the group*

has engaged locals over coastal issues." Further, these groups form a part of New Zealand's wider civil society which academics argue forms the basis of democratic society. Overall, it seems that the responses to the questions of what benefits members receive personally and how these groups impact the wider community help to answer why people remain in these groups once joining, and may go some way to answer why many volunteers dedicate so many hours of their free time to their group's project.

> *"Our work can stand as an example to other communities of what local groups can achieve."*
>
> - Questionnaire respondent.

Although not asked for directly in the volunteer member questionnaire, the tangible environmental outcomes of their group's work were constantly alluded to in the responses of participants. While I had asked group coordinators about the achievements of their group, when reading questionnaire responses it became clear that the tangible results of their work was a source of a great deal of pride and encouragement to volunteers.

A recent thesis submitted by Samantha Jamieson (2010) asked how current dune restoration efforts were incorporating scientific theory and whether these restoration efforts were making positive gains for biodiversity. She found that while under half of the groups in her study had measurable objectives, all considered their project a success environmentally (Jamieson, 2010).

This chapter will discuss the themes which were apparent in the questionnaire responses regarding environmental outcomes of the group's work and also present the environmental achievements of each group according to their coordinators.

1. METHOD

Early in the research process when questionnaires were developed and distributed, I naively regarded the environmental outcomes generated by these groups as background information to be explained by coordinators and not as an important factor to why individuals volunteer for these groups. However, after

further volunteer work with these groups, and inspection of questionnaire responses, it became clear that the tangible results of their work were a significant motivation to these volunteers. Schroeder (2000) also found that the tangible results of their work was a significant motivation for volunteer restorationists

As no direct question was asked in the volunteer questionnaire, there were relatively few quotable answers given to the question, what environmental outcomes did respondents perceive their group had generated? Despite this, a number of themes were apparent in questionnaire responses. These themes were mirrored in the coordinator interviews where the question was asked more directly and coordinators were able to elaborate on the themes.

Although the perceivable outcomes of their work was an important motivating factor to volunteers, little if any monitoring work was carried out by these groups to quantify their work's impacts. While the question of how volunteer's perceptions correspond to the actual environmental impacts seems pertinent, it extends beyond the limits of this research.

To identify themes regarding the environmental outcomes of their group's work, coordinators were asked about their group's achievements thus far, while questionnaire responses were read through to find references to the environmental outcomes of their group's work. With this analysis, an overarching theme of "*helping the environment*" was apparent. Six more specific sub codes were identified which elaborated of this theme. These sub codes will be discussed below.

2. RESULTS

Overall, members of these groups see that their work has, in a tangible way, helped the environment. Below, the specific ways which this has been done, represented as sub codes, will be discussed.

2.1 INCREASING BIODIVERSITY

> *"The birds in the area are definitely on the rise. Every year there's a new species arriving. There is a definite progression in the right direction."*

All coordinators stated that they believed their group had increased the biodiversity of the area. This was usually attributed to the reintroduction of native coastal plant species. Others mentioned that their plantings had become a food source for birds who were returning to the area. While others believed that the habitat they had created had lead to a proliferation of species already resident at the site. Questionnaire respondents stated that they had reintroduced native species and enhanced habitat which they perceived had in turn attracted more birds and increased the numbers of species already present at the site.

2.2 PROTECTING BIODIVERSITY

> *"Our group has identified and is now growing rare native plants that could have been lost to the District."*

All groups in this study do their part to protect biodiversity at the genetic level by using ecosourced plants, and all work to protect threatened and potentially threatened coastal species at their project sites. Questionnaire respondents from Island Bay and Riversdale stated that their work had saved the last Pingao[21] in the area, while respondents from the Waitohu Stream Care group commented on their work to propagate from the last remaining Sand Daphnes producing viable fruit in the Wellington Region[22]. At Tarakena Bay, nest boxes have also been introduced to provide a safe place to nest in the area for the Little Blue Penguin.

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[21] Pingao is in gradual decline throughout NZ with threats which include browsing, trampling, over harvesting, seed destruction by rodents and competition from non native species (NZ Plat Conservation Network, accessed 17/02/10).
[22] Sand Daphne is in gradual decline with threats which include trampling, browsing, vehicle damage, fire, seed destruction by rodents and competition from non native species (NZ Plant Conservation Network, accessed 17/02/10). Fruiting plants are rare, possibly due to the decline or loss of pollinators (ibid).

2.3 PROTECTING NATURAL PHYSICAL FEATURES

"All of the stream in the park is now fenced off. When we started there were these big Friesian cows, weighing about a tonne, wandering around in the stream and smashing the banks down."

The estuaries, dunes, wetlands and coastal escarpments these groups work to restore represent Wellington's most threatened ecosystem types (Greater Wellington Regional Council, 2005). The coordinators of Onehunga Bay, Friends of Queen Elizabeth Park, Riversdale and Waitohu Stream Care Group all stated that they had installed fencing, bollards or sand ladders to exclude people, animals, motorbikes and 4WD's and protect natural features such as dunes, wetlands and streams. Riversdale helped to push through a local bylaw which prohibits motorised recreation on the beach, while the Eastbourne Dunes Protection Group, the Friends of Queen Elizabeth Park and the Island Bay Dune Care Group each prevented human development encroaching on coastal systems.

2.4 FACILITATING NATURAL PROCESSES

"It's so successful, you know, almost immediately, within months of planting you can see growth."

The coordinators of DUNE, Waikanae Dunes Care Group, Waitohu Stream Care Group, Island Bay Dune Care Group, Nga Uruora, Friends of Petone Beach, and Friends of Queen Elizabeth Park all stated that their work had helped to facilitate natural dune processes by planting sand binding plants which had reduced blow outs, extended the dune seaward and increased the dune system's ability to self repair after erosional events such as storms[23]. Questionnaire respondents also talked about "dune stabilisation" and restoring streams and wetlands to a more natural state through the physical manipulation of stream channels and restoration planting.

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[23] There is a body of literature to support the observation of these groups regarding the importance of natural sand binding vegetation to the resilience of dune systems (see Bergin, 2009; Dahm, 2009; Environment Waikato, accessed 13/10/09)

2.5 IMPROVING THE HEALTH OF ECOSYSTEMS

> *"The dune's no longer filled with rubbish and weeds."*

Streamside and wetland plantings were perceived to have improved the health of these features through reduced pollutant and sediment infiltration and through the provision of shade to reduce water temperatures. Questionnaire respondents also stated that litter pick ups by their group had improved the quality of their site.

2.6 REDUCING PLANT AND ANIMAL PESTS

> *"Well the main success, I guess we're almost famous, is the boneseed work, because it was considered impossible to get rid of and now it's hard to find on the escarpment."*

All groups work to reduce pest plant species, while a number also work to reduce pest animal species. Plant species that had been reduced included blackberry, tree lupin, boxthorn, boneseed and marram grass. Animal pests that were targeted included rabbits, rats, possums, mustelids, feral cats and magpies. While pest plant and animal species was an ongoing problem for most groups, all perceived that their efforts had reduced concentrations at their sites, while some groups had nearly completely eradicated specific pests.

3. DISCUSSION

The perceived environmental outcomes of the work of these groups are a source of pride and encouragement for the volunteers of these groups. However, all groups in this study carried out little if any monitoring to quantify the actual environmental effects of their work. A recent study by Jamieson (2010) which examined the biodiversity of restored versus unrestored Marram dominated coastal dunes also found that "efforts are often not monitored, and methods often fail to draw on the science of restoration ecology." Her research found that animal biodiversity was correlated with vegetation foliage cover and vegetation diversity and that unrestored, Marram dominated dunes had higher population densities and species diversity for a number of plant and animal species (ibid). She argues that *"Identifying biological change and carrying out biodiversity monitoring may be*

beneficial in maximising the ecological effectiveness of restoration attempts" (Jamieson 2010:6).

As this research has found that perceived environmental outcomes are a motivator for volunteers, perhaps regular biodiversity and pest monitoring would be an extension of this motivation. However as Jamison (2010) has found, the current methods used for restoring the natural vegetation of a landscape, such as spraying and removing weedy vegetation cover, may actually have a negative consequence for native animal species. Jamieson (2010) advocates a more scientific approach whereby environmental outcomes are monitored and restoration methods used are modified accordingly. While this may pose a more effective method of the restoration of ecological communities, as this research has already found, volunteers already give a huge amount of time to their projects, making the scientific monitoring of biodiversity a potentially onerous task. While monitoring to quantify the actual results of their work would of course be useful, this chapter has demonstrated that for volunteers the perceived results of their work has proven enough of a motivation to keep people coming back for more.

4. CONCLUSION

While the volunteer member questionnaire did not directly ask what environmental outcomes volunteers perceived their group had achieved, in their responses questionnaire respondents made clear that tangible environmental outcomes were important to them. This chapter has identified the number of ways in which respondents believed their group had impacted the environment. While the majority of these positive impacts were observed subjectively rather than rigorously measured, these observable results seem to have a strong influence on respondent's motivation to remain as active members of these groups.

FIGURE 6 PINGAO PLANTED BY THE FRIENDS OF PETONE BEACH ON THE PETONE FORESHORE. PHOTO KINDLY PROVIDED BY ROSIE DOOLE. JULY 2009.

The central aim of this research was to explore the geographies of coastal community-based ecological restoration groups in the Wellington Region supported by the programme 'Take Care'. To explore this topic, this thesis was divided into 3 sections, which were broken down into specific objectives:

Section 1 – What are these groups doing?

- Objective 1: How many hours and what types of work are these groups doing?

Section 2 – Who are these volunteers and what drew them to this work?

- Objective 2: What kinds of people volunteer for these groups?
- Objective 3: Why did respondents join these groups?

Section 3 – What keeps these volunteers coming back?

- Objective 4: What skills and knowledges have been developed within these groups?
- Objective 5: What social benefits do members of these groups perceive their group generates?
- Objective 6: What environmental outcomes do members perceive their group generates?

The following section will present the key findings of this study.

HOW MANY HOURS ARE THESE GROUPS WORKING AND WHAT TYPES OF WORK ARE THESE GROUPS DOING?

Questionnaire respondents in this study reported carrying out a large variety of both specialised and general tasks for their group.

Work Done by Volunteer Respondents

Category	Percentage
Equipment maintenance	1%
Monitoring	1%
Fundraising	2.1%
Meet and greet volunteers	2.1%
Meetings	2.1%
Liaise with council	3.1%
Seed collection	3.1%
Pest control	3.1%
Publicity	3.1%
Litter pickup	4.2%
Supervising	4.2%
Providing food	5.3%
Newsletter	6.3%
Plant care: other*	6.3%
Coordinating the group	7.4%
Building/fencing	9%
Committee work	11%
Admin	14%
Nursery work	30%
Plant care: weeding/releasing	67%
Planting	74.5%

Most people reported working between 3-4 hours a month. Women reported working on average slightly more hours per month than their male counterparts. Using information given by the coordinators of the groups in this study, it was calculated that the combined hours spent by all groups on their project per year was 10,326.75 hours. At $20 per hour this equates to $206,535.00 worth of work per year. These findings are significant as there has been no previous research to document what exactly these volunteers are doing and the time volunteers are investing in these groups. These findings suggest that there is a staggering amount of work being undertaken by these groups, including tasks requiring specialised skills, which would be grossly unaffordable if staff were paid to carry out this work.

The gender of questionnaire respondents was surprisingly even considering that according to statistic gathered by Stats NZ in the 2006 Census, women were more likely to participate in volunteer activities than men.

The average age of respondents was 57.13 years, with a range of ages from 23 to 86 years old and a median age of 60.5. Respondents most commonly fell in the 65-69 age group, followed by the 70-74 and 60-64 age groups respectively. In all groups except Pekapeka the proportion of members over 65 years was significantly higher than the general population in each group's respective community.

While the birth place of members was representative of the Wellington Region, the ethnicities of respondents was not. Only two respondents cited their ethnicity as both Pakeha/NZ European and Maori, with all other respondents indicating their ethnicity as solely Pakeha/NZ European.

Half of respondents had an undergraduate degree or higher, while 78% held a post-school qualification compared to 46% of Wellingtonians and 39% of all New Zealanders.

Respondents were most commonly retired, followed by those in full time employment. Half of the groups in this study had 50% or more members who were retired. The occupations of respondents both in the labour force and the past occupations of respondents now retired was widely representative of the Wellington Region, with most citing occupations which fell under the *Professionals* category used by Statistics New Zealand.

Lastly, it is fair to say that members of these groups are active community members generally, with an average involvement with three other groups. All but 13 of the 105 respondents reported being involved in other community groups and/or activities, including Church, music and gardening groups.

These findings suggest that it is possible to generalise about the type of people who volunteers for these groups. Overall, they seem to be people who are older, Pakeha New Zealanders, who are well educated, have the time and money to be

able to volunteer and are particularly involved in their community. This is significant as this has never been explored previously.

Most respondents heard about the group from someone they already knew.

How Respondents Became Aware of Their Group		
Ways Respondents Became Aware	Frequency Cited	Percentage
Through friend/partner/relative/acquaintance/neighbour	47	38.8%
As a founding member	16	13.2%
Networking between groups	15	12.4%
Notice/article/advertisement in local paper	13	10.7%
Approached/saw the group working	8	6.6%
Asked directly be a member	8	6.6%
Group social events	5	4.1%
Letterbox flier	5	4.1%
Word of mouth	3	2.5%
Poster	1	0.8%

Blue - Social Introduction
Green - Remote Introduction

People found out about the group through both other people and from remote introductions like posters and news paper articles. However, respondents most commonly cited being told about the group by a person directly.

The top three reasons respondents chose to join the group was because they cared or had an interest in the environment followed by because it was close to home and because they had an interest in restoration.

What Motivated Respondents to Join these Groups?		
Motivation	**Frequency Cited**	**Percentage**
Caring for/interest in the environment	66	62.89%
It's close to home	32	30.5%
An interest in restoration	24	22.9%
A sense of community	18	17.1%
A chance to meet new/likeminded people	15	14.3%
Newly retired/time to do it	13	12.4%
An interest in NZ native flora/fauna	11	10.5%
The rep/feel/aims of the group	10	9.5%
An interest in volunteerism	9	8.6%
To prevent the development of a landscape	8	7.6%
Self interest	8	7.6%
Encouraged by friend/partner/relative	8	7.6%
Giving something back	8	7.6%
An opportunity for outdoor physical activity	5	4.8%
For the benefit of future generations	4	3.8%

Green - Environmental Motivation
Blue - Social Motivation

While two environmental motivations were in the top 3 reasons why people joined, people cited a wider range of social motivations which prompted them to join their group. As these questions were asked in an open ended format in the questionnaire, 20% of respondents cited more than one way that they heard about the group, and 79% of respondents cited more than one motivation for joining the group, often citing both social and environmental considerations.

While a number of studies have examined why people take pro environmental action (Chawla, 1998 and 1999; Kollmuss and Agyeman, 2002) and volunteer generally (Clary and Snyder, 1999; Snyder, 2009), this study has expanded on previous research by examining the specific motivations of volunteers to join community-based ecological restoration groups.

WHAT NEW SKILLS AND KNOWLEDGES HAVE BEEN DEVELOPED WITHIN THESE GROUPS?

Questionnaire respondents cited a wide range of new things and skills that they had learnt through being a member of their group. Most commonly people had learnt new things about the natural world.

New Skills or Knowledge Questionnaire Respondents Gained through Being a Group Member		
New Skills or Knowledge	**Frequency Cited**	**Percentage**
Native Plant Knowledge	83	79%
Environmental and coastal knowledge	45	42.9%
Pest species identification and control techniques	23	21.9%
Seed collection and propagation	21	20%
Interacting with institutions	9	8.6%
How groups work	7	6.7%
Social skills	6	5.7%
Yes, but no specific skills or knowledge stated	1	0.9%
No new skills or knowledge	5	4.8%

Green - Environmental Knowledges and Skills
Blue - Social Knowledges and Skills

65% of respondents reported learning more than one new skill or piece of information while 60% agreed that the new things they had learnt as a member of their group had a positive impact on their attitudes to conservation and the environment more generally.

Again, while it has been noted that these groups provide opportunities to their members to learn new skills and knowledges (Buchan, 2001; Rush and Buchan, 2005; Phipps, 2008), this is the first to document exactly what these new learnings and skills are. It also concurred with previous research which found that participating in pro-environmental behaviours has a positive effect on people's attitudes to conservation and the environment more generally (Miller, 2005; Jacobson, 2006; Dunn et al., 2007).

WHAT SOCIAL BENEFITS DO RESPONDENTS PERCEIVE THEIR GROUP IS GENERATING?

Members reported both benefits to themselves and the wider community as a result of their group's work. Personal benefits were:

1) Increased quality of life;

- Likeminded people/new friends
- Exercise
- Learning new things/swapping knowledges

2) Increased cultural capital;

- Ability to advocate for the environment
- Developing relationships with institutions

3) Psychological benefits;

- Feeling of community/camaraderie
- Satisfying work
- Feeling close to nature

Personal Benefits	Frequency Cited	Percentage
Meeting likeminded people/new friends	92	87.6%
Feeling of community/camaraderie	31	29.5%
Satisfying work	17	16.2%
Greater awareness of the environment	13	12.4%
Learning new things/swapping knowledge	10	9.5%
Developing relationships with institutions	5	4.8%
Confidence to advocate for the environment	4	3.8%
Exercise	4	3.8%
Feeling close to nature	3	2.9%

- Green – Increased quality of life
- Light Blue – Psychological benefits
- Dark blue – Increased cultural capital

The sub-code *likeminded people/new friends* was by far the most common personal benefit reported by respondents, included in 92 of the 105 responses. Previous literature identified all but three of the themes apparent in this study (Buchan,

2001 and 2007; Rush and Buchan, 2005; Bruyere and Rappe, 2007). The themes unique to this study were; *exercise, confidence to advocate for the environment* and *feeling of community/camaraderie*.

Respondents reported a range of community wide impacts which were:

- Increased public awareness
- Changing attitudes and behaviours
- Aesthetic/biodiversity improvements
- Opportunity for local action
- Controversy

Overall, these groups provide not only social benefits to their members and their immediate communities but also act as a part of wider civil society to create a culture of civic relationships between citizens, which Turner-Johnston (1992) argues forms the basis of modern democracy.

WHAT ENVIRONMENTAL OUTCOMES DO RESPONDENTS PERCEIVE THEIR WORK GENERATES?

While this was not asked directly in the questionnaire, the environmental outcomes of their group's hard work were often alluded to in the answers of respondents and were also discussed by the coordinators of these groups. The environmental outcomes reported by these groups were:

- Increasing biodiversity
- Protecting biodiversity
- Protecting natural features
- Facilitating natural processes
- Improving the health of ecosystems
- Reducing plant and animal pests

The tangible achievements that many respondents perceived were an obvious source of motivation, pride and encouragement to these volunteers. This was also noted previously by Schroeder (2000). A study by Jamieson (2010), recently found

that while the subjective observations help to give volunteers a source of satisfaction and encouragement; they may not always be an accurate representation of the environmental outcomes of the work of these groups. However, the amount of time and effort these volunteers already dedicate to their project may mean that asking volunteers to also monitor their work's impacts may not always be reasonable. Overall, this research has found that for many volunteers subjective observations of progress are an important aspect of this work which helps to keep volunteers coming back.

10.2 IMPLICATIONS

The major implications of these findings are the implications for conservation spending and an aging population. These issues will be discussed below.

IMPLICATIONS FOR CONSERVATION SPENDING AND AN AGEING POPULATION

When compared to the money they receive, these groups represent excellent value for money. This research has demonstrated that the volunteers of these groups perform a wide range of tasks, over many hours, on public land, which generates not only positive outcomes for the environment but also for individual members, the wider community and New Zealand's civil society. Therefore, it is unfortunate that over the course of this research, two major funds which support this work, the Ministry for the Environment's Sustainable Management Fund and the Department of Conservation's Community Conservation Fund, were suspended. As this research found, while on average groups received $3,800 per year from Take Care, the value of the work carried out by these groups was on average $17,211.25 dollars per year, or 4.5 times more than what they received in their Take Care grant. This surely makes the funding of these projects a smart investment and makes the reductions of funds available to these groups seem unwise.

This study found that generally there is an identifiable section of the community who make up these groups. Overall they are older, highly educated, retired, Pakeha New Zealanders. This is significant as according current population projections,

the number of those over 65 will increase from the current level of 550,000 to 1 million by the late 2020's (Stats NZ, accessed 31/12/09). While in 2009 one in eight New Zealanders was over 65, in 2031 that ratio will be increased to one in 5 (Stats NZ, accessed 31/12/09). As both my own findings and that of Statistics New Zealand suggest that rates of volunteering generally increase with age, the ageing population of New Zealand may provide a steady increase of people willing and able to participate in these groups.

This projected increasing volume of potential volunteers poses policy implications for organisations which currently support community-based ecological restoration and conservation in general. These volunteers will potentially provide a greater availability for free labour in this sector and may therefore reduce the need for professionals employed in this work. However, if current projections are accurate and if rates of volunteerism increase with age, those who oversee and support these groups and the budgets these groups have access to will require expansion from current levels.

10.3 RECOMMENDATIONS

The following section discusses recommendations on recruiting and retaining volunteers and puts a case forward for maintaining and extending current funding budgets for these groups.

10.4.1 RECRUITING VOLUNTEERS

RECOMMENDATIONS FOR HOW TO IMPROVE COMMUNITY AWARENESS OF YOUR GROUP

Encourage social networking – As a volunteer myself, I understand how difficult it can be to show up to a working bee or similar event without knowing any of the people there, what to wear, what equipment to bring, what work was going to be done or how to do it. By knowing someone who is already a member, people can

more easily find out what the group is about and feel more comfortable coming along to events as a new member. The importance of finding out about the group through someone you already know was demonstrated by nearly 40% of the active members who responded to the questionnaire stating that they had been introduced to the group this way. Encouraging all members to invite their friends to working bees, networking with other local community organisations and inviting those who show an interest to join in may be the most effective strategy for those looking to attract new volunteers.

Concentrate efforts in local newspaper advertising for remote introductions – Much fewer questionnaire respondents became active members after becoming aware of the group through local newspaper advertising, fliers and posters. However, publicity and notices in the local newspaper was cited by just over 10% of respondents as the way they became aware of the group. Due to the low rates crediting fliers and posters with introducing respondents to the group, I would recommend that most remote introduction efforts should be concentrated on placing articles and notices about the group and upcoming events in local papers.

RECOMMENDATIONS FOR MOTIVATING POTENTIAL MEMBERS TO GET INVOLVED

Promote the environmental goals and achievements of your group – Over 60% of respondents said they joined the group because they cared about the environment and/or conservation. These groups are important because they allow people to actively care about the environment by restoring local, native ecosystems. To attract new members it is important to have a clear and easily communicable vision for the group's project, which includes the flora and fauna the group is trying to restore, and makes clear that volunteers can make a positive difference to local environments.

Promote the group's work as a social activity – While it seems obvious that people join community-based ecological restoration groups because they care about the environment, they also join because these groups provide a great

opportunity for socialising with others. Most groups do a fantastic job at creating a social and fun atmosphere at working bees which I have greatly appreciated during my time as a volunteer. Having time for morning tea, group celebrations and other group activities which aren't just about working hard are great ways to promote socialising between group members. This can leave volunteers feeling that they've not only done something good for the environment but they've also had the chance to spend time socialising with likeminded others. This can also help to build a sense of belonging within the wider community, especially for members who are new to the area.

10.4.2 RETAINING VOLUNTEERS

Encourage and promote knowledge and skill exchange – These groups provide a fantastic forum for experiential learning as well as an opportunity to learn from other members from a wide range of educational and professional backgrounds. As a volunteer I learnt a great deal by asking questions, watching demonstrations and working beside knowledgeable others. This kind of exchange works best when the group works closely together in the same area on the same or similar tasks. A number of workshops, talks and conferences are also put on periodically where members can learn from experts and members of other similar groups. These offer an extension to what can be learnt in the field and can provide yet another way to keep members enthused about what they are doing.

Arrange and promote group social events – Many groups hold social functions outside of working bees where members can get to know each other in a different setting. Functions include dinners, lunches and hāngi. These events usually involve sharing food and celebrating the achievements of the group. Group social events help to build group identity and the social ties that bind these groups together.

Celebrate environmental achievements – There is a great deal of pride and encouragement to be had in seeing the fruits of your labour. Taking before and after photos, measuring dune transects or just noting the return of bird life and the progress of native vegetation can be effective ways in which members can perceive

that their work is making a positive difference. Sharing these observations with other members and the wider public provides confirmation that by working together the group is making positive and observable gains for the environment.

10.4.3 MAINTAINING AND REINSTATING FUNDING BUDGETS FOR THESE GROUPS

Maintain current local and regional government funding and support – Put simply, if funding wasn't available for these groups, much of the valuable restoration work going on in the Wellington Region would not get done. The current rates of funding provided by Take Care for coastal restoration groups alone are producing a quite spectacular bang for Greater Wellington's buck. According to one group coordinator, the surety of funding over a 5 year period provided by Take Care was integral to the efficacy of the grant, as groups are able to budget ahead and plan the project with the confidence that they money would be available. In most cases groups also received ongoing support from local territorial authorities in the form of advice, equipment and also plants which was appreciated greatly by the group coordinators in this study. By quantifying what and how much work these groups are carrying out, it is obvious that these groups provide a very good return for the money they receive and this funding should most certainly remain available.

Reinstate national government funding - As stated earlier, it is unfortunate that over the course of this research, two major funds which support this work, the Sustainable Management Fund and the Community Conservation Fund, were suspended. Symptomatic of the so called global recession and the current national government's reprioritisation and reduction of expenditure, government budgets generally have remained static or have decreased. The suspension of these funds has meant that there are no longer any central government funds available which are targeted at the restoration of public landscapes. For the larger groups in this study, these funds provided substantial financial inputs which allowed for these groups to pay for work over and above the capacities of their volunteers, such as extensive weed control and site preparation. Without funds such as these, some groups may struggle to maintain the excellent quality of work currently being

undertaken. It may also lead to groups competing against each other for the reduced available funds, which could greatly damage the community-based ecological restoration movement here is New Zealand. Overall national government bodies should reconsider the suspension of these funds, as they provide much needed support for the important work these groups undertake.

10.5 OVERALL CONCLUSIONS AND SUGGESTIONS FOR FURTHER RESEARCH

By exploring the geographies of community-based ecological restoration groups in the Wellington Region, this research has found that the volunteers of these groups really do matter. Through rain, gales, wet feet, and summer heat, these groups do an incredible job of not only restoring ecologies, but also of developing their member's capacities and providing social benefits for their members, their wider communities and wider civil society. Overall, this study has found that the volunteers of these groups, motivated by a wide range of both social and environmental concerns, do a stunning amount of work for their group. This work would be completely unaffordable if done by anyone except dedicated volunteers. These groups are generally made up of members of the community who have the time and money to be able to take on this kind of commitment. And finally, while seeing the results of their hard work is a major motivating factor in returning to volunteer for the group again and again, volunteering in this sector is not always as altruistic as it may seem to bemused passers by. The vast majority of members have received a range of new skills and knowledges, as well as a number of social benefits as a result of their membership to these groups.

As this study focused solely on coastal ecological restoration groups in the Wellington Region funded by the Greater Wellington Regional Council's funding programme 'Take Care', it may be worthwhile exploring if my findings regarding what these groups are doing, what draws people to this work and what keeps people coming back are consistent with:

- Other non-coastal groups in the Take Care programme.
- Other coast care groups in New Zealand.

- Other community-based ecological restoration groups which are funded or supported by entities other than Take Care.

Further investigation may also be warranted into how variables such as age and gender relate to variables such as motivations, work carried out and perceived social benefits. For example, the relationships between:

- Work carried out and age
- Hours worked and age
- Perceived social benefits and age
- Motivations and age
- Gender and work carried out
- Gender and perceived social benefits
- Gender and motivations

This study has provided an overview of Wellington's quiet yet fascinating community-based environmental movement supported by Greater Wellington's Take Care programme. Overall, further research should attempt to understand this movement and argue for the importance of institutional support for groups such as these, so that they may continue their important work, which this research has found, benefits Wellington's citizens, communities and environment.

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APPENDIX

TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI

VICTORIA
UNIVERSITY OF WELLINGTON

MEMORANDUM

Phone	0-4-463 5676
Fax	0-4-463 5209
Email	Allison.kirkman@vuw.ac.nz

TO	Caroline Cowie
COPY TO	Richard Willis, Supervisor
FROM	Dr Allison Kirkman, Convener, Human Ethics Committee

DATE	May 18, 2009
PAGES	1

SUBJECT	**Ethics Approval: No 16535, Benefits generated through the Greater Wellington Regional Council funding of coastal community-based ecological restoration groups.**

Thank you for your application for ethical approval, which has now been considered by the Standing Committee of the Human Ethics Committee.

Your application has been approved from the above date and this approval continues until 1 March 2010. If your data collection is not completed by this date you should apply to the Human Ethics Committee for an extension to this approval.

Best wishes with the research.

Allison Kirkman

Convener

Participant Information Sheet for a Study of Volunteers in Coastal Community-Based Ecological Restoration Groups who receive Take Care funding.

Researcher: Caroline Cowie: School of Geography, Environment and Earth Sciences, Victoria University of Wellington.

I am a Masters student in Geography at Victoria University of Wellington. As part of this degree, I am undertaking a research project leading to a thesis. The project I am undertaking will examine *the benefits generated by coast care groups* who receive Take Care funding from Greater Wellington Regional Council. This project has been approved by the Victoria University of Wellington Human Ethics Committee.

As a volunteer member of a coastal community-based ecological restoration group who receives Take Care funding, I am inviting you to participate in this study. As a participant you will be asked to complete a confidential questionnaire which explores your participation in the coastal community-based ecological restoration group you belong to, as well as asking for some personal details. It is envisaged that the questionnaire will take about a quarter of an hour to complete and may be completed in your own time and returned to me in person or via the post. Stamped addressed envelopes will be supplied. Your consent to take part in this research will be implied by the return of your questionnaire.

Should you feel the need to withdraw from the project, you may do so without question at any time before the data is analysed. Just let me know.

Responses collected will form the basis of my research project and will be put into a written report on an anonymous basis. It will not be possible for you to be identified personally. All material collected will be kept confidential. No other person besides me and my supervisor, Mr. Richard Willis, will see the questionnaire responses.

The thesis will be submitted for marking to the School of Geography, Environment and Earth Sciences and deposited in the University Library. It is intended that one or more articles will be submitted for publication in scholarly journals. All completed questionnaires will be destroyed two years after the end of the project.

If you have any questions or would like to receive further information about the project, please contact me on 2399 033 or cowiecaro@myvuw.ac.nz or my supervisor, Mr. Richard Willis on 463 6117 or at Richard.Willis@vuw.ac.nz or at

The School of Geography, Environment and Earth Sciences at Victoria University,
P O Box 600,
Wellington.

Thank you for your time.

Caroline Cowie

Coast Care Volunteers Questionnaire

Please take your time when answering this questionnaire. Try to provide full answers with explanations and examples where you can. The examples provided are only prompts - full and descriptive answers are best.

Please use the extra page provided at the end of the questionnaire if you need more room to answer a question. Please state clearly the number of the question you are answering if you need to use the extra page.

1) How did you find out about the group?

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2) What reasons motivated you to become involved with the group?

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3) How long have you been involved with the group?

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4) Do you feel you receive social benefits by being a member of this group – if yes, what social benefits? For example: *new friends,* etc .

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5) Have you learnt new things or developed new skills by being a member of a coast care group – if yes, what new things have you learnt and/or what new skills have you developed? For example: *how to grow native plants,* etc.

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6) Have your attitudes towards conservation and environmental issues in general, changed after becoming a member of the group – if yes, how? For example, *a better appreciation of coastal processes,* etc.

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7) Do you think the group's work has impacted the wider community – if yes how? For example: *involving local schools*, etc.

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8) Are you involved with other community groups or activities? If yes, please specify. For example: *Forest and Bird, the Church, local book club* etc.

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9) What task/s do you carry out for the group? If you carry out more than one task, please rank each task from 1 (most often carried out) onwards towards least often carried out, for example, *1-nursery work* (most often carried out), *2-writing articles for group's newsletter, 3-releasing* (least carried out).

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10) Please mark with an X between the brackets approximately how many hours per month you spend working on the project.

- Less than 1 hour per month   [ ]

- between 1-2 hours per month   [ ]

- between 2-3 hours per month   [ ]

- between 3-4 hours per month   [ ]

- between 4-5 hours per month   [ ]

- between 5-6 hours per month   [ ]

- between 6-7 hours per month   [ ]

- between 7-8 hours per month   [ ]

- between 8-9 hours per month   [ ]

- between 9-10 hours per month   [ ]

- More than 10 hours per month   [ ] – please specify…………………………………………

11) Are you (please mark with an X between the brackets):

- Male   [ ]

- Female [ ]

12) When were you born? For example, *13/08/1956.*

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13) Please mark with an X between the brackets the country you were born in:

- New Zealand [   ]

- Australia   [   ]

- England   [   ]

- Scotland   [   ]

- South Africa   [   ]

- Other   [   ] - please specify..

14) Please mark with an X between the brackets the ethnicity/ethnicities that apply to you:

- Pakeha/NZ European [   ]

- Maori   [   ]

- Pacific Islander   [   ] -please specify..

- Asian   [   ]   -please specify...

- Other   [   ]   -please specify...

15) Please print your highest educational qualification and the main subject, for example:

Qualification: *Trade Certificate*

Subject: *Electrical Engineering*

- Qualification...

- Subject...

16) Please print your main occupation, for example, *Retiree, High School Teacher, Receptionist*, etc.

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-If you are retired, what was your main occupation before retirement?

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Comments: please feel free to add any other comments you feel may be relevant to this research

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Thank you for taking the time to fill out this questionnaire. Please check that you have answered all the questions and feel free to add to your existing answers if you wish.

Use this page if you need more room to answer a question. Please clearly state the number of the question you are continuing to answer.

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Participant Information Sheet for a Study of Coordinators of Coastal Community-Based Ecological Restoration Groups in the Wellington Region.

Researcher: Caroline Cowie: School of Geography, Environment and Earth Sciences, Victoria University of Wellington.

I am a Masters student in Geography at Victoria University of Wellington. As part of this degree I am undertaking a research project leading to a thesis. The project I am undertaking will examine the *benefits generated by coast care groups* which receive Take Care funding from Greater Wellington Regional Council. This project has been approved by the Victoria University of Wellington Human Ethics Committee.

I am inviting you as a coordinator of a coastal community-based ecological restoration group, which receives Take Care funding, to participate in this study. You will be asked to participate in a structured interview about the community-based ecological restoration group you coordinate. Some information asked for in the interview may not be available to you immediately and may take time to gather prior to the interview taking place. Once the necessary information has been gathered, it is envisaged that the interview will take about an hour to complete. I will Endeavour to ensure that the interview will take place at a time and location which is of most convenience to you.

Should you feel the need to withdraw from the project, you may do so without question at any time before the data is analysed. Just let me know.

Responses collected will form the basis of my research project and will be put into a written report. As the structured interview asks for non-personal, factual information about the group, it will be possible for the group and you as its coordinator, to be identified.

The thesis will be submitted for marking to the School of Geography, Environment and Earth Sciences and deposited in the University Library. It is intended that one or more articles will be submitted for publication in scholarly journals. Interview audio recordings and transcripts will be destroyed two years after the end of the project.

If you have any questions or would like to receive further information about the project, please contact me on 2399 003 or at cowiecaro@myvuw.ac.nz or my supervisor, Mr. Richard Willis, on 463 6117 or at Richard.Willis@vuw.ac.nz or at:
The School of Geography, Environment and Earth Sciences
Victoria University
P O Box 600,
Wellington.

Thank you for your time,

Caroline Cowie.

VICTORIA UNIVERSITY OF WELLINGTON
CONSENT TO PARTICIPATION IN RESEARCH

Community-Based Ecological Restoration in the Wellington Region

- ☐ I have been given and have understood an explanation of this research project. I have had an opportunity to ask questions and have them answered to my satisfaction. I understand that I may withdraw myself (or any information I have provided) from this project (before data collection and analysis is complete) without having to give reasons of any sort.

- ☐ I consent to information or opinions which I have given being attributed to me, and my affiliated coastal community-based ecological restoration group, in any reports on this research.

- ☐ I understand that the audio recording and transcript of my interview will be destroyed after 2 years.

☐ I understand that I will have an opportunity to check the information I provide in the interview before publication.

☐ I understand that the data I provide will not be used for any other purpose or released to others without my written consent.

☐ I would like to receive a summary of the results of this research when it is completed.

☐ I agree to take part in this research

☐ [or I agree that _____, who is under my guardianship, may take part in this research]

Signed:

Name of participant (Please print clearly):

Semi-Structured Interview:

1) When was the group formed?

2) Why was the group formed?

3) How many sites does the group work on?

4) What is the geographic location of the group's project/s?

5) What is the land area in m2 (approx) of the CBR project/s?

6) Who does the land belong to? For example, *the Kapiti Coast District Council.*

7) What specifically is the project/s trying to restore?

8) Why is it important to restore this feature?

9) With what methods is the group trying to restore the site/s? For example: *manual and chemical pest control, planting* etc.

10) How many members does the group have? Please make a distinction between those who regularly participate as active members (5 or more times a year) and those who rarely participate and are non active members (less than 5 times a year).

- Active:

- Non Active:

11) How many female members, and how many male members, are there in the group?

- Female:

- Male:

12) Does the group charge a fee for membership? If yes, please explain in detail your group's membership fee system, for example: *fee of $20 per person/ year, $30 fee for a family/year* etc.

13) How regularly does the group schedule work on the project/s and for how long? For example: *every second Thursday of the month for two hours*.

14) What is the average attendance rate of members for work scheduled on the project/s?

15) Does the group actively try to include other groups and/ members of the community? If so, please explain. For example: *invite local school group to a planting day once a year* etc*.*

16) How much money has the group received for the project/s since its inception? For example, through grants and donations.

17) Does the group also receive support from the local city or district council? If yes please explain.

18) What is the form and quantity of outside support received by the group, and where has the support come from? For example: *$3000 from Honda Tree Fund, 5 hours labour from a corporate group of 15, 5 secateurs from local council, management plan from expert consultant commissioned by regional council* etc.

19) Who is your most important funder and why are they the most important?

20) If funding was not available how would this affect the group and its project/s?

21) Does the group have its own nursery to grow plants? If yes;

i) Where is it located?

ii) How many plants (approx) were produced in 2008 and what proportion of all plants planted in 2008 were grown by the group? For example*: approximately 8,000 plants grown in 2008, representing approximately 80% of all plants planted by the group in the same year.*

22) What nurseries has the group used to source plants for the project?

23) Does the group use eco-sourced plants? Why/why not?

24) Does the group have a formal management plan for its project/s?

25) What are the group's goals?

- Short term:

- Medium term:

- Long term:

26) What goals have been met?

27) What are the main challenges the group faces in meeting its goals?