Understanding why people stay. A case study on volunteer retention at Zealandia Te Māra a Tāne in Wellington

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Abstract

Conservation volunteering is a meaningful activity that thousands of people regularly participate in. Volunteers are a crucial part of environmental restoration projects, yet the motivational factors that retain this group are under researched. The present project sought to explore the motivations and experiences of long-term volunteers at Zealandia Te Māra a Tāne ecosanctuary in Wellington, Aotearoa New Zealand. Using an online questionnaire with an environmental version of the Volunteer Functions Inventory scale and various open-answer questions, this study explored the motivations and experiences of 109 long-term current volunteers. The mixed methods analysis revealed three key motivations from the VFI were 'Helping the environment', 'Get outside' and 'Community', supporting previous findings in Aotearoa and abroad. Participants were not motivated by 'Career', and various organisational or changing abilities impacted their participation over time. Qualitative analysis of open-answer responses highlighted the emotional and relational ways volunteers experienced their motivations for volunteering long-term. Participants contributions were value-based, in that they were deeply committed to the restoration goals of Zealandia. They were motivated long-term by a connection to the sanctuary that grew over time and various relational factors that made their contribution meaningful.

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CHAPTER ONE: INTRODUCTION AND LITERATURE REVIEW

"We cannot win this battle to save species and environments without forging an emotional bond between ourselves and nature as well for we will not fight to save what we do not love" (Gould, 1991, p. 14).

1.1 Introduction

Volunteering is a meaningful activity that millions of people around the world regularly partake in. Voluntary endeavours have historically been considered a core part of contributing to a well-functioning society, whether through service to the environment; people, or animals (Salamon et al., 2018). Volunteering in Aotearoa New Zealand is estimated to have an impact valued at $4 billion per year and Kiwi volunteers formally log 159 million hours annually (Fukushima, 2016; VNZ, 2022). A 2021 General Society Survey reported that 50.7% of New Zealanders over 15 years old had volunteered their time in the past month. Conservation projects accounted for 11.1% of the recorded voluntary activities.

Conservation volunteers play a vital part in environmental stewardship globally (Bruyere & Rappe, 2007). Locally, conservation volunteers are argued to be the force that drives conservation work in Aotearoa (Heimann & Medvecky, 2022). Environmental volunteerism includes restoration work, species management, such as pest trapping planting and weeding, educating others, and data collection (Bruyere & Rappe, 2007; Guiney & Oberhauser, 2009). Such work is crucial to environmental organisations meeting their goals (Ryan et al., 2001), educating society about environmental degradation (Bruyere & Rappe, 2007), and providing opportunities for people to steward their local environment (Ganzevoort & van den Born, 2020).

Governments both locally and abroad are increasingly reliant on volunteer work to meet conservation goals, so it is therefore crucial to understand why volunteers continue to give their time (Bruyere & Rappe, 2007; Sextus et al., 2024). Previous research has identified a range of motivations for both general as well as conservation volunteers, however, there is a lack of research on long-term volunteer motivations and experiences (Einolf & Yung, 2018). Likewise, understanding how and why volunteers are motivated to continue volunteering in conservation has not yet been explored. The present study sought to address this gap by offering an in-depth exploration of the motivations of long-term volunteers at the landmark conservation organisation, Zealandia te Māra a Tāne in Wellington, New Zealand.

Below, I present the literature review of relevant research, beginning with defining the very nature of volunteering. Conservation volunteering will then be specifically discussed, highlighting the key

features of this type of volunteering and what is known about the demographic of people who contribute. The next section will cover why people volunteer, outlining key theories and current research on what motivates people to volunteer. The final section will focus on why people continue to volunteer, highlighting research on retention and theories that work to understand long-term volunteering. Each of these sections will be structured in two parts, starting with a broad focus on volunteering, followed by a more focused review of how the research relates to conservation volunteering. The final section focuses on qualitative research in conservation volunteering.

1.2 Literature review

1.2.1 Understanding volunteering

Globally, it is estimated that 862 million people volunteer every month (UNV, 2021). The combined labour contributed by volunteers is equivalent to 61 million full-time jobs per year (Forner et al., 2024). Despite its global impact, volunteer research as a field of study remains fragmented (Kragt & Holtrop, 2019; Salamon et al., 2018). Existing research on volunteers has focussed on what kind of people volunteer and what motivates them to sign up, with the goal of recruiting more volunteers (Ganzenvoort & van den Born, 2023; Forner et al., 2023). By its very nature, volunteering has a nuanced definition and therefore reliable measures for comparable volunteer statistics across spaces and time, and appropriate theories that reflect volunteers' experiences remain highly complex for researchers to discuss (Forner et al., 2024; Kragt & Holtrop, 2019; Salamon et al., 2018).

Defining 'volunteering' has long been a topic of interest among researchers seeking to understand the global scope of voluntary actions. Many argue that a cohesive definition of volunteering will allow for research to be accurately compared, adding to a collective understanding of volunteering (Salamon et al., 2018; Turner et al., 2020). However, defining the term to be understood across cultural, social and geographic contexts is complex (Zhou & Muscente, 2023). Further, researchers highlight that a definition that is relevant to the field in which people are volunteering is important (Overgaard, 2018).

It is generally agreed upon that volunteering is an unpaid activity that provides value to another, be it a product, support or labour; and there are various considerations for each aspect of such a definition (Salamon et al., 2018; UNV, 2021). The International Labour Organisation defines volunteering as "unpaid non-compulsory work; that is, time individuals give without pay to activities performed either through an organization or directly for others outside their own household" (ILO, 2011, p. 13). This definition is broadly used by researchers and adequately addresses whether someone has a choice in volunteering (ensuring it is not compulsory labour) and who they are helping (delineating between domestic labour, formal organisational volunteering and helping out family and friends) (Salamon et al., 2018).

However, it does not address important distinctions such as the level of skill, time commitment, and type of volunteering. Some voluntary organisations require a technical skill, for example, veterinary support for animal welfare project or the ability to use machinery in an outdoor conservation project. Voluntary work can range from specific skills as a requirement to participate, to unskilled work such as picking up litter (Overgaard, 2018; Salamon et al., 2018). In relation to time commitment, volunteering may occur regularly through an official organisation with regular roles, for a specific event or initiative, or be a more casual intermittent arrangement (Forner et al., 2023).

There are three commonly understood areas where one may volunteer. Local initiatives such as community-based conservation in Aotearoa (Sextus et al., 2024), intermediaries such as Volunteering New Zealand (an agency that connects volunteers to projects), or national voluntary organisations such as the Department of Conservation, for whom thousands volunteer annually (Hardie-Boys, 2009). The field a person volunteers in varies greatly, impacting the type of contribution they make (Salamon et al., 2018). Volunteers contribute to health care for the dying, scour beaches for litter, and provide meals for the underprivileged. Each sector of volunteering is distinct, with different needs, contributions to society, and therefore voluntary experiences.

The present study draws on the definition and considerations above to assert the following definition; a volunteer is someone who chooses to spend time working for the benefit of a cause, outside of the household, for no expected monetary compensation (Forner et al., 2024; Salamon et al., 2018; Trent et al., 2020; UNV, 2021; VNZ, 2022). This definition makes useful distinctions regarding volunteering being unpaid, by choice and outside of one's household. The specific context of the study then allows for a more specific definition regarding the time and skill involved in participant's volunteering.

Participants are committed (long-term) volunteers to a voluntary organisation (Zealandia), they are formally giving time outside their household for no monetary remuneration and it can be expected that they are participating on their own accord (Forner et al., 2024). They partake in various roles requiring a range of skill levels, and are contributing within the field of conservation volunteering.

1.2.2 Conservation volunteering

Conservation volunteers are a unique subset of volunteers whose efforts contribute to environmental projects and organisations often working to both restore and maintain native flora and fauna (Heimann, 2018; Measham & Barnett, 2008). Common conservation volunteer roles include restoration; species management, planting and weeding, monitoring and data collection (Bruyere & Rappe, 2007; Guiney & Oberhauser, 2009; Gulliver et al., 2023). Volunteers do these tasks through

community or grassroots groups (a community tree planting group for example), organisations (such as Zealandia) or volunteer programmes (such as Volunteer for Nature).

There are five key areas that make up environmental volunteering; activism, education, monitoring, restoration and sustainable living. Activism includes volunteer roles that contribute to political conservation agendas such as groups lobbying for an environmental cause. Education involves sharing information about the environment or a particular issue an environment might be faced with. Volunteers involved in monitoring contribute to larger studies monitoring particular species or plants for research purposes, and restoration work involves contributing to replanting, building structures that support regrowth, or implementing systems that minimise degradation in an area. Sustainable living includes tasks related to implementing sustainable practises such as designing better recycling systems (Measham & Barnett, 2008). Conservation organisations may engage volunteers in one or all of the modes, for example, Zealandia offer volunteer roles in education, monitoring and restoration.

Environmental stewardship is distinct in the tangible changes volunteers see and the practical learning volunteer opportunities bring (Bramston et al., 2011). Further, voluntary tasks often take place outdoors and are physical in nature, providing volunteers with an opportunity to connect with nature and be physically active in their volunteerism (Alamenciak and Murphy, 2024). Volunteers contributing to conservation work are labelled various terms (nature volunteers, environmental volunteers, conservation volunteers, ecological restoration volunteers, or environmental steward volunteers). Throughout the following review, volunteers will be identified by the terms the authors use. Where possible, the context volunteers contribute to will be highlighted and any definitional differences.

Research on conservation volunteers as a unique group is an evolving field. Much of the focus of research in this area has been measuring the scientific accuracy of the scientific work such as monitoring that volunteers contribute to, and secondly, on the impact conservation volunteering has on the individual volunteer's wellbeing (Beirne & Lambin, 2013). While these are important areas of research, there is still much to be understood about the specific motivations and experiences of conservation volunteers.

1.2.3 Who volunteers

Like much of statistical research, collecting data that is representative of actual volunteer demographics is complex. While an accurate and generalisable definition is the first step to measuring volunteering, there are other key issues to consider in researching volunteer characteristics. While it is beyond the scope of this study to address the research issues in quantifying volunteering, common

issues are briefly outlined below to highlight the lack of what is known about the actual scope of volunteering.

In a background paper for the Global Scope of Volunteering, the most substantial attempt to measure volunteer demographics to date, Salamon et al. (2018) presented various issues researchers are faced with when gathering data on volunteers. They argue that first and foremost, the altruistic and often unstructured nature of volunteering impacts what can be understood about its scope. In formal settings such as employment, employee characteristics, frequency, tasks and length of service are continuously logged, meaning there is a clearer picture of the scope of workers (Salamon et al., 2018). In voluntary setting, the researchers found volunteers are often actively resistant to recording volunteer data as it may clash with their values. Volunteers may value giving time without quantifying how much or for how long, or be resistant against reporting their good works. Even if volunteers are comfortable recording their hours, they often deem it unnecessary due to the flexible nature of voluntary arrangements. This leads to a lack of clear records of hours, tasks and demographics within many organisations. This issue is confounded in community groups and more causal volunteering arrangements (Salamon et al., 2018).

The resulting lack of data from organisations themselves leads to researchers having an overreliance on self-reporting measures such as questions included in population-level data collection or large-scale surveys to those willing to report their volunteerism. Self-reported data is impacted by recall bias (forgetting if and how much someone has volunteered), social desirability (reporting doing more volunteering than was actually done), and rely on participants varied interpretation of what it means to volunteer (Turner et al., 2020; Salamon et al., 2018). Further, population-level research commonly uses questions such as ‘Have you volunteered in the last month?’, which Salamon et al. (2018) argue misses episodic or casual voluntary activities. Research that does focus on volunteers is commonly underfunded, using mail or internet surveys (Salamon et al., 2018). No response from many volunteers means that these voices are missing, and can also overrepresent the voices of a few higher-motivated volunteers willing to spend more time on a survey, creating an incomplete view.

In acknowledgement of the complexities in demographic data gathering, the following section briefly outlines what is currently understood about the demographics of conservation volunteers. Alamenciak and Murphy (2024) recently created a systematic map of conservation volunteers, synthesising existing research on volunteers currently involved in environmental restoration. Demographics were reported in 71.4% of the papers, thus providing insight into the ethnicity, gender, education and age of conservation volunteers (Alamenciak & Murphy, 2024). An overview of their reported trends is provided below with added statistics from Aotearoa New Zealand.

Regarding ethnicity, Alamenciak and Murphy (2024) report an overrepresentation of White volunteers in environmental volunteer research. While the authors did not elaborate, and their review did not include research from Aotearoa, this finding is echoed in national general volunteering (VNZ, 2022) and conservation volunteer studies (Bell, 2003; Cowie, 2010; Heimann & Medvecky, 2022). In a recent report on the New Zealand State of Volunteering, 91.4% of survey respondents were Pākehā, highlighting the trend in Aotearoa volunteers (VNZ, 2022). Heimann and Medvecky (2022) surveyed 986 conservation volunteers and found that 89.2% identified as Pākehā. The remaining participants identified as 'other' (6.3%), Māori (1.9%) and preferred not to share (1.9%). The trend was also reported by Bell (2003), where 88% of conservation volunteers in their study identified as Pākehā, and was observed by Cowie (2010) in their research on Wellington Region conservation groups, where 98% of respondents identified as Pākehā and 2% as Māori. Cowie (2010) reported that this finding was not representative of the Wellington population statistics at the time, where only 63% of the population was Pākehā (Cowie, 2010).

The trend of over 88% of conservation volunteers identifying as Pākehā diverges from actual population estimates, where current statistics show only 67.8% of Aotearoa are Pākehā and 17.8% identify as Māori (Stats NZ, 2024). Māori have been found to be the most likely population in Aotearoa to volunteer, however, due to te ao Māori (the Māori world) collective cultural frameworks such as mahi aroha (which encapsulates the responsibilities to the collective for the wellbeing of the community), the individualised concept of volunteering may not be relevant for some Māori (VNZ, 2022). Importantly, the low representation of Māori in particular in conservation volunteering therefore may not be representative of their participation in conservation work in settings such as on their marae or community based conservation (Ough Dealy et al., 2023; VNZ, 2022).

Another consistent finding is the skewed older age in conservation volunteers (Alamenciak & Murphy, 2024; Clary & Snyder, 1999; Cowie, 2010; Heimann & Medvecky, 2022; Hvenegaard & Perkins, 2019; Peters et al., 2015; Sextus et al., 2024). This has been observed in North America, where Hvenegaard and Perkins (2019) had a mean age of 68 in their study on Conservation volunteers monitoring Bluebird trails in Canada. It was also found in the Netherlands, where the average age for 3775 nature volunteers was 61.8 (Ganzenvoort & van den Born, 2019), and in Aotearoa, where a nationwide conservation volunteer survey had a median age of 60 (Heimann & Medvecky, 2022). The New Zealand results again diverge from population statistics, where the current median age in Aotearoa is 38.1 (Stats NZ, 2024).

Heimann (2019) also found evidence that long-term volunteers in Aotearoa may be older than the national demographic average. In a nationwide survey interviewing 986 conservation volunteers, they were able to divide results into short (under one year) and long-term volunteers (over one year). They found that the average age of short-term volunteers was 44, while the long-term volunteer age had a mean of 58 years old.

Trends in education levels can also be seen for conservation volunteers. Ganzenvoort and van den Born (2019) found that volunteers in the Netherlands tended to have high levels of education, namely a degree or higher. This has been observed in other Western countries, including evidence from the United Kingdom by Sloane & Pröbstl-Haider (2019) where 74.2% of participants had a university degree or higher, In the United States, where Bruyere and Rappe (2007) found that 90% of their participants from the United States had a university degree. Cowie (2010) also observed this trend in Wellington, where 78% of conservation volunteers were educated beyond high school.

In general, all genders appear to be committed conservation volunteers (Alamenciak and Murphy, 2024; Bell, 2003; Cowie, 2010; Heimann & Medvecky, 2022). For example, in Aoteaora, Cowie (2010) and Heimann and Medvecky (2022) both reported that 54% of their study participants were female, and recent evidence from volunteers in the Manawatu also revealed a mostly even spread of volunteers (53% female) (Sextus, 2024). Some studies, however, report a higher representation of female volunteers (Ganzenvoort & van den Born, 2019).

Considerably less attention has been paid to personality traits in volunteer research (Ackermann, 2019), however, some studies from other fields of volunteering such as healthcare have found trends. Omoto et al., (2010) researched personality predictors for volunteering with an AIDs foundation and found that extraversion and communal orientation were predictors for their focus organisation. Ackermann (2019) used data from the Swiss Volunteering Survey to analyse how personality traits interacted with volunteering and concluded that extraversion was a key trait in volunteering. They also found that emotional stability is related to formal volunteering, but was moderated by situational factors such as community and time factors (Ackermann, 2019). Similarly, research in Australia found that volunteers scored highly in extraversion and agreeableness. Interestingly, the authors connected these traits with functions found in motivation research, conflating extraversion with social motivations and agreeableness with altruistic motivations. They report that these personality traits and motivations (namely, extraversion, social motivations, agreeableness and altruism) are the most cited findings for volunteers in Australian volunteer research (Kragt & Holtrop, 2019).

Overall, the above literature suggest that conservation volunteering globally and locally appear to attract high numbers of White or Pākehā volunteers, an overwhelmingly older group than population averages, and who may be even more likely to be older if they are long-term volunteers. They are a highly educated group, with a somewhat even representation of males and females. These well-recorded demographic factors give insight into who volunteers, but not why they volunteer. This leads to the question, what factors lead a well-educated Pākehā person in their later years to sign up to give their time in a conservation activity? The motivations and experiences of volunteers are explored in the following section.

1.2.4 Why people volunteer

Volunteering takes effort, is unpaid and is often an ongoing commitment, leading researchers from a range of disciplines to question why volunteers are motivated to contribute (Snyder et al., 2000). Motivations are the most frequently studied aspect of volunteering, and theories of volunteer motivation continue to evolve (Alamenciak & Murphy, 2024; Chacón et al., 2017; Widjaja, 2010). Research has historically relied on Organisational Psychology theories to understand volunteer motivation and behaviour. This is due to the similarities between volunteering and paid employment; in that a volunteer may turn up to a rostered shift and spend allotted time working on a project and have set tasks to do. But the distinctions between volunteering and paid employment, namely financial renumeration or contractual obligation, means Organisational Psychological theories about paid employment do not consider important aspects of voluntary work.

Focussing on the lack of financial reward in volunteerism, researchers have assumed people volunteer their time for other personal benefits (Forner et al., 2024; Zhou & Muscente, 2023). This assumption has historically caused researchers to adapt theories of motivation for the workplace such as Social Exchange Theory or the Theory of Planned Behaviour to explore non-financially related motives (Forner et al, 2022; Hoye & Kappelides, 2021; Kragt & Holtrop, 2019). The following section provides an overview of key theories informing volunteer motivation research. Motivation is outlined first, followed by behavioural theories Social Exchange Theory, Theory of Planned Behaviour and altruism. Next, the Functional approach to motivation is discussed, which is offered as an alternative for addressing problems of those existing models. All theories discussed in this section concern general volunteering.

Motivation is the psychological process that precedes, directs and sustains an individual's behaviour (Brown, 2007). The development of Self Determination Theory (SDT) became central to understanding human motivation, describing motivations as the result of various needs being met (Deci & Ryan, 1985). Where previous theories focussed only on extrinsic rewards such as money to

explain motivation, SDT introduced the idea of intrinsic rewards (Forner, 2019). Ryan and Deci (2020) describe this as an internal reward, such as the joy of exploring something out of curiosity. There are no external rewards for the exploration, rather the satisfaction is psychological (Ryan & Deci, 2020). The theory assumes a human need for psychological growth, positing that this can only be achieved when an individuals' needs for autonomy, competence and relatedness are met.

Autonomy is described as an individual feeling in control of their actions, and competence relates to feeling they have the skills required to complete a task. Relatedness is described as feeling a part of something or attached to others (Ryan & Deci, 2020). Applied in a volunteering setting, motivation is understood to be reward-driven, either by extrinsic rewards such as receiving praise for their work, or intrinsic rewards such as gaining confidence or deriving pleasure from the activity (Clary et al., 1996). The rewards might be instant; such as the activity being enjoyable and therefore rewarding, or long-term, for example, when knowledge is gained the more a person volunteers.

The SDT view of human motivation is widely accepted among volunteer researchers. The theory is useful for questions regarding why people volunteer and its assumptions have largely been applied to studies of volunteer motivation. SDT has commonly been applied in conjunction with various behavioural theories that add different perspectives such as theories regarding the relational exchange and perceptions involved in decision making (Caissie & Halpenny, 2003; Kragt & Holtrop, 2019; Sloane & Pröbstl-Haider, 2019).

Social Exchange Theory (SET) posits that individuals are motivated toward a behaviour as a result of considering the costs and benefits of an action (Blau, 1964). Costs are seen as the negative impacts of an action or exchange, as perceived by the actor, as well as the benefits lost due to the activity. Benefits, or rewards, are the subjective positive impacts of an action or exchange (Cook et al., 2013). Blau (1964) theorised that humans are constantly weighing up the two in decision-making, which he asserts underpins all social exchanges. Subjective levels of expectancy for an exchange are also important to SET, such as someone’s previous enjoyable volunteer experience causing them to consider the rewards of volunteering as higher than someone who may have had a negative experience (Cook et al., 2013).

A key concept in SET is the idea of the Psychological Contract (PC) formed in social exchanges. A PC is theorised to be the subjective conditions of an agreement between a person and an organisation, based on the assumption by the individual that an exchange is reciprocally beneficial for both parties (Rousseau, 1998). The theory was developed to understand the nuances of mutual expectations between employers and employees (Hoye & Kappelides, 2021). For example, an employee may

perceive they are contributing to a level that is above their role description and are not receiving adequate appreciation from their employer. While this is not a breach of their legal contract, the perceived imbalance of the costs (over-working) to the benefits (extra pay, gratitude or acknowledgment of the work) breaches the employee's psychological contract. PC assumes that social exchanges and remuneration must be perceived as fair (even costs and rewards) by individuals for the 'contract' to be maintained (Hoye & Kappelides, 2021). The theory has commonly been used to explain volunteers' motivations for continued volunteerism, positing that breaches of volunteers psychological contracts result in volunteer turnover (Benevene et al., 2020; Hoye & Kappelides, 2021).

Theory of Planned Behaviour (TPB) is the theory that one's attitudes, perceived control and contextual norms influence one's intentions, resulting in behaviours as a rational response (Ajzen, 1991). It is a theory that has been used to predict consumer behaviours, providing an understanding of the multifaceted decision-making process that precedes behavioural outcomes (Randle & Dolnicar, 2012). Applied to volunteering, TPB theorises that choosing to volunteer (behaviour) results from what the person thinks about volunteering and the consequences it will have for them (attitude), how difficult they perceive the volunteering to be (behavioural control) and whether the volunteer thinks others want them to volunteer or not (norms) (Kragt & Holtrop, 2019). This theory has been used to understand the different reasons people sign up to volunteer by examining traits such as cultural and age differences in influencing behavioural outcomes (Kragt & Holtrop, 2019; Randle & Dolnicar, 2012).

While SET and TPB both see motivations as a process of needs met or unmet, there are drawbacks to their application to volunteering. In a systematic review of SET use in volunteer research, Hoye and Kappelides, (2021) argue that using PC to understand volunteers is reductive to the various other nuanced reasons people volunteer. They state it is two-dimensional, assuming behaviour is a result of relational and transactional motivations. While it is a useful theory, its application has lacked consideration of the nuanced reasons people volunteer (Hoye & Kappelides, 2021). In an overview of studies using TPB to understand motivations, Kragt and Holtrop (2019) found the theory better described volunteers' attitudes toward volunteering in general, rather than their motivations for doing a particular voluntary role. The authors also concluded that TPB was not suitable for understanding the nuances of volunteer motivations (2019).

The transplant of organisational theories such as SET and TPB to inform volunteering assumes that the underlying elements of working are the same whether or not an individual is subsidised for their time (Overgaard, 2018). Volunteers are unique to employees in their organisational behaviours,

meaning the assumptions of employment theories regarding management, needs and relationships are inappropriate for use with volunteers (Forner et al., 2023). Overgaard (2018) argues that volunteering is more than just unpaid labour, and calls for future research to move away from organisational theories. Ideological and value-based reasons are core to many volunteers' contributions, and organisational theories based on only transactional and relational factors do not consider these aspects (Hoye & Kappelides, 2021).

Such conclusions lead to consideration of the role of altruism in volunteering. Altruism is described as behaviour that benefits another with no expectation of any extrinsic reward (Burns, 2006). Research on altruism has focussed on spontaneous helping such as stopping to help a stranger rather than the planned helping behaviour of volunteerism (Snyder et al., 1999). The relationship between altruism and volunteerism is under researched, however, researchers have argued it to be reductive of the many possible motivations for volunteering. Volunteering serves many purposes for individuals such as career experience, networking opportunities and enjoyable experiences, all of which are not seen as altruistic behaviours (Burns et al., 2006). A theory is therefore needed that includes various motivating factors including altruistic intentions and more self-serving motivations.

1.2.4.1 The Functional Approach

Functional Motivation Theory considers multiple co-existing motivations for volunteering. The theory is a contribution of Gil Clary and colleagues and has become seminal to researching volunteer motivations (Chacón et al., 2017; Zhou & Muscente, 2023). This group of psychologists from the United States take a functional approach to understanding volunteer motivations. The approach applies the major themes from both Katz (1960) and Smith et al.'s (1956) theory of attitude, which conjectures that needs, motives, and goals drive human behaviour and beliefs. Clary et al. (1996) call their use of this theory a functional approach to volunteerism, which theorises that when individuals behave in ways that may appear similar, such as choosing to volunteer, there are various ‘functions’ for why an individual decides to act in this way that serve a purpose of fulfilling a need, motive or goal (Clary et al., 1996).

Their application of the theory has two key claims: that different underlying desires may result in the same action, and that people participate in activities with psychological goals that underpin them (Clary et al., 1996; Widjaja, 2010). For example, two volunteers may sign up to check pest traps at Zealandia, one with the hope of engaging with other volunteers socially (led by their social motive), and one with the hope of learning about native plants (led by their understanding motive). The two volunteers' actions have the same outcome, the traps get checked. Both volunteers may not be aware

of their motivations in signing up for the role, however, functional motivation theory postulates that there is always a desire underpinning an action (Clary et al., 1996; Widjaja, 2010).

Clary et al. (1996) assert six key functions in their theory; values, understanding, enhancement, career, social and protective (Chacón et al., 2017; Zhou & Muscente, 2023). The first of the six functions is 'Values', which describes a volunteer's desire to outwork values they hold or beliefs that are important to them. An example of this may be an individual with a value of caring for others, which might motivate them to volunteer in a setting where they are helping people such as volunteering in an elderly companionship organisation. Second, 'Understanding' relates to someone being led by a desire to learn more about the environment in which they are volunteering, or to practise a skill in that setting, such as learning woodwork skills in a men's shed group. 'Enhancement' represents a volunteer's personal growth as a motivation, such as building self-confidence. The fourth factor is 'Career'. This function, similar to a motivation that may be present in paid employment, describes the volunteer's motive to gain career-related advancement through the experience. This might be an individual volunteering at the organisation they wish to work, or in the field they want experience in. 'Social' motivations are the fifth factor, describing an individual's desire to build relationships, spend time with existing relationships, or even decide to volunteer due to social contexts where volunteering is the norm. The final factor is 'Protective', which illustrates the individual's motivation to alleviate negative feelings such as personal distress or guilt for any privilege they may hold, for example, an individual might decide to volunteer in a conservation organisation to assuage guilt over wasteful habits (Clary et al., 1996; Chacón et al., 2017; Zhou & Muscente, 2023).

Functional Motivation Theory acknowledges the various needs that underpin a volunteer's motivation for volunteering, which may be intrinsic or extrinsic (Brown, 2007; Snyder et al., 1999). Unlike SET and a PC, a functional approach to volunteering can consider various needs occurring simultaneously, some which are present regardless of relational exchanges. Included in this might be altruistic behaviours, needs individuals are looking to meet, and expectations of managers and other people in the volunteer setting. A functional approach is sensitive to different volunteer settings and can be applied to volunteers throughout various stages of volunteers (Snyder et al., 1999).

In 1992, Clary and colleagues used functional motivation theory to create a measure that assesses people's motivations for volunteering (the Volunteer Functions Inventory (VFI)). They developed the VFI with healthcare volunteers, later publishing it as a psychometrically validated measure. The measure consists of 30 statements such as "I feel it is important to help others" (Clary & Snyder, 1999, p. 157), and volunteers are asked to respond to each statement on a Likert scale from one to

seven. The responses are then scored against the six main 'functions' described above, resulting in an individual profile of prominent motivating factors for a volunteer.

Understanding individual motivations for voluntary activities means organisations can use the measure to understand the needs of their volunteers and adjust their recruitment and management practices accordingly (Clary et al., 1996; Kragt and Holtrop, 2019). Clary et al (1996) argue that their functional approach integrates previous theory, claiming that researchers can use the measure as a framework for understanding various type of volunteers. The measure continues to be widely used and has been validated in hundreds of countries and contexts (Chacón et al., 2017; Clary et al., 1996; Zhou & Muscente, 2023).

The wide use of the VFI has created a framework for understanding common volunteer motivations among researchers. Chacón et al., (2017) synthesised existing studies on volunteer motivations using the VFI and concluded that the measure has adequate psychometric properties and a sound theoretical base. Their findings from the 67 studies provide an overview of existing research on what motivates volunteers. They weighted the means among all studies and found that for volunteers in various fields, the 'Values' factor was the most significant (M = 5.21 out of 7). 'Understanding' was the second highest motive (M = 4.26), followed by 'Enhancement' (M = 4.22), 'Social' (M = 3.61) and 'Career' (M = 2.89). 'Protective' (M = 2.83) was the least motivating factor (Chacón et al., 2017).

The main functions changed slightly when the studies were divided into different volunteer demographics, however, 'Values' remained the top motive. For example, 'Career' proved to be the lowest scoring motive in environmental, social and health voluntary settings, but was slightly more motivating for studies where the average age was under 40 years old (Chacón et al., 2017). Further, the 'Social' function significantly ($p = .029$) had higher means for the studies that had less than half women and appeared to be less important in studies where more than 50% of volunteers were women. Regarding the factor structure of the VFI, 26 studies analysed this with factor analysis and 17 confirmed the six-factor structure (Chacón et al., 2017). Chacón et al. (2017) recommend that researchers adapt the VFI to fit volunteer contexts, as well as explore other motives that may be present.

1.2.5 Conservation motivations

While there is evidence that many of the same motivations explained in functional theory are present for conservation volunteers, environmental settings attract volunteers with specific motivations and values (Bramston et al., 2011; Bruyere & Rappe; 2007; Ryan et al., 2001). The VFI was adapted for conservation research by Bruyere and Rappe (2007), which contributed a framework that

acknowledged the specific motivations observed in conservation volunteers and provided a psychometrically sound instrument for researchers to use. The following section provides an overview of motivational research in conservation settings over time, paying attention to developments of the VFI for conservation settings.

In one of the first studies researching conservation volunteer motivations, Ryan et al. (2001) used five motivations (helping the environment, project organisation, learning, social, and reflection) with 148 long-term volunteers in the United States to measure how they might relate. They focused on three groups of long-term (volunteering for over one year) environmental stewardship volunteers. The volunteer groups restored, cleaned and monitored local streams. They highlighted that their participants did practical or administration tasks related to the tangible work being done in the projects (Ryan et al., 2001), hypothesising that tangible results were a motivating factor for volunteers. They created a survey that assessed volunteers' motivations for continued participation (measuring the five hypothesised domains), changes in their environmental attitudes, knowledge about the environment, attachment to the area they worked on, level of activity and overall commitment to their voluntary involvement with the group to assess the impact of conservation volunteering over time.

Using Principal Factor Analysis, they analysed the Likert scale (1-5) responses for principal motivating factors. The participants volunteered on average three times per annum, and some had been doing it for 20 years. The two key motivations for their participants were ‘Helping the environment’ (M = 4.09) and ‘Learning’ (M = 3.98). Three subsequent motivating factors were ‘Project organisation’ (M = 3.26), ‘Social’ (M = 3.14), and ‘Reflection’ (M = 3.05). One of the items that loaded to the factor ‘Helping the environment’ was ‘seeing improvements to the environment’, and given the high mean score for this factor, they concluded that seeing tangible changes in conservation work was an important motive for their volunteers (Ryan et al., 2001). Regarding changes in environmental attitudes, Ryan et al. (2001) found participants experienced an increase in activism for environmental issues over their time as volunteers, as well as an attachment to both the area they worked on and increased attachment to natural areas in general.

Research with Aotearoa New Zealand conservation volunteers has observed similar motivations. Bell (2003) interviewed and surveyed (open-answer questions) 27 Department of Conservation (DOC) volunteers to understand their motivations. Participants were a mixed group of ages, locations and length of time volunteering. They found that participants volunteered for enjoyment and personal environmental interest (58%), concern for the environment (41%), to contribute to DOC goals (40%) and for future generations to enjoy nature (31%). Cowie (2010) also asked community conservation

group volunteers in the Wellington region why they were motivated to sign up. Participants were overall highly motivated by helping or having an interest in environmental causes. Further, a national survey asked volunteers about their main motive for volunteering and found that conservation volunteers cited their motivations as protecting the environment and caring for their local area (Ipsos, 2016).

Bruyere and Rappe (2007) created a survey using items from the VFI (Clary et al., 1996) as well as additional items that reflected Ryan et al.'s (2001) findings on motivations in long-term conservation volunteers. For example, questions such as 'learn about specific plants' (p. 508) were included in the measure to capture conservation-related motives (Bruyere & Rappe, 2007). They surveyed 401 volunteers participating in six different environmental organisations in the United States to understand if their motivations had a specific volunteer profile. Their analysis produced seven factors that motivated the group of volunteers: 'Helping the environment' (motivated to restore or contribute to bettering the natural settings they volunteer in), 'Learning' (want to gain knowledge about the environment), 'Social' (meet and spend time with others), 'Values and esteem' (live out their values or grow in their self-esteem through contributing to a project), 'Project organisation' (the project is logistically run in a way that is satisfactory for the volunteer), 'Career' (to gain experience in the field the volunteer wishes to work in), and 'User' ('give back to a setting that the volunteer regularly uses) (Bruyere & Rappe, 2007).

The authors reported that most motivations align with those found in general volunteering by Clary et al. (1996) and with motivational factors found by Ryan et al. (2001) on long-term conservation volunteers. 'User' was a unique finding, however, and they noted that perhaps volunteers were more likely to be compelled to give back due to the increasing need from conservation organisations being publicised at the time of their research (Bruyere & Rappe; 2007). The first factor 'Help the environment' was the strongest motivator for their participants ($M = 6.11$ out of 7).

The authors also used open-ended questions to understand what motivation was most important to participants. They coded the qualitative responses onto the seven factors and identified any remaining themes that the existing motivations could not explain. This lead to them identifying an additional conceptual factor: 'Get outside'. Responses detailing this theme as a motivation were frequent (third most mentioned), thus they concluded that this motivation is an important function for conservation volunteers (Bruyere & Rappe; 2007).

A conservation VFI was recently validated in Aotearoa New Zealand (Heimann, 2019; Heimann & Medvecky, 2022). Considering both research that had evolved since the environmental VFI scale was

created and contextual Aotearoa factors, Heimann (2019) adapted the VFI for use with conservation volunteers in Aotearoa. The author surveyed 986 volunteers participating in conservation projects across Aotearoa to understand their motivations for volunteering. They used all seven factors (with the according items) and in addition, added two factors. The first additional factor, 'Get outside' was added based on Bruyere and Rappe's (2007) finding that it was a relevant motivation for their participants (Bruyere & Rappe, 2007; Heimann, 2019). The second factor 'Community' was added based on findings from prior environmental motivation research (Heimann, 2019).

The resulting nine-factor model VFI had good psychometric properties in the New Zealand population. Unsurprisingly, the highest rating motivation was 'Help the environment' (M = 6.43). 'Get outside' (M = 5.73) and 'Community' (M = 5.73) were also highly important to volunteers. 'Career' was the lowest scoring motive (M = 2.51).

Within the same study, Heimann and Medvecky (2022) also used an open-ended question to understand further motivations the scale may not have captured. Using grounded theory, they observed various themes such as caring for the environment, responsibility, legacy, living by environmental values/express identity and personal factors (Heimann & Medvecky, 2022). They concluded that all qualitative findings were also reflected in the VFI results except responsibility. They found that for this theme, volunteers often cited the importance of having a global conscience, righting past wrongs (referring to intergenerational guilt regarding invasive species), contributing as a response to perceived conservation inadequacy, and Kaitiakitanga/stewarding the land. The authors concluded that this additional finding highlights the importance of responsibility and its nuances for Aotearoa conservation volunteers (Heimann & Medvecky, 2022).

Research in conservation volunteering has continued to use a range of theories and measures to understand motivations. Alamenciak and Murphy (2024) recently surmised a systematic map of environmental volunteer motivation research and found 84 studies that explored the demographics, motivations, or barriers to conservation volunteering. The authors did not report how many studies used functional theory, however, they found that many of the reported motivations mapped onto functional theory. They concluded that volunteers were overwhelmingly motivated by 'Having a positive environmental impact'. Various cultural and contextual nuances were present across the studies, such as more collective cultures reporting their motivations were due to a responsibility to the environment, and some volunteers being motivated by the physical or tangible impact of their actions. They created a typology of 15 motivations of environmental volunteers, of which are in four categories; environmental, personal growth, obligational and enjoyment (Alamenciak & Murphy, 2024). Of the 15, five central motives were produced in their analysis as being most often studied and

cited: ‘Having a positive environmental impact’, ‘Acquiring and sharing knowledge’, ‘Care for the environment’, ‘Social interactions and community’ and ‘Health and wellbeing’ (Alamenciak & Murphy, 2024).

Ganzenvoort and van den Born (2020), surveyed 3775 Dutch nature volunteers in order to understand their motivations. They aimed to understand the ways that different voluntary roles might influence volunteer motivations, dividing volunteers into recorders, restorers, administrators and educators. Unsurprisingly, they found that regardless of voluntary role, a key motivator for all volunteers was contributing to conservation. However they also found that overall, a connection to nature was a key motivator for their sample (Ganzenvoort & van den Born, 2020). This finding highlights the unique impact natural settings have on the motivations of all conservation volunteers as well as what more there is to be understood about this connection.

In summary, the various adaptations of the VFI have allowed researchers to capture the many motivations that lead people to become conservation volunteers. The approach has identified strong recurring patterns in conservation volunteers, and it is consequently understood that conservation volunteers across Aotearoa New Zealand are motivated by three key functions; ‘Helping the environment’, ‘Get outside’, and ‘Community’. They are moderately motivated by ‘Learning’, ‘User’, ‘Values and esteem’, ‘Social’, ‘Project organisation’, and are less motivated by ‘Career’ (Heimann & Medvecky, 2023). This also echoes other research globally.

The functional approach is not exhaustive, however, and other methods have given insight into motivations not captured by the framework. The feeling of responsibility specific to personal or ancestral past actions was not captured by the VFI, nor was the value of stewardship (Heimann & Medvecky, 2023). Ganzenvoort and van den Born’s (2020) finding that a key motive for nature volunteers was a personal connection with nature was also not captured by the VFI. This highlights the possibility that other motivations are present for conservation volunteers that are yet to be identified. Further, it is not yet clear how these motivations change over time, how important different motivations are at certain points, and how volunteers experience these motivations.

1.2.6 Why do people keep volunteering?

Retention, or keeping volunteers as opposed to losing them, is of interest to voluntary organisations for a clear reason: keeping volunteers means there are consistent, reliable people to contribute, as well as continuously build on their skills and better contribute to the volunteer organisation (Ryan et al., 2001). While organisations expect that some volunteers are episodic or one-off and that people cease their service for personal reasons, it is crucial to understand trends of volunteer turnover. For groups

that rely on the support of volunteers to make their initiatives feasible, having reliable volunteers can ensure that paid staff (or other volunteers for that matter) are not spending valuable time recruiting, training and supervising new volunteers (Beirne & Lambin, 2013; Ryan et al., 2001). Despite this, organisations often do not track when volunteers leave, making it hard for them to understand their turnover rates and why they leave (Forner et al., 2024).

Retention research is limited for all types of volunteering and remains theoretically fragmented (Forner et al., 2024). Despite the widespread understanding of the important role that volunteers play in conservation globally, and research highlighting clear differences in volunteers in this sector, there is even less research working to understand retention factors specific to conservation volunteers (Beirne & Lambin, 2013; Ganzevoort & van den Born, 2023; Gulliver et al., 2023). Of existing retention research, the VFI has most commonly been used along with proxy measures such as commitment and satisfaction (Forner et al., 2024; Zhou & Muscente, 2023). The Volunteer Process Model (VPM) (Snyder & Omoto, 2008), a functional approach to the volunteer lifecycle, has also been frequently used to understand volunteers over time. The following section provides an overview of previous retention research, beginning with an overview of predictive measures such as commitment and satisfaction. An overview of research on changes in volunteer motivations over time and how they relate to retention is next, followed by a discussion on the VPM. General volunteer research is the focus of this section and any conservation research will be highlighted.

Volunteer retention research has commonly tried to predict volunteer commitment to inform recruitment and management of volunteers (Clary et al., 1996; Forner et al., 2024; Zhou & Muscente, 2023). Researchers have measured this by asking volunteers questions such as how satisfied they are, their intention to continue and how committed they are to the voluntary role. Zhou and Muscente (2023) meta-analysed studies using the VFI or an adaption of it to test whether the six functions could predict volunteering outcomes. They tested both the six factors as a whole and individual factors. They found 61 (n = 38,327) studies that had used outcome measures such as commitment, frequency of volunteering, satisfaction and intention to keep volunteering. They found that all of the original functions from Clary et al.'s (1996) measure significantly predicted an outcome. The 'Values' function was the strongest predictor among all outcome variables (satisfaction, commitment, intention to continue and frequency of volunteering), and 'Career' and 'Social' most commonly had a weaker relationship with the outcome variables. 'Protective' was more influential than 'Values' for intention to continue, which the authors gathered was due to the influence of external factors such as pressure to continue. They concluded that volunteers are best suited to volunteering in settings with aligned values between themselves and the organisation and that organisations should communicate both values and expectations for volunteers (Zhou & Muscente, 2023).

The few studies on commitment to conservation volunteering support the conclusion that helping the environment is not a predictor of commitment for environmental volunteers (Asah & Blahna, 2012, 2013; Ryan et al., 2001). Asah and Blahna (2013) surveyed 322 urban conservation volunteers in the United States and found that motivations to commit to their organisation were influenced by social, personal and community functions over environmental motives. Further, environmental reasons were only a predictor of commitment when the social, personal and community needs were met (Asah & Blahna; 2013). For example, if a volunteer signs up due to their passion for helping the environment, they may cease their volunteering due to social difficulties, despite their desire to help the environment. This suggests that for conservation volunteers there may be a difference in their motivations over time.

Given the majority of retention research is cross-sectional, the timepoint motivations are measured has been found to have importance, yet existing research is heterogenous on when motivations are measured (Benevene et al., 2020; Chacón et al., 2007; Kragt and Holtrop, 2019; Snyder & Omoto, 2008). When someone signs up to volunteer, they can be highly motivated and focus on positive aspects more than the costs of their volunteerism (Chacón et al., 2007). Some researchers found that what motivates a volunteer to first sign up might decline due to unforeseen negative parts of a volunteer experience, or the act of volunteering itself may be unexpected (Benevene et al., 2020). Many studies researching motivation have captured motivations at this point, or do not report time (Kragt and Holtrop, 2019).

On the other hand, unexpected benefits may also change volunteer motivations, which has been found to occur in conservation settings (Asah & Blahna; 2013; Kragt and Holtrop, 2019). Both Ryan et al. (2001) and Asah and Blahna (2013) found that long-term volunteers were initially motivated by environmental reasons, and later were motivated to stay by more social and project organisation factors.

However, significant changes in motivation over time has not been found with Aotearoa conservation volunteers. Heimann (2019) separated short and long-term volunteer (over one year) motivations and found little difference in motivational factor means. The only difference they noted was a slight increase in the ‘Career’ motive for newer volunteers (Heimann, 2019). When Sextus et al. (2024) compared volunteers' reported initial motivations with long-term motivations, they did not find a large difference. The authors did a case study on community based conservation groups in the Wairarapa, using surveys to measure motivations and commitment, supplemented by qualitative interviews to understand volunteer experiences. They found four key motives were important to their volunteers

and did not change over time; ‘to care for the environment’ (M = 4.59), ‘to help the local community’ (4.19), ‘as a connection to nature’ (M = 3.96) and ‘to be outside, or amongst nature’ (m = 3.96) (p. 8, Sextus et al., 2024). They report that of note was the slight increase in the items ‘to socialise with others’ (M = 2.83 initially and M = 3.18 long-term), ‘for stress relief or escape’ (M = 2.36 initially and M = 2.68 long-term) and ‘to help the local community’ (M = 3.99 initially and M = 4.19 long-term). There was also a slight decrease in the ‘to learn new skills or knowledge’ item (M = 3.64 initially and M = 3.33 long-term) which the authors contend that this may be specific to their study given they are aware there is a lack of training opportunities for CBC volunteers in the Manawatu.

A theory that considers volunteering as an evolving process is Snyder and Omoto’s (2008) Volunteer Process Model (VPM). The authors, also involved in developing the VFI, theorise that people go through a process in their volunteering journey. The theory seeks to understand initial motivating factors, taking the experience of the volunteer over time into account (Ganzevoort & van den Born, 2023). The model was developed in a healthcare setting, with Acquire Immunodeficiency Syndrome (AIDS) volunteers in particular. The first stage, where motivations are key, is the ‘antecedents’. Personality traits, demographics, personal circumstances and motivations give insight into this stage, which is namely, why people sign up. The next phase is ‘experiences’, where volunteer satisfaction, relationships with volunteers and managers, and perceptions of the work and organisation become key. Lastly, the ‘consequences’ stage considers the impact of volunteering on the individual, such as what has changed over time, learning, and wellbeing (Snyder & Omoto, 2008).

Researchers have argued against the application of this model to conservation volunteering (Dávila, 2009; Pagès et al., 2017). Dávila (2009) used VPM to understand the journey of 140 environmental volunteers in Spain and concluded that the model cannot be used for conservation volunteering. They argued the differences between healthcare and conservation volunteering such as the emotional demand present for the AIDs volunteers with which the model was conceptualised was too great (Dávila, 2009). Pagès et al., (2018) agree, arguing the VPM is reductive of the biophysical factors present for environmental volunteering. They state that conservation volunteering research needs to consider motivations as complex interactions with volunteer environments rather than psychological needs that pre-exist. The researchers arguments highlight the need for research seeking to understand the complexity of conservation volunteer motivations long-term.

In summary, varied quantitative approaches to understanding volunteer retention have given insight into long-term volunteer factors, but there is much still to be understood. Predictive approaches have found that volunteers are best suited to voluntary causes that align with their personal values, however this has not been found with conservation volunteers. Instead, social and organisational factors appear

to be more important for people giving their time to environmental causes. Unexpected consequences of volunteering, positive or negative, have been found to impact retention, meaning the time point that retention is measured is important. However in Aotearoa, conservation volunteer motivation factors appear stable over time. The VPM framed volunteering as a process, however conservation volunteering researchers have argued against its application with environmental volunteers as it does not consider the various nature related factors that have importance to conservation volunteers.

1.2.7 Qualitative research

Qualitative exploration of volunteers has had little attention in volunteer research, however, there is a growing interest in understanding the experiences of conservation volunteering in particular (Ganzenvoort & van den Born, 2023). Understanding how volunteers experience their time serving gives insight into needs, expectations and what will support their maintained volunteerism (Ganzenvoort & van den Born, 2023). Quantitative research has identified that volunteering is values-based (Chacón et al., 2017), and for conservation volunteers, qualitative research has found that outworking the value of helping the environment was a key part of volunteers experiences (Pagès et al., 2017; Ganzenvoort & van den Born, 2023). Values are closely connected to an individual's emotions (DiEnno & Thompson, 2013), and qualitative researchers have worked to understand how volunteers experience their values to volunteer. The following section provides an overview of qualitative research on conservation volunteering, focussing on key explorations of emotions and research regarding connection to conservation settings.

Some researchers have found that conservation volunteer motivations tie closely with the environments in which they volunteer (DiEnno & Thompson, 2013; Ganzevoort & van den Born, 2020; Guiney & Oberhauser, 2009; Pagès et al., 2017; Ryan et al., 2001). Ryan et al. (2001) described this interaction between volunteers and the environment as a "self-reinforcing relationship" (Ryan et al., 2001, p. 646). They postulate that the physical changes that occur to the land they steward reciprocate, by transforming the individual's view of the environment, improving their skills and confidence in working on the land, and creating an attachment to the area over time (Ryan et al., 2001). Leigh (2005) adds that environmental restoration is active rather than passive activity (such as hiking), meaning the volunteer feels part of the solution to a clear environmental problem. Such bonds get stronger over time and can be a motivating factor for protecting the natural area (DiEnno & Thompson, 2013).

In a qualitative exploration of 171 conservation volunteers in the United States and their experience of connecting to nature through their roles, Guiney and Oberhauser (2009) found that participants expressed their connection in emotional and cognitive terms. Their experiences were summarised as

four main themes; feeling a part of something bigger (which felt spiritually significant), feeling a reduction in stress levels, intellectual stimulation through learning about nature, and an aesthetic benefit (viewing nature).

Pagès et al. (2017) interviewed volunteers working to eradicate an invasive tree mallow species in northern Scotland to understand how their motivations changed over time. They found that caring for nature, the content of the actual volunteering role and social were motives for volunteering. While many of the initial motivations remained, they found that volunteers were less likely to identify clear motivations over time. Instead, motivations became a more complex interaction of attachment to people the environment they worked on. They found volunteers continued despite frustrations with tangible outcomes being unsatisfactory, monotonous work and project-related angst. This was due to developing loyalties and a collective sense of responsibility to contribute which built over time (Pagès et al., 2017).

DiEnno and Thompson (2013) explored urban environmental restoration volunteers' experiences from a Partners for Native Plants project in the United States. They found that participants experienced two categories of emotional connection to the land they volunteered on: responsibility-related and pleasure-related (DiEnno & Thompson, 2013). Most volunteers experience both, with their various statements relating to at least one of the categories. Volunteers had deep environmental-related emotions and felt strongly about outworking their values. They found that emotions were driven by both current volunteering experiences and past nature experiences.

The most cited statements related to scientific interest (pleasure-related) and human obligation (responsibility-related). A large portion (two-thirds) of their participants expressed emotional indignation regarding the state of their local environment and wider society's lack of environmental care. Participants also expressed pleasure-related emotions such as joy and happiness during their volunteering time in nature, and others described pleasure derived from their scientific interests. For participants, these emotions were not connected to a specific place. While some specified that being around native plants was important, others simply enjoyed being in nature. They found that for both categories, participants' emotional experiences related to their volunteering went back far beyond their voluntary involvement and were influenced by their environmental values. They postulate that this factor may be why volunteers did not feel a strong connection to the particular setting (DiEnno & Thompson, 2013).

Ganzenvoort and van den Born (2023) also qualitatively explored the experiences of the same group of Dutch nature volunteers mentioned previously. They asked questions regarding volunteers

decisions to cease or continue volunteering in conservation. This provided insight into potential long-term experiential factors. They analysed four open-answered questions, focussing on volunteers most difficult situations, why others they know have left, why they stayed and what would make them quit. They found that volunteers wanted to continue due to a connection with nature, social factors and pleasure in their volunteer role. Volunteers reported feeling a sense of identity in their roles helping them live a meaningful life. They found collaboration issues centred on volunteers' difficulties during volunteering. Situations such as conflict with organisations or fellow volunteers, tension regarding visions for a project and interactions with non-volunteers in public places. Additionally, volunteers felt the pressure of being needed for the conservation work or felt they did not want to voluntarily give what was being asked of them (Ganzenvoort & van den Born, 2023).

For conservation volunteers, qualitative research has identified key experiential factors that are important to their roles as volunteers. The connection volunteers have with the environment, which positively impacts the many facets of wellbeing, is key to many nature volunteers' continued participation. Further, motivations become a complex interaction with the land the longer one volunteers, meaning retention becomes a dynamic interplay of motivations. Responsibility and pleasure appear to be key to many volunteers' experiences, as well as developing an identity as a volunteer over time.

Overall, existing research has identified clear motivations for conservation volunteers, but there is still much to be understood regarding the motivations and experiences of conservation volunteers. Quantitative research has found that conservation volunteers are overwhelmingly motivated by helping the environment, social and learning factors. In Aotearoa, volunteers are also motivated by getting outside and community factors. Research on volunteer retention is limited for conservation volunteers, however research has found that aside from situational factors, values and social functions appear to have an impact on people’s commitment to volunteering. Research appears to be unclear whether motivations change over time for conservation volunteers. Qualitative research has identified key experiential factors for conservation volunteers such as connecting to the environment, having the opportunity to live out ones values, and feeling emotionally connected to their voluntary experience.

1.3 Aim and Objectives:

The present study aims to develop a deeper understanding of the motivations of Zealandia long-term volunteers, empowering Zealandia staff to further engage with and support their volunteers. This aim was translated into two objectives, each with a separate research question.

Objective one seeks to identify whether the motivations of Zealandia long-term volunteers group into similar factors that previous research has identified, or if not, what factors do. Objective two relates to examining the lived experience underpinning the motivational factors, providing a deeper understanding of these motivations. These objectives are linked to the following two research questions that shape the study's design:

Can the motivations of long-term volunteers at Zealandia be grouped into a particular set of factors?

How are these motivational factors understood and experienced during volunteering, and how might the desires underpinning these motivations be better met?

CHAPTER TWO: METHOD

The following chapter outlines the methodology and research methods used in the project. A mixed methods design was selected to answer the research questions, combining quantitative analysis of a validated measure (VFI) and qualitative analysis of open-answer question responses. The chapter begins by describing the methodological principles of the study, followed by an overview of the methods and participants. Each step of the procedure for data analysis is then described. Lastly, ethical, reflexive and quality criteria are discussed.

2.1 Methodological principles

The methodological principles that inform the present study are the foundation upon which analysis of the motivations and exploration of the participants' realities are based. Such principles informed how I, the researcher, understood participants. The following section therefore provides a comprehensive overview of the methodological principles before explaining the methods of the study.

2.1.1 Critical Realism

Critical Realism as an ontology asserts that reality exists, independent of social construction, however, social constructions limit access to such realities. Thus, one reality exists and is continuously evolving, though various interpretations of the single reality mean that it cannot be explicitly known (Fleetwood, 2014). Using a validated scale, the motivations identified in the study represent a measure of something happening in the real world. However, as a psychological measure, the questions are open to individual interpretation of the measured concept. The measure was then expected to capture participants' understanding of their motivations at the time of completing the survey. The open-ended questions were asked to gain access to participants' interpretations of their reality, meaning the qualitative analysis then provided insight into that reality through their eyes. The knowledge produced in the project was therefore interpretivism, interpreting participants' views of their reality.

2.1.2 Mixed methods

The study utilised a mixed methods design to meet the aims of the project, creating an in-depth snapshot of Zealandia volunteers' motivations. Mixing quantitative and qualitative methods was done to utilise the strengths of both methods, to complement one another and gain more understanding than using one approach (Onwuegbuzie & Johnson, 2006). An online questionnaire using both quantitative and qualitative methods was designed for data collection. This meant that a large group of Zealandia long-term volunteers could participate, and in addition, their experiences could be expressed in depth to enrich the data (Dawadi et al., 2021). Where the quantitative data identified broad patterns among volunteers at Zealandia (RQ1), the qualitative data added depth to the analysis in exploring individual

lived experiences, contextualising the meaning-making behind their responses (RQ2) (Braun et al., 2021; Onwuegbuzie & Johnson, 2006).

Validity was an important consideration given the various assumptions validity entails among different traditions. Within quantitative research, criterion validity, concurrent validly, predictive validity and content validity are all relevant (Field, 2013). Criterion validity is how closely a measure can capture a real life construct, such as the VFI measuring participants observations of their own motivations. Concurrent validity is measured by testing a scale alongside other similar scales that ensure it is capturing the same phenomenon. Predictive validity is whether a measure can predict observations made later in time, such as predicting voluntary behaviours from the VFI (Zhou & Muscente, 2023). Content validity then seeks to ensure a measure accurately represents the construct it aims to measure, such as accurately capturing the concept of each motivation (Field, 2013).

The VFI was considered a robust measure for understanding the motivations of volunteers at Zealandia because it was psychometrically sound, had proven to meet all validity criteria, and was flexible across cultural contexts and volunteer settings (Chacón et al., 2017; Clary et al., 1996; Zhou & Muscente, 2023). Further, the adapted version of the survey for environmental settings had been reliably used with Aotearoa conservation volunteers (Heimann & Medvecky, 2022), meaning it had been validated in a similar population. Statistical analysis of these categories is accepted as a crucial part of quantitative research (Onwuegbuzie & Johnson, 2006), therefore this rationale lent itself to using a quantitative analysis method for the VFI results. The assumption within these processes is that valid and objective research is attainable. For these reasons, I felt the survey was appropriate for exploring long-term volunteers' motivations, which would provide a novel contribution to volunteer research in Aotearoa.

On the contrary, validity was not an appropriate criterion for the open-answer questions in the survey. The term has been rejected by many qualitative researchers, where rather than statistical repeatability, the goal of qualitative research is to capture participants' view of the world and analyse how they describe their experience (Yadav, 2022). Instead, rigour and coherence were ensured during the project by following a systematic process throughout the design, data collection and analysis (Frost & Kinmond, 2012). The Critical Realist approach answered research question two by exploring participants' current view of their reality, and analysis was also done through this lens. Transparency was essential and was operationalised by clearly describing the qualitative process and presenting data verbatim in analysis. Lastly, reflexivity was prioritised by maintaining a self-conscious perspective as the researcher and keeping a record of key parts of the process (Frost & Kinmond, 2012).

2.2 Design

An online survey was distributed to all long-term volunteers at Zealandia. The questionnaire included the VFI, demographic questions, and four open-ended text questions where participants had an opportunity to expand on their responses. Combined, this produced a 52-item questionnaire. Participant details and the process of designing the questionnaire are outlined below.

2.3 Participants

Participants were current long-term volunteers at Zealandia Ecosanctuary in Karori, Wellington New Zealand. Long-term was defined as volunteering with Zealandia for more than one year (since November 2022). Volunteers were over 18 years of age and provided their responses in English. They were not compensated financially for their time. Participants did not need to have volunteered with Zealandia for a specific amount of hours or to have participated regularly to take part in the survey.

Various demographics were collected in the questionnaire to understand the range of participants in the study. Care was taken to use inclusive terminology for all questions. Further, questions on gender, ethnicity, education, and employment had an 'other' response, ensuring participants could define themselves in their own words if preferred (Braun et al., 2021). Age and length of time volunteering were asked at the beginning to ensure participants were eligible, and the remainder of the demographics were optional to answer at the end of the survey. A full overview of demographic information can be seen in Table 1. Additionally, age, education and length of time as a volunteer are displayed in Figures 1-3.

Table 1:

Participant demographics

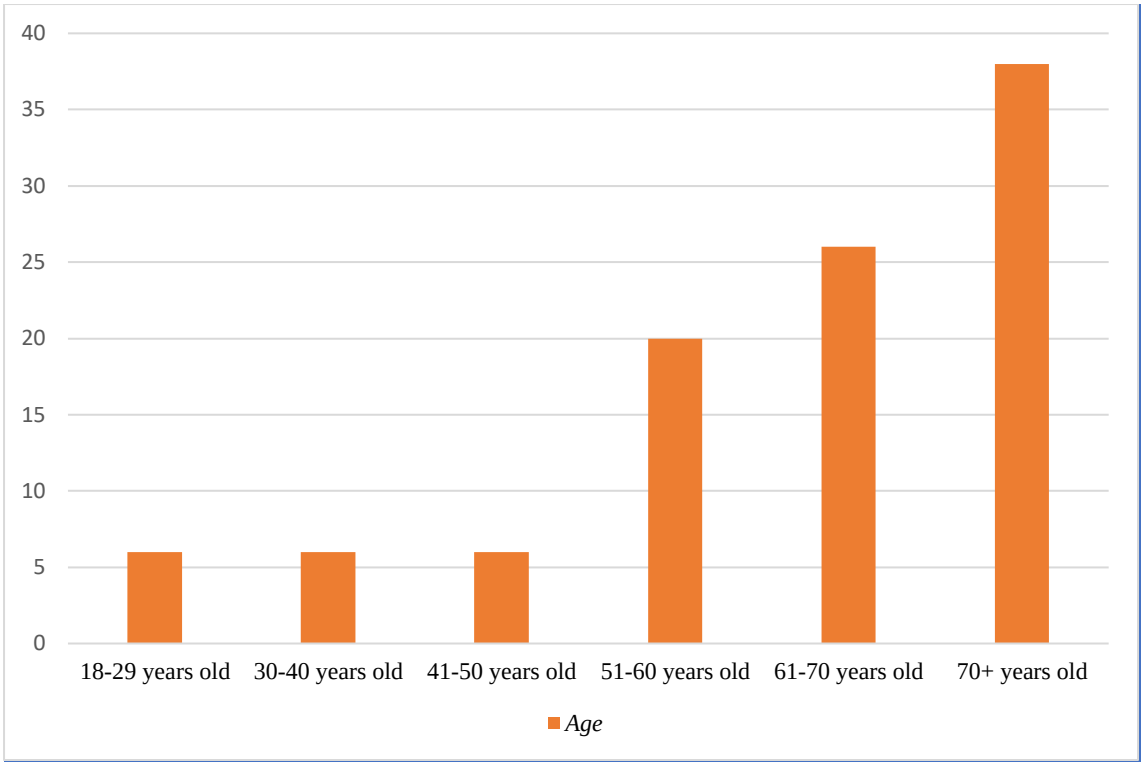
Demographic		*n*	Percentage (valid) %
Gender	Male	41	39.8
	Female	61	59.2
	Non-binary	1	1
Ethnicity	Pākehā/NZ European	89	81.7
	Māori	2	1.8
	European	10	9.2
	North/South American	1	.9
	Other	7	6.4
Age	24-29 years old	6	5.9
	30-40 years old	6	5.9
	41-50 years old	6	5.9
	51-60 years old	20	19.5
	61-70 years old	26	25.5
	71+ years old	38	37.3
Location	Central Wellington	12	11.8

	Suburb walking distance from the central Wellington	40	39.2
	Suburb outside of the city	42	41.2
	Not in Wellington	8	7.8
Education	Some High School	1	1
	High School	5	4.9
	Non-university qualification (e.g. apprenticeship)	3	2.9
	Bachelor's degree	44	42.7
	Postgraduate degree	46	44.7
	Prefer not to say	1	1
	Other: Nursing qualifications, Teachers certificate	2	1.9
Employment	Paid employment, 30 or more hours per week	32	31.1
	Paid employment, less than 30 hours per week	8	7.8
	Homemaker	2	1.9
	Student	1	1
	Retired	55	53.4
	Prefer not to say	1	.9
	Other	4	3.9
Length of time as a Volunteer	1 year	1	1
	1-2 years	21	20
	3-5 years	17	16.2
	6-10 years	29	27.6
	11 years or more	37	35.2
Volunteer hours per week	Less than one hour	2	1.9
	1-5 hours	45	43.3
	6-10 hours	28	26.9
	10+ hours	29	27.9

There were 61 women, 41 men and one non-binary person. A large majority of the respondents identified as Pākehā/NZ European (81.7%). Regarding age, 82.4% of volunteers were over 50 years old, with 37.3% alone being over 70. Age is presented below in Figure 1.

Figure 1:

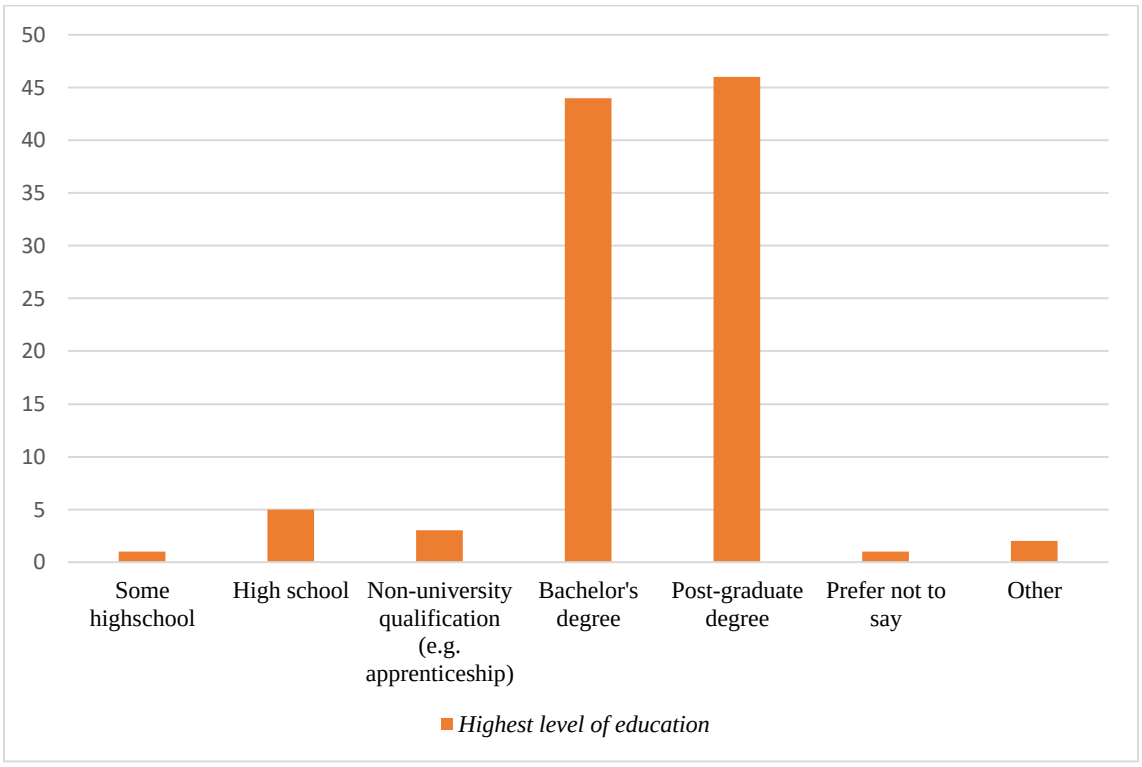
Age of volunteers



Respondents were highly educated, with 85.4% having a bachelor's degree or above. Participants level of education is presented below in Figure 2.

Figure 2:

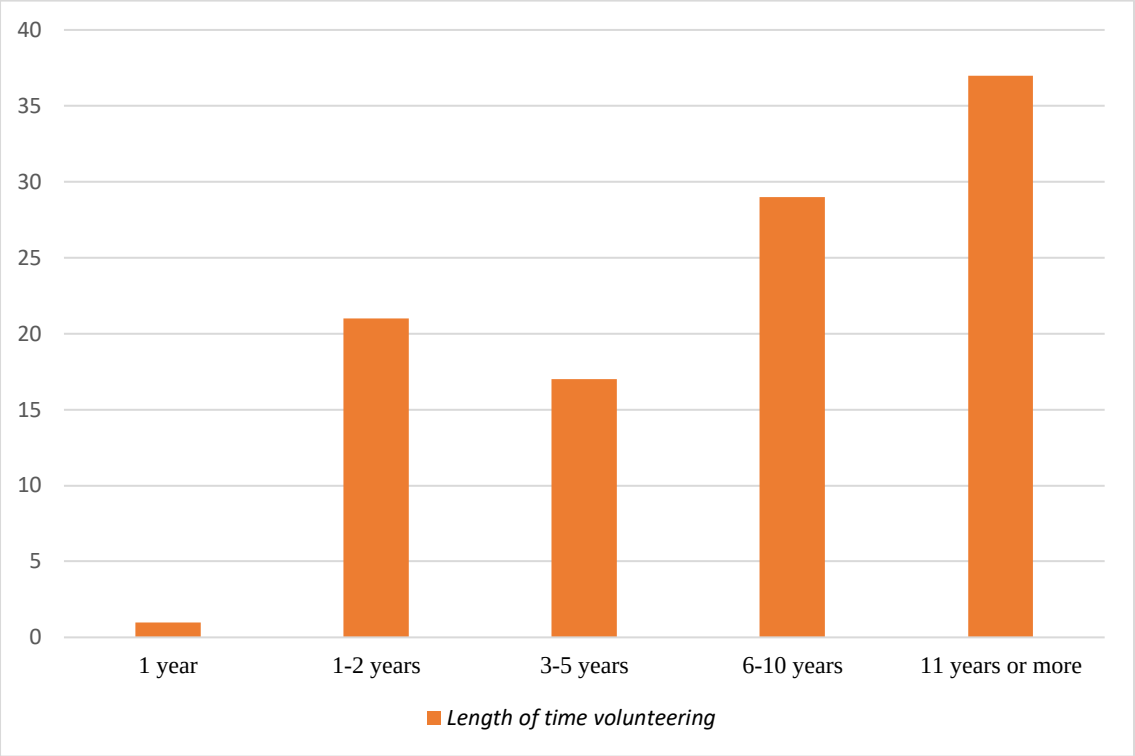
Highest level of formal education



Most participants had been volunteering for much longer than the one-year cut-off, with the majority having been present for over 6 years (62.8%). Length of volunteering is presented below in Figure 3.

Figure 3:

Length of time as a volunteer



Participants lived in various locations around Wellington, with the majority (80.4%) living in a suburb outside of Wellington CBD. Many participants were retired (53.5%) and 31.1% worked over 30 hours per week. Over half of participants volunteered for over 5 hours per week (54.8%). Many participants (n = 86) chose to respond to at least one of the open-ended questions, with a similar representation of gender, age, volunteer hours and ethnicities present in the group of qualitative respondents.

Participants volunteered in various roles. Volunteers often do multiple roles, therefore participants were able to tick more than one box on the survey. This resulted in 193 responses. Most common were AviAiding (33%), Visitor Experience (24.8%) and Guided Tours (25.7%). AviAiding entailed preparing and refilling the bird feeders around the sanctuary, Visitor Experience included roles related to educating and connecting with visitors, and Guided Tours included leading or assisting visitor tours through the sanctuary. All roles are presented in Table 2.

Table 2:

Participant volunteer roles

Volunteer role	*n*
AviAider (e.g. Bird Feeder, Feeder Cleaner)	36
Visitor Experience (e.g. Visitor Experience Volunteers/Skippers)	27
Guided Tours (e.g. Volunteer Guides/NGAs)	28
Fence Checking	16
Track Maintenance	8
Species Surveys/Monitoring (e.g. Nestbox Monitoring, Kiwi Counting, Cave Weta Surveys, etc.)	17
Sanctuary Care/Infrastructure Tasks	6
Weeding & Restoration (e.g. Conservation Team)	3
Annual Pest Audit	5
Bait Out	12
Storytelling	9
Gardening (e.g. Wednesday Gardening Group, Infrastructure Team)	2
Conservation Tasks	9
Transect Line Maintenance	3
Perimeter Control	2
Administration (e.g. Front Desk Admin, Corporate Services Admin, Tours Admin, etc.)	0
Other	10

2.4 Procedure

The online questionnaire was created with technical support using the Qualtrics survey platform. There were 52 items; 38 relating to the VFI, nine demographic questions and four open-answer questions. See Appendix A for the full questionnaire. The rationale for creating the questionnaire is outlined below.

The main body of the questionnaire was the VFI measure. The original version of the VFI was created by Clary et al. (Snyder et al., 1999), using functional theory to capture motivational factors that led volunteers to give their time. The scale is one of the most commonly used measures in volunteer research (Chacón et al., 2017). In a review of the uses and psychometric properties of the VFI, Chacón et al. (2017) concluded that the measure is best used when adapted to fit the context in which it is used. Bruyere and Rappe (2007) recognised this fact in 2007 and adapted the VFI to include questions that were relevant to the conservation volunteers they were researching, creating a measure that could be utilised within conservation settings to capture relevant motivational factors. Based on additional qualitative findings in their study, they recommended that future research use an extra factor 'Get outside', capturing the motivation to volunteer outside. Heimann and Medvecky, in 2022, further adapted Bruyere and Rappe's (2007) version for their use in working to understand conservation volunteer attitudes and motivations in Aotearoa New Zealand (2022). They used the 'Get outside' factor, and in addition, added another based on evidence from Aotearoa-specific

contexts, ‘Community’ (Heimann & Medvecky, 2022). Both of these factors were rated as highly motivating factors in their analysis, and the authors concluded that they are important factors to include for conservation volunteers in Aotearoa (Heimann & Medvecky, 2022). The resulting nine-factor model VFI inventory was used in the present project. To develop the survey further for the Zealandia context, two types of changes were made. Namely, changing the wording of various questions and the addition of four items.

Based on Chacón et al’s (2017) recommendation to fit the survey to the context in which it is used, various changes were made to the wording of items in the VFI. This was done to ensure that it was relevant to the context of Zealandia as well as meeting the goals of the research questions. Firstly, an existing item, ‘learn about specific animals’ was adjusted to say ‘learn about specific birds’, given the nature of Zealandia being a bird sanctuary and void of other animals. Another item, ‘get a foot in the door at a place I would like to work’ was changed to ‘get a foot in the door because I would like to work at Zealandia’ due to Zealandia being the only setting where volunteers' motivations were being researched. Due to the focus of the project being on understanding volunteer retention, the wording in the question was adjusted to reflect this. The survey asked participants, ‘There are many reasons why people volunteer. Please indicate the importance of each of these factors in explaining why you continue to volunteer at Zealandia’. This wording was selected to have participants consider why they volunteer continuously rather than capturing their motivations for signing up to volunteer.

In addition to the 34 questions used from Heimann and Medvecky’s (2022) questionnaire, four questions were added to the measure to ensure it captured context-specific motivation factors; ‘Zealandia’s reputation’, ‘I like being a part of Wellington volunteer culture’, ‘Kaitiakitanga or guardianship is important to me’, and ‘I feel a responsibility to contribute due to past wrongs’. The first two items were added to capture whether the decision to volunteer at Zealandia specifically influences volunteers' motivations, as well as the cultural context of Wellington. Zealandia is a well-known and publicised eco sanctuary, with evidence of attracting tourism and a stronger connection with the native flora and fauna of Aotearoa (Hatton et al., 2017). Within Aotearoa, Wellington consistently has the highest volunteer rate and is recognised for its environmentally positive behaviours (Cowie, 2010; Heimann & Medvecky, 2022). The high-level of student population also adds to the voluntary culture within the city (Jones et al., 2010).

The latter two items were added based on the Heimann and Medvecky (2022) findings from their open-ended questions, where Aotearoa conservation volunteers commonly cited the te ao Māori concept of Kaitiakitanga and responsibility to Aotearoa due to past colonial wrongs as motivations for their participation in conservation volunteering (2022). Kaitiakitanga is an important concept to a Māori worldview, encompassing the inherent connection with the land and the responsibility to care

for it (Walker et al., 2019). Much more than land stewardship, the term is best understood through the collective worldview of Māori where the setting, spiritual, intergenerational and personal aspects of the concept are considered (Walker et al., 2019). Zealandia staff highlighted this in the development stage of the survey, asking that the item be worded as Kaitiakitanga or guardianship within the survey to reflect their organisational stance on the term, which gives people an option to participate in guardianship or Kaitiakitanga, rather than using the concept and defining it as guardianship.

Open-ended questions were used as the main qualitative analysis. Open-ended questions in surveys are argued to increase the response rate, address the power disparity between researcher and participant, and ensure participants can express further comments on the subject, therefore capturing richer data (Braun et al., 2021; O'Cathain & Thomas, 2004). Open-answer questions are often used as an additional part of online surveys but can be under-utilised in the analysis phase (Braun et al., 2021). Instead of using interviews to explore participants' meaning-making of their motivations, the open-answer questions encouraged them to expand on their selected VFI statements while it was front of mind. In doing so, participants' time could be honoured, acknowledging both their roles as volunteers and the time it took to do the VFI. Participants were able to remain anonymous, which may have increased their likelihood of participating and candid disclosure. They also were able to express themselves using their terminology, without prompting, ensuring participant experiences were forefront of analysis (Braun et al., 2021; Ganzevoort & van den Born, 2023).

Four open-answer questions allowed for further explanation of whether the volunteers' motivations had changed over time and their lived experience of the motivations. All questions were optional.

- Have you ever changed the role you volunteer in? If so, please tell us why in a few words below.
- Are there any other reasons that you volunteer that are not mentioned?
- This is an opportunity to write an explanation for any of your responses. Completing this section is not essential but is appreciated. If you would like to tell us more about what motivates you to be a long-term volunteer at Zealandia, please comment below.
- If you would like to tell us how your motivations have changed while you have been volunteering, please comment here.

Questions one and four aimed to explore participants' experiences of the fluidity of their motivations over time. These questions aimed to capture aspects of what influenced a change in motives over time, providing insight into the experience of long-term volunteering. Question two aimed to capture motivations additional to the VFI, ensuring that volunteers' experiences were represented. Question

three was focussed on understanding participants' meaning-making of items they chose as motivations.

2.4.1 Procedure for Data Analysis

In line with the needs of the mixed methods design, the data collected was analysed in two phases. The quantitative responses were analysed using statistical methods informed by Andy Field (2013), and the qualitative responses were explored using Template Analysis (King, 2012). Methods for analysing the data in both phases are outlined below.

2.4.1.1 Phase one: Quantitative analysis

Several stages of analysis were followed to sort, explore and understand the quantitative data collected. The quantitative analysis sought to explore research question one: 'Do the motivations of long-term volunteers at Zealandia group into a particular set of factors?'. The first stage included a descriptive overview of participant averages from the VFI measure, and exploring the model fit of the present data with the factor model outlined by Heimann and Medvecky (2022). The internal reliability was calculated for each factor, as well as the additional questions. Each step of the process is outlined below.

The sampling method was a convenience sample. Potential participants were made aware of the study firstly in a weekly bulletin that is sent out to all current volunteers at Zealandia, then by a targeted email to volunteers present for more than one year. The survey was open from December 14th until January 23rd. During that time, one reminder was sent out.

After the survey was closed, all responses were exported from Qualtrics into an SPSS (version 29.0.1.0 (171)) file for analysis. The data was sorted into four files, one containing the 38-question adapted VFI, one for demographics, and one with the qualitative open-ended answers. This allowed for demographic information to be summarised, and the VFI and open-answer responses to be subsequently analysed. Each file maintained the participant ID and was void of any other identifying information. All data was saved on secure platforms.

The first step was to test whether the nine-factor model found by Heimann and Medvecky (2022) was a good fit for the present dataset. Confirmation of the model fit would create the basis for the remaining analysis by testing whether the model was valid for the present sample. The work of Bruyere and Rappe (2007), in adjusting the VFI measure for conservation volunteers, created a seven-factor model that could be used when exploring conservation volunteer motivations and retention elsewhere. Heimann and Medvecky (2022) added two factors, which had a Cronbach's alpha of .9 (get outside) and .76 (community) within their sample. Their factor model, validated to measure the

motivations of Aotearoa conservation volunteers from all over the country, was used as a model for a CFA with the data from the present project.

Factor analysis is a series of statistical analyses that work to measure the relationship between a set of observed variables, working to group correlated items. The resulting groups, or factors, are made up of variables that work to measure a latent construct within a psychometric measure (Stapleton, 1997). For example, three items asking about knowledge and learning (e.g. 'learn about specific plants') make up the 'Learning' factor in the VFI measure (Bruyere & Rappe, 2007). CFA and Exploratory Factor Analysis (EFA) are two opposing ways of factor analysing a measure from a dataset. EFA works to explore correlations present within a psychometric measure, with the goal of an EFA often being to provide a researcher with evidence of a potential theory emerging from the psychological concept being measured. CFA, on the contrary, begins with a theoretical basis, and statistically analyses whether the data fits within the existing theoretical model. CFA works to understand whether observed variables and a latent variable are indirectly correlated (Jackson et al., 2009; Stapleton, 1997).

CFA was selected for use for multiple reasons. Firstly, while EFA can be used in the process of generating theories regarding the latent variables being measured, the factors that may emerge as a result are not the complete process. Mulaik (1987) states that factors arising from EFA cannot provide insight into a phenomenon without prior conceptual foundations, arguing that this aspect is what often makes the interpretation of factors so difficult for researchers. EFA methods are thus recommended for use only when an area does not have a theoretical basis and the project is part of an exploratory step toward theorising (Stapleton, 1997). In the present study, the functional theory that the VFI is built upon both in its original form (Clary et al., 1996) and its adaptation to conservation volunteers (Bruyere & Rappe, 2007; Heimann & Medvecky, 2022), provides a strong conceptual foundation for analysis. Further, CFA is recommended for use when evaluating whether a model is valid across different people and time periods (Jackson et al., 2009).

The CFA was computed in MPlus (Muthen & Muthen, 2020) with supervisory support. Four fit indices were run over the factor models. The chi-square test (χ^2) analysed goodness of fit for each of the 9 factors. This equation assumes a perfect fit between the model, or a priori theory, and the dataset, meaning the fit has little flexibility. Because of this, using the chi-square test alone would limit exploring how the model may better fit the data with adjusting (Marsh et al., 1988). The normed chi-square to degrees of freedom ration (df), the root mean square error of approximation (RMSEA), and a Comparative Fit Index (CFI) were also calculated. The model was considered an adequate fit based on the scores of each index meeting satisfactory levels (Bollen, 1989).

Next, VFI results were presented within the nine-factor model. Item means were calculated and subsequently organised into the nine factors. Cronbach's alpha was then calculated for each factor to measure the internal consistency of the factors in the present sample. Regarding the four additional items, each statement was placed within a factor in which it fit conceptually and the reliability was retested. If the reliability remained adequate or improved, the item was added to that factor for analysis. Mean scores were then calculated for each factor, meaning they could be ordered according to their average response, showing which factors Zealandia long-term volunteers were most motivated by.

2.4.1.2 Phase two: Qualitative analysis

In line with the methods of Bruyere and Rappe (2007), the nine quantitative factors were used as a priori themes to deepen analysis of participants motivations, and to highlight any motives not captured by a functional approach. I selected Template Analysis for analysing the responses to the open-answer questions due to its design enabling a thematic analysis based on a priori themes (Brooks et al., 2015; King, 2012). The process is a type of thematic analysis, where qualitative data is explored for themes the researcher observes among responses, providing insight that has significance to the research question of a project. Unlike inductive thematic analysis, template analysis begins with pre-determined categories (King, 2012). Template analysis was selected because of its ability to adapt the qualitative method of thematic analysis to fit with the factors from the quantitative factor method. It allowed for the contrasting designs (quantitative and qualitative) to work together toward ultimately answering the research questions most effectively.

The factors produced by the quantitative analysis described above were used as the template a priori themes for the analysis. All themes, 'Help the environment', 'Get outside', 'Learning', 'Values and esteem', 'User', 'Social', 'Project organisation', and 'Career', were defined according to Bruyere and Rappe's (2007) definitions (see Appendix B section for a full list of definitions), except for Heimann and Medvecky's additional factor 'Community', which they did not provide a definition for. In the present study, the 'Community' factor was defined as volunteers being motivated to contribute or connect to their community (in line with the two items that made up the factor).

King et al., (2018) recommend the following eight steps for a rigorous template analysis; familiarisation with the data, preliminary coding, clustering, developing the initial template, modifying the template, defining the 'final' template, using the template to interpret the data, and writing it up. These steps were iteratively followed, and where needed, adaptations were made to fit the context of the present dataset (King et al., 2018). Before beginning analysis, the data was downloaded and copied into a secure Excel spreadsheet. All data was considered together, regardless

of the question the statement responded to. In this way, meaning-making was not ascribed to a particular question, but themes were considered across the dataset (Braun et al., 2021).

In line with the first stage, I made sure I was familiar with the data by reading through it two times before applying any codes. For the second step, preliminary coding, responses were printed and coded. Each a priori factor was used as a heading and whole or partial responses related to each factor were placed together. For example, a response regarding being outdoors was placed under the factor 'Get outside'. If relevant, additional codes were written in the margins of responses, such as 'physical exercise' within a response relating to being motivated by exercise. If responses fit into more than one factor, they were placed into both.

Many responses provided multiple motivations (e.g. 'To develop and use other skills e.g. boat handling, public speaking. To meet people from all parts of the world - to be a global citizen. To provide context and understanding of Zealandia's vision to a wide range of people. To share my knowledge'). In these cases, each section of the response was reviewed and placed into the appropriate factor. King et al. (2018) recommend using only a few transcripts in this phase to create an initial template for the remaining transcripts in the next step of analysis. This step was adjusted for the present project due to the amount of data being manageable, and the fact that the a priori themes used did not need to be developed from within the collected data as they were existing defined factors.

The next phase was to cluster codes into relevant groups (King et al., 2018), which was focussed on clustering the coding within the factors to create subthemes. Different pieces of data were sorted into different groups, which worked to connect some themes and provide overarching themes. These were not fixed and were changed multiple times throughout as the analysis developed conceptually.

The next phases constructed themes toward a final version of the analysis. Once an initial template of a priori and subthemes were completed, I wrote the themes into a hierarchical table. This process was iterative with supervisor team support, and the template was modified when the data did not fit conceptually with a subtheme to produce an analysis that mapped onto the data (King, 2012). See Appendix C for an excerpt of the 'Help the environment' factor from the template. Finally, all nine factors related to the VFI analysis were presented in the final analysis with the qualitative analysis provided for each factor.

2.5 Ethics

Ethical approval for this project was given by the Massey University Human Ethics Committee: Northern, Application 4000027995. In addition, throughout the project, I ensured to adhere to the

ethical requirements of Massey University and New Zealand Psychological Society Code of Ethics (2012).

Various ethical considerations were made specific to the current research project. Firstly, attaining the consent of participants. Initial information and the questionnaire link was distributed to all long-term volunteers at Zealandia through an internal mailing system. It was important potential participants understood it was optional to complete and was separate from Zealandia operations. I wrote the copy for the email that was sent out to ensure that this information was clear for potential participants. This was also clearly stated on the information sheet.

Measures were taken to ensure the confidentiality of participants. All data was anonymised from the initial questionnaire and when participants were quoted, only their age and gender were reported. It was possible that a participant may be identifiable by information they shared, such as a story that Zealandia staff or fellow volunteers may recognise. This was addressed by anonymising any data at risk by omitting details in their responses, or not reporting their gender and age. For example, the section in the analysis discussing the 'Career' factor did not present any demographics with quotes used.

Another ethical consideration was a potential disclosure of harmful practices within Zealandia staff or volunteer operations. While this did not happen, a plan was in place to ensure participant and researcher safety in the event of a disclosure.

2.6 Reflexivity

Reflexivity was a priority throughout the whole project. I felt it was important to acknowledge my own prior experiences as both a volunteer and a volunteer manager from the outset. This allowed me to consider assumptions I had about the subject and underlying hopes for my findings (Frost & Kinmond, 2012). Further, I ensured to continuously reflect on my position as Pākehā woman, living within the Wellington region, and as a postgraduate student. To keep these considerations front of mind, I kept a private diary throughout the project, particularly in the analysis phase, to limit any unconscious assumptions from influencing the write-up of the project.

Adaptions were made to the planned project throughout the process. Ten interviews with willing participants were originally planned as the main qualitative element of the research. This was planned to provide a representation of the lived experience of various motivation factors. Upon sorting the questionnaire responses however, I found that participants had generously provided rich experiential data in their answers to the four open-ended questions. Rather than overlook the questionnaire

answers in favour of interviews (Braun et al., 2021), with supervisory support, I decided to use template analysis to analyse the answers as my main qualitative component.

2.7 Quality criteria

Various measures were taken to ensure the present project was credible. During the design phase, it was crucial to create a project that would adequately answer the research questions. This was done by following a systematic process beginning with reading relevant literature to design appropriate research questions that would add to existing knowledge. Care was taken in selecting the epistemology and methodology to ensure methods could adequately produce the knowledge the research questions sought (Frost & Kinmond, 2012). Validity for the quantitative measures was ensured by using a reliable and contextually validated measure (Clary et al., 1996; Heimann & Medvecky, 2022). Trustworthiness was prioritised for the qualitative element by ensuring that open-ended questions were relevant to the research questions (Stahl & King, 2020). In writing up both elements of the project, I ensured to interpret the results through a Critical Realist lens. This ensured the project was cohesive, and reliably added to previous research (Frost & Kinmond, 2012; Stahl & King, 2020).

CHAPTER THREE: ANALYSIS

This chapter details the mixed method analysis addressing the two research questions of the present study. It first begins with the quantitative data results from the survey. It provides an overview of participants' mean results from the VFI measure and the factor model they fit into, addressing question one. This is followed by an exploration of research question two, which deepens the analysis of participant motivations. The second section addresses both the quantitative results and the template analysis of the qualitative answers to the survey's open-ended questions.

3.1 Research Question One

The question 'Do the motivations of long-term volunteers at Zealandia group into a particular set of factors?' was explored using the VFI measure within the participant questionnaire. The results were quantitatively analysed using IBM SPSS Statistics (29.0.1.0 (171)). Participants selected a number between one (least motivating) and seven (most motivating) in response to 38 VFI items.

Table 3 displays each item of the VFI along with their mean response, minimum and maximum responses for each item, and the Standard Deviation from the mean (presented in order of the highest mean). To have the maximum likelihood of participants completing the survey, Qualtrics did not require each item to have a response for their questionnaire to be submitted. This meant that if something was accidentally missed or the participant did wish to respond, their survey data was still applicable. The number of respondents (*n*) is therefore also reported alongside each item.

Table 3:

VFI item means

Item	Mean	Min	Max	*SD*	*n*
Concern for the environment	6.37	1	7	1.037	101
Do something for a cause that is important to me	6.33	4	7	0.865	100
Help preserve natural areas for future generations	6.31	1	7	1.12	101
Protect natural areas from disappearing	6.14	2	7	1.069	99
See improvements to the environment	6.13	3	7	0.931	97
Help restore natural areas	6.09	1	7	1.266	101
To be out in the fresh air	5.86	1	7	1.312	101
Ensure future of natural areas for my enjoyment	5.74	2	7	1.204	98
Give back to my community	5.69	1	7	1.446	98
Enhance the activities I enjoy doing	5.62	1	7	1.336	98
To get outside	5.59	1	7	1.518	100
To live closely to my values	5.58	1	7	1.298	97
Have fun	5.39	1	7	1.44	98
To work in the outdoors	5.34	1	7	1.709	99

Be part of a well organised project	5.26	1	7	1.375	99
Learn about environment	5.19	1	7	1.544	98
Learn about specific birds	5.11	1	7	1.696	99
Kaitiakitanga or guardianship over the land is important to me	4.96	1	7	1.84	99
Zealandia's reputation	4.79	1	7	1.589	96
To express my values through my work	4.79	1	7	1.875	96
I like being a part of the Wellington volunteer culture	4.69	1	7	1.734	97
Feel better about myself	4.63	1	7	1.552	93
Know what is expected of me	4.66	1	7	1.588	96
Connect to my community	4.47	1	7	1.725	95
Allow me to work on an area where I visit	4.19	1	7	1.96	97
Learn about specific plants	4.06	1	7	1.713	97
Enrich my future recreation experiences	3.94	1	7	1.764	96
Meet new people	3.91	1	7	1.902	95
Feel needed	3.89	1	7	1.759	95
See familiar faces	3.72	1	7	1.805	96
Work with friends	3.51	1	7	2.006	98
Work with a good leader	3.01	1	7	1.729	97
I feel a responsibility to contribute through volunteering due to past wrongs.	1.81	1	7	1.46	96
Experience will look good on resume/C.V.	1.74	1	6	1.283	96
Get a foot in the door because I would like to work at Zealandia	1.57	1	5	1.03	97
Make contacts that might help career	1.57	1	7	1.189	97
Explore possible career options	1.53	1	7	1.201	95
Help me succeed in chosen profession	1.5	1	7	1.095	96

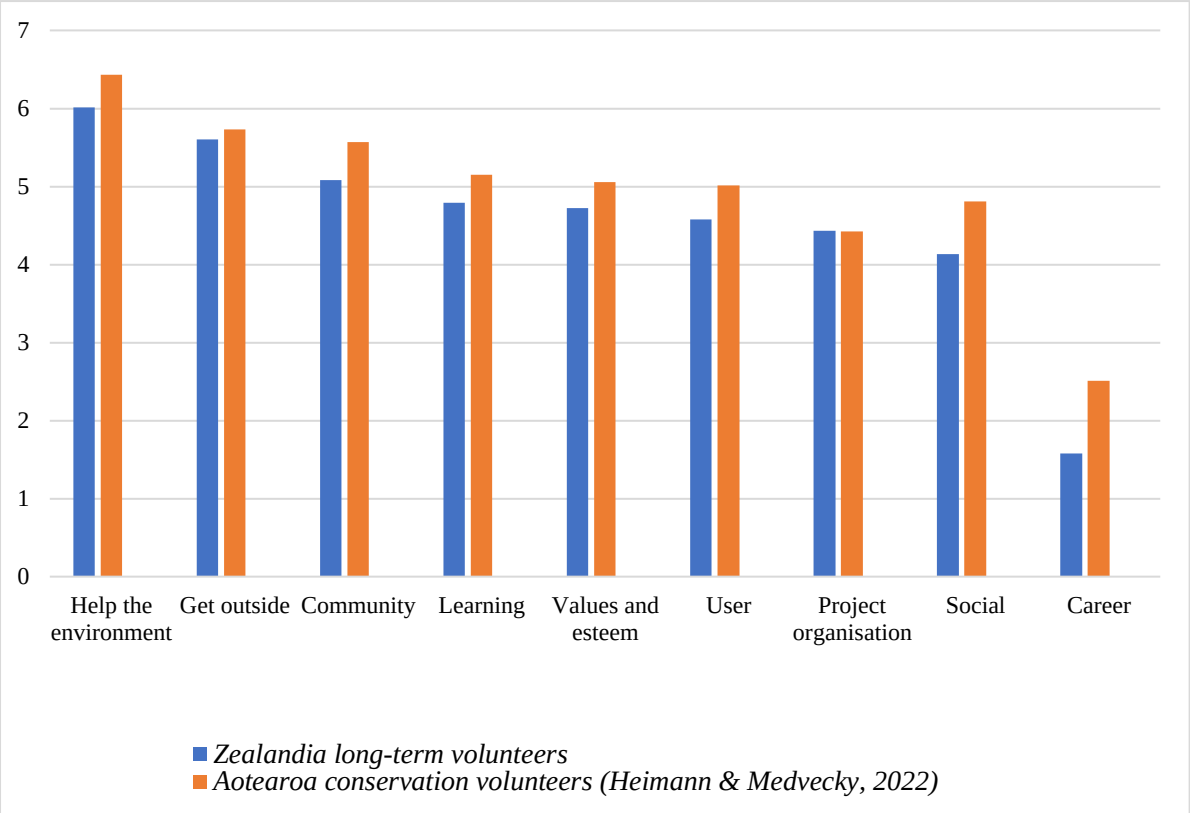
Between 93-101 responses were received for each item. 'Concern for the environment' was the most important item for participants (M = 6.37) and 'help me succeed in a chosen profession' was the least important (M = 1.5).

The CFA confirmed the factor model previously identified in Aotearoa (Heimann & Medvecky, 2022) was an adequate fit for the present dataset (Bollen, 1989). See Appendix D for full CFA. The four additional items were also tested for goodness of fit within the factors they conceptually fit into. If the fit was acceptable, they were added to analysis for the corresponding factor. Three of the four items were added to analysis and are discussed in more detail in 'Help the environment', 'Community' and 'Project organisation'. The fourth additional item 'I feel a responsibility to contribute due to past wrongs' was removed from analysis at this point due to its low reliability within the sample.

The survey items were therefore sorted into each factor for the remainder of analysis. Figure 4 presents a comparison of the means for all nine factors for the present sample and Aotearoa volunteers (Heimann & Medvecky, 2022).

Figure 4:

Comparison of factor means



The factors ‘Help the environment’ and ‘Get outside’ had means over 5, suggesting they were the most important factors to Zealandia long-term volunteers. ‘Community’ was also a highly motivating factor for participants with a mean of 4.95, and 5.08 without the addition of ‘I like being a part of the Wellington volunteer culture’. The ‘Career’ factor was significantly lower, therefore not a motivating factor. Conversely, six factors had a score of over 5 for the sample of Aotearoa conservation volunteers, suggesting they are highly motivated by ‘Help the environment’, ‘Get outside’, ‘Community’, ‘Learning’, ‘Values and esteem’ and ‘User’. When compared to Aotearoa conservation volunteers, the present sample appear to be slightly less motivated by each factor, however the difference is no larger than .93 for each factor. Table 4 presents a comparison of the means and their reliability for each factor.

Table 4:

Comparison of factor means and reliability

Factors	Zealandia long-term volunteer means	Cronbach's alpha	Aotearoa conservation volunteer means (Heimann & Medvecky, 2022)	Cronbach's alpha
Help the environment	6.01	.81	6.43	.91
Get outside	5.6	.85	5.73	.9
Community	4.95	.63	5.57	.76
Learning	4.79	.86	5.15	.77
Values and esteem	4.72	.61	5.06	.64
User	4.58	.66	5.01	.68
Project organisation	4.43	.74	4.42	.67
Social	4.13	.79	4.81	.77
Career	1.58	.93	2.51	.96

The reliability for each factor in the present sample was good for all factors, however 'Community', 'Values and esteem' and 'User' had a Cronbach's alpha of between .61-.66, suggesting only adequate reliability within the sample (Field, 2013). The means and reliability for each factor are discussed in further detail individually in the following section, as well as participants' experience of each factor.

3.2 Research Question two

The question, 'How are these motivational factors understood and experienced during volunteering, and how might the desires underpinning these motivations be better met?' was explored using qualitative open-answered questions in the survey.

Participants were invited to share their experiences with four questions throughout the questionnaire. A large majority of participants chose to respond to at least one of the four questions (n = 86), resulting in 205 responses to all questions. Template analysis (King et al., 2018) was used to map responses to the VFI motivational functions in order to interpret the survey responses. Each factor (a priori theme) and subsequent subthemes are presented below in Table 5 along with the frequency of comments relating to the factor. Participants often cited many reasons for their long-term commitment to Zealandia, thus one participant may have provided comments relating to multiple themes. This resulted in 217 comments reflecting different factors or subthemes despite there originally being 205 responses.

Table 5:

Frequency of comments relating to factors/a priori themes and subthemes

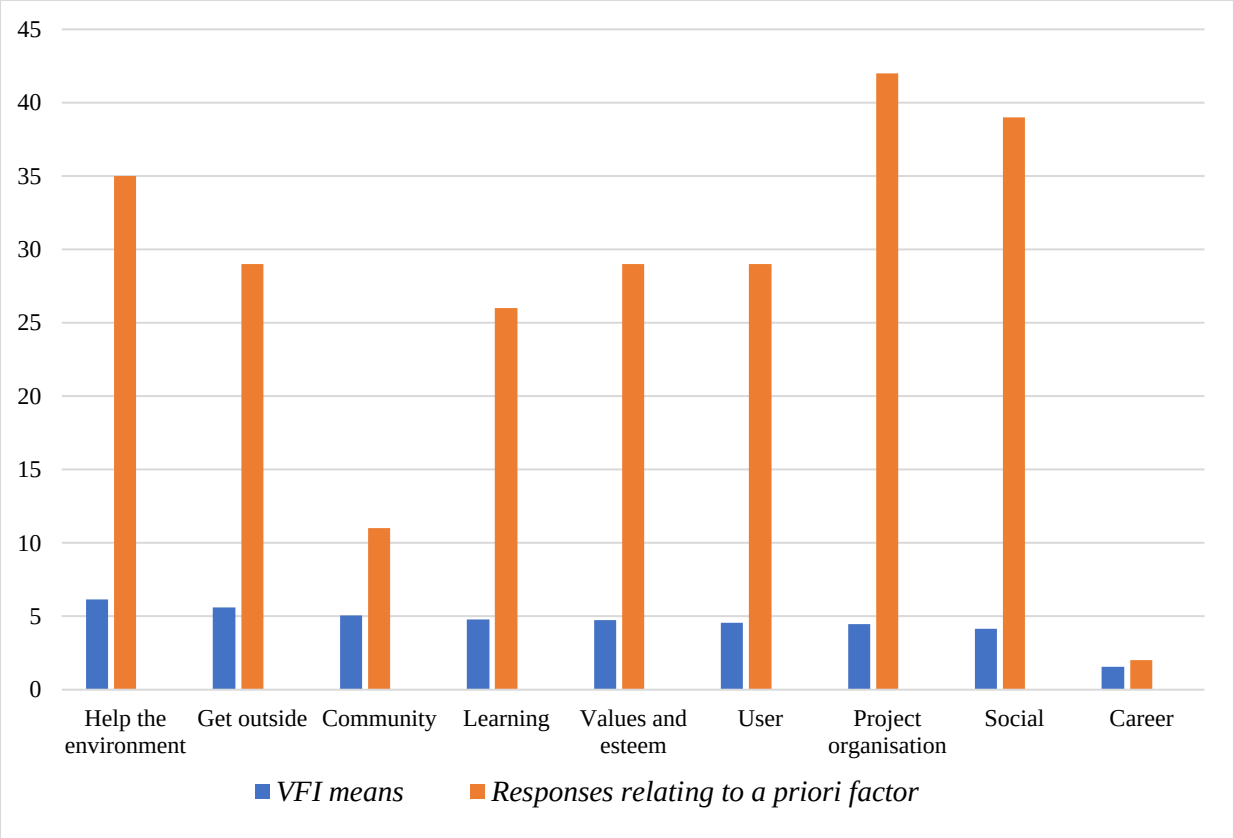
Number	Motivation factor/subtheme	Frequency
1	**Help the environment**	**35**
1.1	Protect species	10

1.2	Evidence of restoration	12
1.3	Knowing I am contributing to the Kaupapa	12
2	**Get outside**	**29**
2.1	Experiencing mindfulness and mental wellbeing	6
2.2	Outdoor physical activity	16
2.3	Something different to my day job	3
3	**Community**	**11**
3.1	‘Giving back’ what Zealandia has given my local community	3
4	**Learning**	**26**
4.1	Interpersonal sharing of knowledge	8
4.2	Love of learning and growth	8
4.3	My learning has changed my motivations	3
5	**Values and esteem**	**29**
5.1	Volunteering adds purpose and identity	6
5.1	Zealandia needs me	3
6	**User**	**29**
6.1	Gain access to Zealandia in a way that visitors do not	7
6.2	A safe space to enjoy nature	3
6.3	A personal sanctuary	9
7	**Project organisation**	**42**
7.1	Dissatisfaction with the project organisation causing motivations to change	10
7.2	Involvement requires able-bodied volunteers	8
8	**Social**	**39**
9	**Career**	**2**

Figure 5 presents the VFI factor means alongside the number of responses relating to each factor (a priori theme).

Figure 5:

Factor means and responses relating to a priori factors



Comments related to various factors highlighted the nuanced experiences of the motivations for participants. Interestingly, there were responses that reflected volunteers experience of motivational factors that did not score as highly for Zealandia volunteers on the VFI. Namely, the 'Social' and 'Project organisation' factors had 39 and 42 comments, but had mean responses of 4.13 and 4.43 which reflects a moderate motivation. Further, the 'Community' factor only had 11 comments despite its mean of 4.95.

The following section presents the motivational factors with both quantitative and qualitative results. For each of the nine factors (a priori themes), participants' average VFI scores and the reliability of the factor are displayed, followed by analysis of the qualitative responses exploring how participants experienced the motivational function.

3.2.1 Factor one: Help the environment

3.2.1.1 Quantitative analysis

Table 6 presents the mean responses to factor one, along with the Standard Deviation and Cronbach's alpha.

Table 6:

Mean responses to factor one

Motivation factor/item	*Mean*	*SD*	*Cronbach's alpha*
Help the environment	6.01		
Concern for the environment	6.37	1.037	
Help restore natural areas	6.09	1.266	
Help preserve natural areas for future generations	6.31	1.12	
See improvements to the environment	6.13	0.931	.81
Do something for a cause that is important to me	6.33	0.865	
Protect natural areas from disappearing	6.14	1.069	
Ensure future of natural areas for my enjoyment	5.74	1.204	
Kaitiakitanga or guardianship over the land is important to me	4.96	1.84	

The most important factor to Zealandia volunteers was 'Help the Environment' as a motivator for being a long-term volunteer (M = 6.01). Volunteers motivated by this factor were led by their concern for the decreasing biodiversity and their desire to be a part of protecting the environment long-term at Zealandia. Reliability for the factor with seven items was .84, and decreased to .81 when the item 'Kaitiakitanga or guardianship over the land is important to me' was added. The mean of the factor also decreased from 6.16 to 6.01. However, given the Cronbach's alpha was still over .8 and the item conceptually with within factor one, the item was added for analysis.

3.2.1.2 Qualitative analysis

There were 35 comments relating to 'Help the environment'. Overall, volunteers appeared to find particular meaning in the spatial setting of Zealandia being where they contribute to helping the environment. Volunteers cited their love of 'the valley' (inside the fenced environment of Zealandia) often when describing their motivations to not just help the environment, but to help the Zealandia environment.

Respondents referred to specific ways in which contributing to Zealandia's vision motivates them in relation to helping to restore a native environment where there are no pests present, meaning biodiversity can thrive. Participants constructed their motivation as a response to understanding the need for biodiversity in Aotearoa and seeing the tangible regeneration that the sanctuary has already contributed over time (see subtheme 1.2 where evidence of improvement is discussed).

Within this a priori theme, three subthemes from within the responses were developed, 'protect species' (1), 'evidence of restoration' (2) and 'knowing I am contributing to the Kaupapa' (3)

Subtheme 1.1: Protect species

Increasing biodiversity and protecting species from going extinct was expressed as a meaningful motivator for contributing to the project. Volunteers expressed their connection to Zealandia specifically in their motivation for helping the environment. Respondents found particular meaning in developing the biodiversity within the valley, and in turn the wider Karori suburb and wider Wellington. Participants expressed their passion for Aotearoa biodiversity through phases such as '[the Kākā] returning to their original home' (M, 70s), 'our biodiversity' (F, 40s), 'our threatened species' (F, 70s). The common use of the word 'our' showed a sense of ownership within the valley and the land in Aotearoa, suggesting that there was a deeply personal aspect to protecting species.

The responses relating to biodiversity also described a time-conscious element to their motivation to help the environment. A sense of urgency was observed, where some expressed their motivation to be long-term volunteer as a race against decreasing biodiversity, 'extinction is forever…' (M, 50s), and said they were motivated 'to help save species' (F, 70s), or were 'helping protect endangered species' (F, 50s). One participant shared they now 'realise how close we were to losing so much of the country's native treasures plant, bird and insects' (F, 60s), suggesting that their long-term involvement in volunteering played a role in educating them about the declining biodiversity as well as increasing their motivation to be a part of the fight. Other volunteers explained that their involvement over time had been rewarding because they had seen an increased biodiversity, 'continually observing the burgeoning birdlife spreading throughout Wellington's suburbs' (M, 60s). These quotes also highlight the value that being a long-term volunteer has provided them, increasing their motivation over time through seeing the results of their own contribution. These time-bound factors therefore motivate participants to give up their own free time in order to contribute, as well as motivate them to be involved in the project long-term.

Participants experienced their motivation to protect species as advocating for flora and fauna they had a relationship with. The language used expressed the importance of this role for volunteers, who expressed their roles as advocates; 'continuing to advocate for our threatened species and habitats is a personal aim' (F, 70s). One said they are motivated to 'give a voice to nature through my actions' (F, 40s), speaking to the responsibilities that come with acknowledging the relationship between human beings and nature. Another was motivated by their '...respect for nature' (M, 70s), which again acknowledged the task of caring for the land was due to the participant's respectful relationship with the environment.

Subtheme 1.2: Evidence of restoration

The second subtheme was observed across responses detailing the ways in which the Zealandia valley, suburb of Karori, and wider Wellington have been impacted by the restoration work at Zealandia since it began in 1999. The pleasure and depth of what this meant to participants was seen

through the emotive language used. Some described they ‘enjoy seeing the valley and its facilities improve as time goes by’ (F, 70s), or that ‘...the native birds back to our city and surrounds is a joy to my heart’(F, 70s). A local Karori resident shared they were motivated by the tangible changes Zealandia’s work has made to their backyard, ‘the birds which come to my garden every day which would never have happened without Zealandia’ (F, 70s). One participant was motivated by birds flying through Wellington city, ‘how the valley has changed…over the last 20 years…bird life now extends beyond the fence into the greater Wellington area to share the joy of nature’ (F, 60s). For another, it was ‘the kaka and the fact they are returning to their original home’ (M, 70s). One participant poetically expressed the motivation of nature restoring itself:

> ...the reward of seeing nature restore itself, bloom, expand and thrive with just a little bit of a help along. To see Kohekohe spreading like weeds, and screeching kaka painting the sky - what better reward to keep us motivated than more of nature itself. (F, 40s)

The relational nature of motivation is again seen in this participants' experience, where they see their role as contributing ‘just a little bit of help’ for the ‘reward of seeing nature restore itself’. The volunteer hints at a sense of gratitude by listing the meaningful ways they feel the environment rewards them. They express the ‘reward’ as impacting both the land and sky as an all-encompassing experience.

The positive emotions participants experienced were motivating both when they were in the valley on a volunteer shift, or perhaps at home in a nearby suburb or wider Wellington. Being able to experience joy and see evidence of their own contribution to Zealandia’s vision by seeing birds when they aren't on shift means these volunteers are experiencing their motivating factors continuously even when they aren't volunteering. Further, the positive emotional impact of their motivation is one that continues to bring joy and meaning to them once they leave the sanctuary.

Subtheme 1.3: Knowing I am contributing to the Kaupapa

The final subtheme for ‘Help the environment’ was observed in volunteers explaining the meaning they derived from feeling they were contributing to the various Kaupapa (purpose, agenda) that Zealandia had, including the 500 year vision of the sanctuary.

Some expressed satisfaction from knowing they personally are contributing to the work that was tangible already, ‘sense of pride and accomplishment helping the sanctuary thrive’ (F, 50s), and a ‘sense of satisfaction seeing a track be cleared through teamwork.’ (M, 70s). Volunteers who described the more immediate consequences felt pride and satisfaction from their personal involvement in goals, ‘knowing that I help make it that way’ (F, 24-29), and, ‘feel honoured to have played a part in Zealandia’s development’ (F, 70s).

Others constructed their commitment as being motivated to contribute to Zealandia's long-term vision. For one participant it was the knowledge they were 'assisting progress of a very long-term project.' (M, 70s). For another, 'I think Zealandia's 500 year vision…is fantastic…it needs people like me to do our part'. Some participants were motivated to create a better world for their loved ones in the future, 'seeing them [native birds] thriving in Zealandia and beyond gives me a sense that in a very small way I am contributing to making Aotearoa a better place for my grandchildren' (M, 70s), and 'to be a small part of a 500 year project which will benefit future generations' (M, 60s).

The motivation 'Help the environment' was deeply meaningful for participants. Given how high this factor scored on the VFI profile for Zealandia volunteers, it was unsurprising that participants expressed this motive frequently in their open-ended questions. Being the highest motive, this theme was the largest section of qualitative analysis, providing insight into the emotional, relational and purposeful aspects of participants' experiences.

3.2.2 Factor two: Get outside

3.2.2.1 Quantitative analysis

Table 7 presents the mean responses to factor two, along with the Standard Deviation and Cronbach's alpha.

Table 7:

Mean responses to factor two

Motivation factor/item	*Mean*	*SD*	*Cronbach's alpha*
Get outside	5.6		
To be out in the fresh air	5.86	1.312	
To work in the outdoors	5.34	1.709	.85
To get outside	5.59	1.518	

'Get outside' (M = 5.6) was the second most important motivating factor for volunteers. Most voluntary roles at Zealandia involve getting outside, and this was a clear motivation for many participants.

3.2.2.2 Qualitative analysis

This factor was well represented in the participant responses (29 comments). Many stated that their motivation was to be doing 'an outdoor activity' and 'being outside in nature'. Similarly to the previous theme ('Help the environment'), some participants expressed their motivation for getting outside as being related, not just to the general concept of being outdoors, but to the particular setting of Zealandia. For example, 'getting outdoors and in such as a place as Zealandia' (F, 60s) and,

‘Zealandia is such an important part of Wellington’s outdoor experience’ (M, 70s). One participant described signing up at Zealandia over other voluntary opportunities for this reason, ‘I knew I wanted to be outside…I had volunteered at [redacted] previously’ (F, 60s).

Within this broader theme of ‘Get outside’, there were three subthemes that described the volunteers’ depth of experience of being outdoors. These were, ‘experiencing mindfulness and mental wellbeing’, ‘outdoor physical activity’, and ‘something different to my day job’.

Subtheme 2.1: Experiencing mindfulness and mental wellbeing

The first, experiencing mindfulness and mental wellbeing, captured the meaningful mental benefits that volunteers derived from being outdoors at Zealandia. They described a sense of improved wellbeing from their long-term involvement in the sanctuary, ‘Zealandia is good for my mental health’ (F, 60s), and, ‘good for long-term wellness…emotionally’ (M, 60s). These volunteers expressed reaping benefits from volunteering long-term, where contributing become part of their routine for supporting their own wellbeing on a regular basis. Participants also detailed the immediate mindful benefits they felt each time they volunteered at Zealandia. One found that ‘any worries are left behind as I enter [the sanctuary]’ (F, 60s). Another volunteer described the sense of mindful concentration they felt, ‘concentrating on them [voluntary tasks] gives me a focus that clears my mind’ (M, 70s). Relatedly, one participant described that they found ‘the outdoors, the bird song…very therapeutic’ (M, 60s), highlighting the depth of meaning that they drew from being outdoors during their voluntary shift. These participants experienced Zealandia as an outdoor setting in which spending time brought peace and quiet. Experiencing this over time motivated these volunteers both to attend each volunteer shift for both these immediate benefits, as well as the compounding experience of increased wellbeing they got from volunteering over time.

Some participants described a sense of spiritual connection from their volunteering outside, experiencing an increase in their spiritual wellbeing. One volunteer felt ‘a closer connection to God in the outdoors, especially the wonder of creation’ (F, 70s), and another ‘walking into the sanctuary lifts the spirits!’ (F, 60s). The use of words such as ‘wonder’, ‘spirit’ and ‘connection’ again highlight the deeply emotional experience that volunteering in nature was for these participants. Further, the relationship with God that this particular volunteer describes is constructed as being strengthened through their long-term volunteering. This again highlights the impact that volunteering long-term has on some participants, where each shift builds upon the last, creating a deeper meaning for volunteers in their work.

Subtheme 2.2: Outdoor physical activity

The ability to get physical activity that took place outdoors was described as important by many volunteers. Some mentioned they were motivated by the physical aspect of doing tasks in the valley, 'I enjoy the exercise which can be quite challenging' (M, 60s). One volunteer explained how regular outdoor exercise was a more pleasurable and accessible alternative to other ways of staying fit: 'the opportunity to partake in physical activities enables the maintenance of physical health without having to resort to the likes of paying to belong to a fitness studio' (M, 70s). Another found outdoor exercise was a positive consequence of completing a task in their role(s): 'I use it as a way to exercise alongside some valuable community service'.

Some participants experienced this motivation as one that changed over time. One expressed that, 'originally I really enjoyed the adventure of it…rewards for physically demanding work…its evolved into a simple enjoyment of more humble must do tasks behind the scenes…I hope the new volunteers can enjoy the exciting stuff!' (F, 40s). For another 'At first…having the opportunity to walk in the bush…now it's more about contributing to Zealandia's project' (M, 30s). For these volunteers, the physical activity in their role was motivating for a personal enjoyment purpose initially. Their commitment over time worked to increased their motivation for contributing to what is needed from Zealandia.

Conversely, some found the outdoor physical nature of their role increasingly motivating over time. One volunteer shared that 'physical activity becomes more important' (M, 70s) for them as time went on. Other participants find the regular exercise outdoors to be 'good for long-term wellness physically' (M, 60s), and, 'keeps me fit and healthy' (F, 70s). One volunteer described their initial motivation for volunteering as an 'outdoor activity to keep me physically fit and mentally occupied' while their kids went to school. They shared that even though they no longer had the same responsibilities, their long-term motivation for continuing was due to 'the active nature of the work I do' (60s). For these volunteers, similar to those motivated by the wellbeing benefits they receive at Zealandia, meeting their movement needs alongside volunteering is experienced as part their personal healthcare.

Subtheme 2.3: Something different to my day job

The final sub theme for 'Get outdoors' was 'something different from my day job'. Volunteers motivated by this theme described their voluntary roles as a 'chance to get out' when they were working within office or healthcare jobs, and shared how their voluntary schedule fitted in with their paid work. Here they frame their voluntary contribution as an opportunity for them to experience the outdoors and receive, rather than being simply in service. Participants liked the variation from their job, 'physically demanding work which differed so greatly to my day job' (F, 40s), 'I enjoy doing something different…' (F, 50s). For one volunteer, having their voluntary role at Zealandia motivated

them to change their hours to enable them to volunteer more often: ‘I was not enjoying my day job sitting in front of a desk, so I arranged with my manager to work a 4 day week and to volunteer at Zealandia…absolutely loved that’ (F, 20s). One participant who was self-employed, described their once a week slot ‘a highlight of the week’ (M, 60s).

The pleasure that participants describe in being away from their jobs, yet still within a confined space of contribution provides a unique insight into the joy that can be found in the structure of voluntary work alongside people’s paid work and busy lives. Further, the opportunity to be among nature that Zealandia provides in their voluntary roles means that volunteers who work in different fields get an insight into, and an experience of, restoration work first hand.

Overall, the factor ‘Get outside’ was a strong motive for participants. Volunteers experienced this factor as one that had a compounding meaningful impact from volunteering outdoors over time. Further, the wellbeing and movement needs that this aspect of volunteering met for participants appeared to be a strong motivator for regularly contributing at Zealandia.

3.2.3 Factor three: Community

3.2.3.1 Quantitative analysis

Table 8 presents the mean responses to factor three, along with the Standard Deviation and Cronbach’s alpha.

Table 8:

Mean responses to factor three

Motivation factor/item	Mean	SD	*Cronbach’s alpha*
Community	4.95		
Give back to my community	5.69	1.446	.63
Connect to my community	4.47	1.725	
I like being a part of the Wellington volunteer culture	4.69	1.734	

The third factor of importance to Zealandia long-term volunteers was ‘Community’ (M = 4.95), where participants were motivated to be around or contribute to their community. The two items alone had low internal consistency (.42), however when the item ‘I like being a part of the Wellington volunteer culture’ was added, it was more acceptable (.63) (Field, 2013). This suggests that there is complexity to the concept of community for participants. The mean also decreased from 5.08 to 4.95 with the addition of the extra item.

3.2.3.2 Qualitative analysis

The ‘Community’ factor represented volunteers expressing their motivations as being community minded. There were 11 comments relating to this factor. Participant responses highlighted wanting to give back to their local area and wanting to connect with people in their community. The qualitative responses provided insight into the participants personal experiences and conceptualisations of community. Volunteers referred to their community as people they work alongside at Zealandia, the local community in the suburb of Karori, and the wider city of Wellington.

For some participants, it was clear how they were conceptualising their part in their community, and for others, there was a more general use of the term. They expressed their motivation of community as a value of being in and contributing to a community. For one respondent, ‘we are all part of a community…we therefore need to help community/society to work…’ (M, 70s), and for another, ‘I feel it is a duty to give some time to community service’ (M, 50s). Another experienced their motivation changing over time to being more oriented to community ‘...at first I did it more for me but now I do it more for contributing to society’ (F, 40s) . These participants frame communities as groups of people that need everyone to contribute, and constructed their own identities as being duty bound to these groups.

Subtheme 3.1: ‘Giving back’ what Zealandia has given my local community

Many volunteers positioned themselves as part of the Karori and Wellington communities, constructing their long-term motivation as paying tribute to Zealandia’s impact. Some cited Wellington as their community in which they were motivated to contribute, expressing the importance the sanctuary had for Wellington. One participant described their love of the city and their commitment to showing their appreciation for Zealandia’s impact on it, ‘I was born in Wellington. I love my city very much. Zealandia has transformed it and I volunteer to show my gratitude’ (F, 50s). Another felt motivated by the way Zealandia 'benefits me as an individual, the collective culture of our city and especially nature’ (F, 40s). Some participants identified themselves as Karori residents, and were motivated to volunteer because of this identity, ‘I’ve lived in Karori for 40 years and recently retired. I have an interest in the local area’ (M, No age). For one volunteer, ‘I live close…in a home that's been in my family for more than 20 years...I’ve seen the difference Zealandia has made to our local native bird life and I want to help protect that’ (F, 30s).

This subtheme shares similarities with the subtheme from factor one (‘Help the environment’), ‘evidence of restoration’, where individuals shared their motivation as being a result of the change they have seen the work of Zealandia contribute to the environment. Both subthemes were developed based on participants constructing their motivations as a response to Zealandia’s presence in Wellington. However, where the environmental subtheme observed participants finding joy and amazement at the restoration of native birds in the city, the present subtheme observes participants

constructing their voluntary contribution as a meaningful sense of reciprocation from their own community to Zealandia to show gratitude for the restoration.

The qualitative aspect of 'Community' provided a depth to what participants meant when they selected community as a motive. Community was constructed differently by participants, with some seeing community as their local area, and others seeing it as a wider societal concept. Further, their contribution was constructed both as a moral duty and as a response to Zealandia's impact on their community.

3.2.4 Factor four: Learning

3.2.4.1 Quantitative analysis

Table 9 presents the mean responses to factor four, along with the Standard Deviation and Cronbach's alpha.

Table 9:

Mean responses to factor four

Motivation factor/item	*Mean*	*SD*	*Cronbach's alpha*
Learning	4.79		
Learn about environment	5.19	1.544	.86
Learn about specific plants	4.06	1.713	
Learn about specific birds	5.11	1.696	

Fourth, 'Learning' (M = 4.79) included being motivated by learning about the flora and fauna that are present at Zealandia, as well as more broadly about the environment.

3.2.4.2 Qualitative analysis

This theme captured the pleasure and meaning volunteers gained from their learning in their voluntary roles. There were 26 comments relating to 'Learning'. Volunteers were motivated by learning about the specific environment of Zealandia, giving them knowledge about the flora and fauna of Aotearoa. Volunteers described their learning as compounding over time, surprising, and as both a personal and interpersonal experience. For these participants, their satisfaction in their roles was deepened by the knowledge they gained, building on their motivation for contributing long-term. Three subthemes were developed from the responses, 'interpersonal sharing of knowledge', 'love of learning and growth', and 'my learning has changed my motivation'.

Sub theme 4.1: Interpersonal sharing of knowledge

Some volunteers constructed their learning at Zealandia as an interpersonal experience where they learned from people, ‘Zealandia gives me the opportunity to learn from others’ (F, 60s). One participant appreciated ‘working closely with the rangers…they are smart, knowledgeable, skilled people’ (F, 60s). Another felt the team was crucial to their learning: ‘the culture of the team staff and leaders from the past…taught us so much about what we know and don’t know…I very much enjoyed learning everything’ (F, 40s).

For other volunteers, their experience of being at Zealandia was enhanced by their knowledge, and joy was found in sharing their wisdom from being long-term volunteers, ‘finding out more about our wildlife and habitats gives me so much more enjoyment on my visits…I often share my knowledge with visitors in the sanctuary’ (F, 70s). One participant shared that imparting knowledge to newer volunteers ‘on their Zealandia journey…I find personally satisfying.’ (M, 50s).

Others found meaning in impacting visitors and felt it was important to share Zealandia with them, ‘it’s about sharing and storytelling to visitors from around the world so they can make an impact on nature in their home country’ (M, 30s). Others were motivated by sharing the goals of Zealandia with visitors, ‘I want to help people understand Zealandia, so that they encourage others to come’ (M, 70s). One volunteer was motivated ‘to provide context and understanding of Zealandia’s vision to a wide range of people’ (F, 50s). Others wanted to ‘help them learn about Zealandia’ (M, 70s) and found joy in ‘sharing knowledge and promoting conservation messages’ (F, 60s).

Some volunteers felt motivated to share a particular aspect of Zealandia with visitors. For one participant, this was, ‘to increase public understanding of Te Tiriti o Waitangi and the impact colonisation has had (and continues to have) on our natural environment, raise awareness of iwi and Kaitiakitanga of Tākahē, Tuatara etc’ (F, 60s). For another, they were motivated more over time by advocating for a particular species to be highlighted in Zealandia’s educational component, ‘became stronger about advocating for [redacted] to be included in what we point out to visitors’ (F, 70s).

These volunteers experienced a strong motivation to share knowledge within the space, with a focus on the joy it brought, or something that they value. They express the depth of meaning that progress in these spaces had for them through their language ‘stronger about advocating’, ‘raise awareness’. There is again a sense of urgency in their motivations, ‘continues to have [an impact]’, particularly due to them expressing the way the motivation has increased for sharing during their time as long-term volunteers.

Sub theme 4.2: Love of learning and growth

Many participants shared that they were motivated by the sheer amount of learning they have had access to over their time at Zealandia, expressing the experience as a love of learning and growth.

They shared that they ‘learn something new every time’ (F, 40s), ‘I learn more each time I visit’ (F, 70s), and that they are ‘always learning something new about flora and fauna’ (M, 70s). One participant shared they are ‘keener and more enthusiastic the more I learn’ (F, 70s). Another found their role ‘an amazing opportunity to find out more about our natural environment and wildlife’ (F, 70s). Others expressed gratitude for the access to knowledge, ‘the resources and seminars assisting on going learning have been much appreciated’ (F, 60s), ‘I appreciate that knowledge’ (F, 60s). One participant described Zealandia as ‘a great place to learn about nature to any extent one wants’ (F, 70s). An attitude of pleasure in gaining knowledge is observed among the learning responses, which could be described as a learning mindset. Participants shared with an acknowledgment of the access their volunteering gives them to this new knowledge. The availability of the resources for volunteers to participate as they please supports volunteers building on existing knowledge over the time that they volunteer, adding to the depth that long-term volunteering brings them.

Sub theme 4.3: My learning has changed my motivation

Volunteers described gaining unexpected knowledge over time that deepened their motivations or even changed them. For one, they knew ‘very little about NZ birds or plants...I was cautiously keen. I have just become keener and more enthusiastic the more I learn’ (F, 70s). For another, they found their involvement lead to profound identity development:

> In the past few years I have realised that I don’t really understand what it means to be a Pākehā in New Zealand. I am on a cultural journey, trying to be a better citizen, and a better ally to Māori. I am trying to learn te reo Māori and learn about Māori cultural and spiritual beliefs. The mauri of Zealandia and the living things within it is very powerful, and coming to Zealandia helps me to open my eyes to what I haven’t been seeing for most of my life. (F, 40s)

For this volunteer, Zealandia became a safe space for them to develop their learning. Alongside gaining knowledge of te ao Māori and ‘what it means to be a Pākehā’, this volunteer experiences the spiritual significance of being within the sanctuary among ‘the mauri’ which contextualises and cements their learning. The participant expresses this motivation as a ‘powerful’ embodied experience, where their involvement over time ‘helps me to open my eyes’.

The learning factor was constructed by participants as a multifaceted experience. They were impacted over time by the knowledge they gained at Zealandia, with it deepening their commitment, or even changing, their key motivations. The continuous opportunity for learning kept volunteers interested, challenged and passionate about their contribution.

3.2.5 Factor five: Values and esteem

3.2.5.1 Quantitative analysis

Table 10 presents the mean responses to factor five, along with the Standard Deviation and Cronbach's alpha.

Table 10:

Mean responses to factor five

Motivation factor/item	*Mean*	*SD*	*Cronbach's alpha*
Values and esteem	4.72		
Feel better about myself	4.63	1.552	
Feel needed	3.89	1.759	.61
To live closely to my values	5.58	1.298	
To express my values through my work	4.79	1.875	

The VFI results showed 'Values and esteem' as the fifth (M = 4.72) most motivating factor to volunteers. This factor included both the motivation to volunteer as a way to improve one's self esteem and feel needed, and to live in line with one's values. This factor had the lowest reliability in the sample (below the adequate range of .7; Field, 2013), suggesting that items were not closely related for participants.

3.2.5.2 Qualitative analysis

This factor represented being motivated to volunteer because the values of Zealandia aligned with those of the volunteer, because volunteering was a value of the participant, and feeling a sense of increased self-esteem through volunteering. There were 29 comments relating to 'Values and esteem'.

Subtheme 5.1: Volunteering adds purpose

Many volunteers experienced a sense of purpose and belonging from being long-term volunteers, constructing their motivations as being related to the act of volunteering rather than contributing to Zealandia specifically. 'I have always liked doing something worthwhile with my time…I like to feel useful and this is a good way of doing that' (M, 60s), and, 'to give my life meaningful purpose' (F, 60s). For one participant, they were motivated by an 'admiration for volunteering…it gives so much back…' (F, 70s). Another was committed to volunteering as a way of 'setting an example for her [volunteer's daughter] is an added impetus…showing her there are many ways to help people…' (M, 40s), and another 'to mentor the next generation' (F, 50s). For some volunteers, volunteering makes them 'feel valued' (F, 60s), 'welcomed and valued by all the staff' (M, 60s), and 'feel wanted' (M, 70s). One volunteer felt that 'instead of donating money, I donate my precious time' (F, 60s). These volunteers constructed giving their time as something they do, 'over the years I have volunteered in

lots of ways…[mentions other voluntary memberships]' (M, 70s), finding meaning in their identities as volunteers.

Some respondents were motivated by Zealandia's vision in their search for voluntary roles: 'I strongly believe in the value and vision of Zealandia' (F, 50s), 'I adhere to that vision' (F, 70s). Some volunteers upon returning from living overseas, 'felt that I should continue to volunteer…Zealandia seemed like the obvious option' (M, 40s) and 'I became a member while overseas, with the intention of volunteering there if I returned' (F, 70s). Another began volunteering due to increased free time and found that it was a 'worthy project' (F, 60s). For another, they wanted to give back 'in a way that fits my values…I want to contribute to a very successful project' (F, 60s). While not explicitly moved to volunteer due to Zealandia's vision like being motivated by 'Help the environment', this motivation is experienced as first valuing volunteering, and secondly being motivated by the aims of the sanctuary.

Some felt a sense of purpose in their contribution being valuable for future generations 'I love being part of an organisation that gives me hope for generations to come' (F, 70s), 'the importance of education to our youth is critical…Zealandia's ability to provide an exemplar for the next generations…the most motivational thing for me' (M, 60s).

Subtheme 5.2: Zealandia needs me

Some volunteers expressed that their motivation for continuing was due to an understanding of the need for volunteers to help Zealandia: 'awareness of the importance of volunteers…to keep the place afloat' (F, 70s). For some, this meant volunteering as a responsibility to keeping Zealandia in alignment with their personal values, 'the balance between conservation & tourism is tricky, and I want to contribute…needs volunteer labour…' (F, 50s). For others, the need felt burdensome, but they valued helping, 'sometimes I am very aware of the need for volunteers…feels like I would be letting the team down…' (F, 20s). It is perhaps not surprising that participants motivated by their value of volunteering and esteem take on responsibility for the needs of the organisation given they construct themselves as individuals with a high sense of responsibility to contributing to society. This is expressed by one volunteer, 'I believe strongly that society only operates as it does because people do positive things' (M, 70s).

This group of volunteers motivated by values and esteem construct their volunteering as being a planned contribution that was in some sense, always going to be long-term given their initial motivations for signing up. They express their experience of responsibility, commitment and investment in the vision of Zealandia not as a motive that has come with time, but as one they experienced even before signing up, and which has remained resolute overtime.

3.2.6 Factor six: User

3.2.6.1 Quantitative analysis

Table 11 presents the mean responses to factor six, along with the Standard Deviation and Cronbach's alpha.

Table 11:

Mean responses to factor six

Motivation factor/item	*Mean*	*SD*	*Cronbach's alpha*
User	4.58		
Enhance the activities I enjoy doing	5.62	1.336	.66
Enrich my future recreation experiences	3.94	1.764	
Allow me to work on an area where I visit	4.19	1.96	

The sixth factor was 'User' (M = 4.58) which encapsulates the motivation of being able to use the space as a result of volunteering, or to contribute to enhancing it for their own future enjoyment. The Cronbach's alpha was just below the range of adequate reliability (.7), again suggesting that this factor may not have been closely related for participants (Field, 2013).

3.2.6.2 Qualitative analysis

There were 29 comments associated with 'User'. Participants motivated by this factor wanted to volunteer at Zealandia because of their enjoyment of the space itself. While pleasure in volunteering was experienced throughout many motivations, the pleasure for volunteers motivated by 'User' was related to the joy of being within the sanctuary, 'Zealandia is an environment that brings me a lot of personal joy and exposure to many amazing experiences' (F, 60s). For one participant, 'I enjoy it (except in rubbish weather)' (M, 60s). Another respondent shared the sentiment in changing up their roles until they were doing something they enjoyed, 'I began…[redacted], but it was too much like my day job. I did it as a foot in the door…I love working with [redacted]' (F, 50s).

For some participants, volunteering was a way to ensure they made use of the space. Having a regular spot on the roster meant they were committing to attending Zealandia on a regular basis (as opposed to attending on the membership), 'volunteering makes you prioritise going' (F, 40s), 'I rarely visit Zealandia outside of my shifts, so I'm extra keen to keep volunteering!' (F, 30s), 'I have set times for being in the valley'.

Various subthemes were observed relating to 'User', 'gain access to Zealandia in a way visitors do not', 'a safe space to enjoy nature' and 'a personal sanctuary'.

Sub theme 6.1: Gain access to Zealandia in a way visitors do not

Many volunteers were motivated to give their time as it allowed them access to Zealandia at a time when others could not, or parts of the sanctuary that were not publicly accessible. One participant shared that they 'love to know what's behind the scenes' (M, 30s), and for another it was 'an exposure to many amazing experiences' (F, 60s). This inside access was experienced as a privilege and allowed for private experiences. One volunteer framed this as a 'selfish' motivation: 'a totally selfish one as I sometimes get one on one encounters with wildlife…that disappear before the tour group gets here' (F, 60s). Another described their evening access as 'a magical time when there aren't many others around', sharing that they 'consider it a privilege to have that access' (F, 20s).

Other participants found the spontaneous experiences of encountering wildlife joyous, despite how many times they experienced it. They expressed the delight they felt in response, 'finding kiwi for the visitors…get a thrill every time I see one even after all these years' (F, 60s). For another, 'last night a kiwi climbed over my foot - how special is that?' (F, 50s). For these participants, their roles as Night Guide Assistants meant they also enjoyed being part of sharing the special experiences with visitors. They enjoyed 'finding kiwi for the visitors' and 'love encountering the wildlife and interacting with guests'. Being positioned as a guide and therefore able to be a part of showing Zealandia to others, is here constructed as a privilege and a particular joy.

Sub theme 6.2: A safe space to enjoy nature

Zealandia as 'a safe space to enjoy nature' was seen to be a motive for volunteers feeling that they are able to spend time in the sanctuary regularly because they feel safe in the space as opposed to other outdoor public spaces, 'a safe delightful place' (F). This volunteer expressed that being widowed meant she was aware of her safety walking alone. She found 'Zealandia would be a safe place to walk on one's own when desired'. For another, Zealandia was a setting in which to feel safe after a previous traumatic experience: 'I found peace of mind and a feeling of safety in the sanctuary' (F). This participant framed their volunteering as giving back for this safety, 'has been there for me personally when I needed it…feels like the right thing to do, giving some of my time back.' As well as feeling safe during a volunteer shift thus being motivated to be there, these volunteers also construct their long-term involvement as a reciprocation to the safety they have received from the sanctuary.

Sub theme 6.3: A personal sanctuary

The final subtheme within 'User' is the personal sanctuary that the Zealandia sanctuary provided for volunteers. Volunteers described different ways the sanctuary had meaning to them. One participant highlighted the sanctuary's separateness from the city, 'a quiet place which is very different from the busy world we live in' (F, 60s). Another shared that 'Zealandia is as much a sanctuary for me as it is

for all that lies within the fence' (F, 60s), constructing themselves as something within the ecosystem that benefits from the space. For one participant, a te ao Māori concept best described how they felt within the fence, 'the sanctuary is my tūrangawaewae' (place to stand/of belonging) (F, 50s). The personal ways of framing the significance the sanctuary had for volunteers again highlighted how much Zealandia meant to long-term volunteers as users of the space alongside visitors.

3.2.7 Factor seven: Project organisation

3.2.7.1 Quantitative analysis

Table 12 presents the mean responses to factor seven, along with the Standard Deviation and Cronbach's alpha.

Table 12:

Mean responses to factor seven

Motivation factor/item	*Mean*	*SD*	*Cronbach's alpha*
Project organisation	4.43		
Work with a good leader	3.01	1.729	
Be part of a well organised project	5.26	1.375	.74
Know what is expected of me	4.66	1.588	
Zealandia's reputation	4.79	1.59	

'Project organisation' was seventh (M = 4.43), and described volunteers who were motivated by being involved in a project that they feel is well run, and to which giving their time was worthwhile. The item 'Zealandia's reputation' was added as it conceptually fit within the factor and increased reliability from .67 to the adequate reliability of .74 (Field, 2013). The factor mean also increased from 4.31 to 4.43 as a result.

3.2.7.2 Qualitative analysis

Volunteers experiences related to this factor were reflective of both things they found motivating about the project organisation, and things that had negatively impacted their motivations. Many responses to the question 'Have you ever changed the role you volunteer in?' related to project organisation, meaning there was a high number of responses for the factor (42 comments).

Volunteers expressed that they were motivated by Zealandia's strong vision (500 year goal for native restoration in the valley), how well the project had been run and how the vision had been outworked over the years. Though this theme related to other themes that capture volunteers being motivated by Zealandia's goals, these comments more specifically referred to the organisation of the Zealandia project.

Participants experienced Zealandia as being ‘well run’ (F, 70s). One volunteer detailed particular aspects of the organisation they appreciated such as ‘the flexibility provided’ and having a ‘nominated contact person’ (F, 60s). Some framed the leadership as being key to the successful project organisation, ‘always very well led, wonderfully organised’ (F, 60s). Others respected leadership prioritising conservation over tourism, ‘the change in leadership of the organisation has changed the way I see volunteering at Zealandia’, which some felt was an improvement to the focus of the organisation when it first opened ‘the organisation when I started were very focused on tourism. It feels now that conservation comes first, and tourism is a means to an end’ (M).

Two subthemes relating to dissatisfaction with project organisation were observed, ‘dissatisfaction with project organisation causing motivations to change’ and ‘involvement requires able-bodied volunteers’. These are outlined below.

Sub theme 7.1: Dissatisfaction with project organisation causing motivations to change

The first subtheme represents how volunteer’s motivations changed as a result of dissatisfaction with the project organisation of Zealandia. Volunteers expressed why they changed roles within the organisation (given all answers were from current long-term volunteers), sharing aspects of their experience that caused them to cease participating in a particular role. Some shared that staff changes impacted their motivation as they felt ‘new staff…often don't value or understand the role volunteers play’ (F). One found that what was expected of volunteers was too great over time and were therefore less motivated to contribute in the same way, ‘became unhappy about change in what was expected of [redacted] and the gradual erosion of satisfaction in the work’ and ‘comfort with what was expected declined’ (F). However, another participant felt that this was no longer the case, acknowledging ‘there has been instances of Zealandia asking too much of their volunteers…this hasn't been the case so much in the past few years’ (F).

Some found that Zealandia’s growth negatively impacted their motivations for continuing. One participant shared that ‘in the early years volunteers and staff were equal and there was a family atmosphere, all working together for the same cause…volunteer input was encouraged, needed and respected’(F). They felt like this had changed with the growth, and expressed grief as well as acceptance of the inevitability of changes in their responses: ‘now Zealandia is a commercial operation, which is not a criticism [later in their response] I still enjoy being part of a conservation project, but the organisation has changed and no longer has the 'family' feel to it’ (F). These long-term volunteers have clearly been a part of Zealandia for a long time to see the culture transform so much, therefore it can be assumed that they have a considerable amount of investment and ownership in the project. The grief they experience over time is perhaps an inevitable aspect of a project becoming large-scale.

Some volunteers felt that their investment in the overall project was dominant over all dissatisfying aspects of volunteering, reflecting the ownership they have in the project and their identities as long-term volunteers, 'in the end, I enjoy my time there and that is more valuable to me than the disappointment' (F, 60s), and 'motivation has fluctuated over time…very important for me and bigger that organisational fluctuations' (F, 60s).

Subtheme 7.2: Involvement requires able-bodied volunteers

When responding to reasons why they had changed roles or their motivations have changed, some volunteers cited physical changes as stopping them from volunteering as frequently. This highlights the physical nature of volunteering at Zealandia, and the disappointment of some volunteers that they cannot be involved at the same capacity they would like to due to physical limitations. Volunteers experienced the shifting motivations due to age, 'my age is slowing me down a bit' (F, 70s), 'my memory is failing' (F, 70s), injury, 'I broke my ankle…so that slowed me down a bit' (F, 50s), sickness 'long covid has affected my voice and energy…I can no longer do these' (F, 70s).

Some felt the tasks were impractical for them, 'I found it difficult to carry all the baits' (F, 70s), 'too physically demanding to reach the sites' (F, 70s), 'a lot of standing and I developed a back problem' (F, 70s). For some of these respondents, being unable to do the practical roles meant they changed to another area, and some felt they wouldn't be able to continue for much longer.

3.2.8 Factor eight: Social

3.2.8.1 Quantitative analysis

Table 13 presents the mean responses to factor eight, along with the Standard Deviation and Cronbach's alpha.

Table 13:

Mean responses to factor eight

Motivation factor/item	*Mean*	*SD*	*Cronbach's alpha*
Social	4.13		
Work with friends	3.51	2.006	
Meet new people	3.91	1.902	.79
Have fun	5.39	1.44	
See familiar faces	3.72	1.805	

'Social', was the eighth ranking factor (M = 4.13). Volunteers motivated by the 'Social' enjoy meeting new people, making friends with fellow volunteers, and being around familiar people day to day. 'Social' and 'Project organisation' were the only factors not in line with the findings of Heimann

and Medvecky (2022). The difference was not much however, with ‘Social’ being the seventh most important motivation for Aotearoa conservation volunteers rather than the sixth.

3.2.8.2 Qualitative analysis

The ‘Social’ motivation represented volunteers being motivated by the interactions they had with visitors, fellow volunteers and others in the space. The socially motivated volunteers constructed their motivations as joyous, and something that gave them energy throughout their volunteering. Despite it being the second-lowest motivation quantitatively, there was a high number of responses relating to this factor (39 comments). There were no subthemes observed as all comments convincingly mapped onto the definition of the factor.

For one participant, they signed up ‘to meet new people and make friends’ (F, 60s). For another, they continued to volunteer because they ‘enjoy the company’ (M, 70s). Another cited friends they worked alongside ‘are my main motivation’ (M, 70s) for their long-term involvement. For another, the relationships built overtime were a motive, ‘it is nice to meet up with other long-term volunteers’ (F, 60s). For these volunteers, relationships have been built at Zealandia over their time as long-term volunteers, and act as a motive for continued participation.

For some volunteers, the diversity of social contact with different groups of people motivated them. Some mentioned working with younger people was a motivating factor, and one mentioned that they valued working with people experiencing disabilities. Some framed their social connections as volunteering with a friend or family member, implying that the relationship was pre-existing, and some described the new connections and social contacts created in their time volunteering as being a motive.

Many volunteers constructed their social motivation as pleasurable, saying they enjoyed sharing their knowledge and love of Zealandia with visitors: ‘I love meeting people and sharing with them the excitement I feel about Zealandia’ (F, 70s). Volunteers described the joy they feel from connecting with others when volunteering, ‘because I am greeting people…I am smiling…greeting people cheerfully, lifts my mood’ (F, 60s). Other participants enjoy the social contact they get access to through being in a bustling tourist space, ‘I enjoy the varying engagement with visitors from all over the world’ (M, 60s). For another, they are motivated ‘to meet people from all parts of the world - to be a global citizen’ (F, 50s).

Volunteers also commonly described the satisfaction from improving visitors' experiences and sharing about Zealandia’s vision. For some they, ‘enjoy being able to share information with them and enhance their experience’ (F, 60s), and ‘sharing...hopefully positively enhances their experience’ (F, 60s). For another participant, ‘it’s the people you meet…with smiles on their faces from doing the

things you recommended' (M, 60s). Volunteers are not only enjoying the social contact with visitors, but they are directly impacting their experience of the sanctuary by being their point of contact and information givers. Volunteers again frame this responsibility as a privilege and one that brings them joy. One participant loves 'talking to visitors and them (and me!) going away having seen/heard something they wouldn't have if I hadn't been there' (F, 40s). Here, different to the 'Learning' factor, the information sharing is motivated by the socially motivated pleasure of enhancing someone's experience in the sanctuary.

3.2.9 Factor nine: Career

3.2.9.1 Quantitative analysis

Table 14 presents the mean responses to factor nine, along with the Standard Deviation and Cronbach's alpha.

Table 14:

Mean responses to factor nine

Motivation factor/item	*Mean*	*SD*	*Cronbach's alpha*
Career	1.58		
Make contacts that might help career	1.57	1.189	
Get a foot in the door because I would like to work at Zealandia	1.57	1.03	.93
Help me succeed in chosen profession	1.5	1.095	
Explore possible career options	1.53	1.201	
Experience will look good on resume/C.V.	1.74	1.283	

The ninth factor 'Career' was by far the lowest, (M = 1.58) which captured the motivations of getting a job through volunteering, learning about the industry through volunteering, or gaining experience. The low average response to the items within this theme reveal that for Zealandia volunteers, career is not a highly motivating factor for being a long-term volunteer.

3.2.9.2 Qualitative analysis

The final factor had a small impact on volunteer motivations in the quantitative analysis, therefore as expected, there were minimal comments directly relating to career in the qualitative responses (two comments). Of the few responses, volunteers had experienced career motivations initially, and shared that these changed due over time. For one participant, they had 'hoped to work at Zealandia' but this changed due to the 'ageist discrimination within the organisation at the time'. For another, their environmental values had led them to want to work at Zealandia, but they describe how 'over the years I have become jaded about this and now prefer to keep my career separate from my efforts to make a difference in Aotearoa's environment and wildlife'. These participants construct their desire

as ‘at one stage’, and ‘initially’, highlighting the time-bound nature of their ambition to be employed by Zealandia.

Given the responses are from long-term volunteers only, these experiences clearly did not deter them from committing to volunteering long-term at Zealandia. For these volunteers, other motives have been strong enough to keep them volunteering, functions that have perhaps been unexpected for them. This may speak to the meaning volunteers find within the sanctuary, particularly when they compound over time and change, keeping volunteers who might have otherwise left due to not getting their career aspirations met.

CHAPTER FOUR: DISCUSSION

The present study sought to explore the motivational factors underpinning the retention of long-term Zealandia volunteers. By surveying key motivations and exploring the lived experience of 109 Zealandia long-term volunteers, a deepened understanding of participants' motivations was gained, meeting the project aim.

Two objectives ensured the aim was met. First; identify whether the motivations of Zealandia long-term volunteers grouped into a set of factors identified by previous research, and if not, what factors do. Second, to examine the lived experience of these motivational factors, providing a deeper understanding of the motivations. The research questions were therefore:

- RQ1: Can the motivations of long-term volunteers at Zealandia be grouped into a particular set of factors?
- RQ2: How are these motivational factors understood and experienced during volunteering, and how might the desires underpinning these motivations be better met?

The present study contributes to existing knowledge on the motivations and experiences of conservation volunteers. To the best of my knowledge, it is unique in its contribution of the use of the VFI measure paired with the exploration of the experiences of current long-term conservation volunteers in Aotearoa.

Findings from the mixed methods survey showed various factors shaping motivation centred around enacting personal values that made volunteering at Zealandia a meaningful and affirmative experience. Below, I discuss these motivations in depth by addressing the research questions, followed by how the findings support, challenge and develop existing literature. Next, the case study context and implications of the findings are discussed. I will then lastly discuss the parameters of the study and suggestions for further research before concluding.

4.1 Demographics

Participants were overall, older, Pākehā and highly educated. Participants were equivalent to one-fifth of all current Zealandia volunteers, and mostly representative of current Zealandia volunteers, however the sanctuary's younger cohort (18-39) was underrepresented in the present sample. The trend of over 50% of participants being over 60 years old highlights that the present sample was significantly older than the average age in Aotearoa, which is 38.1 (Stats NZ, 2024). The ethnicity of participants, of which 81.7% were Pākehā, also differed from population averages, where only 67.8% identify as Pākehā (Stats NZ, 2024).

Key characteristics of participant demographics were representative of extant research finding similar patterns (Alamenciak & Murphy, 2024; Heimann & Medvecky, 2022; Hvenegaard & Perkins, 2019; Sextus, 2024). The present sample therefore adds evidence that the trends in demographics for conservation volunteers may also be true for long-term conservation volunteers in general, and specifically for Zealandia volunteers.

Participants were highly committed volunteers, with most volunteering over six hours per week, suggesting a particularly invested group of individuals. Over half of the participants had volunteered for more than six years, with some commenting they had been present since the project's inception. Having a large cohort present for one or more days per week, for well over six years, is likely to create an environment where people are strongly invested in the operations and goals of the sanctuary. To understand this level of investment, the present research examined motivations using both qualitative and quantitative measures.

4.2 Research question one

The first question aimed to understand whether participants' motivations could be grouped into key factors. This was explored by asking: ‘Do the motivations of long-term volunteers at Zealandia group into a particular set of factors?’.

Quantitative analysis of participant questionnaire results revealed that participants' motivations could be grouped into a nine-factor model. This was demonstrated through statistical analysis examining whether a model identified by previous research was an adequate fit. The CFA confirmed that the nine-factor model identified by Heimann and Medvecky (2022) was a good fit for the present data, meaning I was able to conclude that these factors were relevant for understanding the motivations of Zealandia long-term volunteers. The factors were:

- Help the environment
- Get outside
- Community
- Learning
- Values and esteem
- User
- Project organisation
- Social
- Career

Participants’ item mean responses revealed the importance of each factor for the group. Three factors were particularly important to Zealandia long-term volunteers; ‘Help the environment’, ‘Get outside’,

and ‘Community’. The first factor, ‘Help the environment’ was made up of eight statements relating to environmental values. Participants responded highly to statements related to caring for the environment, restoring, improving or preserving natural areas, and feeling it was important to work on natural areas for future generations. The item ‘Kaitiakitanga or guardianship over the land is important to me’ conceptually fit within this factor, and reliability remained adequate. The second most important factor to participants was, ‘Get outside’, which was made up of three items relating to being outdoors for fresh air, getting outdoors and working in an outdoor space. The third factor, ‘Community’, was made up of three statements regarding community relatedness, such as connecting or giving back to their community and being a part of the Wellington community volunteer culture. The two items relating to ‘Community’ also proved to be a strong motive as the third highest, indicating that it is an important function for Zealandia volunteers.

Other factors were moderately important to volunteers; ‘Learning’, ‘Values and esteem’, ‘User’ and ‘Social’. The fourth factor, ‘Learning’, contained statements relating to learning at Zealandia, such as learning about plants, the environment or birds. Four items about the value and act of volunteering made up the fifth factor ‘Values and esteem’, and three relating to accessing or improving the space made up the sixth factor ‘User’. The seventh factor, ‘Project organisation’ was made up of four statements about how the organisation was run. When the item ‘Zealandia’s reputation’ was added to the ‘Project organisation’ factor, the mean and reliability increased. This suggests that responses to ‘Zealandia’s reputation’ (M = 4.79) were related to responses to the remaining ‘Project organisation’ items. Eighth was ‘Social’, which contained statements about enjoying being around people.

The final factor ‘Career’, was not a motivating factor for participants. Five statements regarding growing career prospects through volunteering made up the function, such as wanting to work at Zealandia, networking with people in the industry or gaining experience toward paid employment. Responses to this factor were by far the lowest (M = 1.58).

When comparing the mean factor responses of the present study to Heimann and Medvecky’s (2022) results, ‘Social’ and ‘Project organisation’ were the only factors that did not correspond with their order of motivations. The difference was small, but changed the order of the factors, where ‘Social’ became the eighth motivator as opposed to the seventh, and ‘Project organisation’ became seventh rather than eighth. These differences are further discussed in response to question two.

The least motivating factor for both populations, ‘Career’, had the largest difference (.93). Though it was the lowest motive for both groups, the difference suggests that for Aotearoa conservation volunteers, ‘Career’ is slightly more motivating than for Zealandia volunteers. This may be due to age differences across the samples, where the older age of Zealandia volunteers meant they were less

likely to seek career opportunities (50.5% were retired as opposed to 38.5% in Heimann and Medvecky's sample). Heimann (2019) also found that 'Career' decreased when comparing motivations for long-term volunteers versus short-term in their sample (the exact amount was not reported). This suggests that career is not a motive for long-term conservation volunteers in New Zealand, however, the qualitative comments provided insight into the experiences of volunteers who had stayed despite their discontentment with their career motivations.

There were only small differences between the reliability (Cronbach's alpha) of each factor across the two populations, again highlighting the good fit of the factor model with Zealandia volunteers. 'Community' had the largest difference in reliability (.13). This may be explained by the small sample size at Zealandia causing a lower reliability (Field, 2013), however it also suggests a difference in the conceptualisation of contributing to community between the groups of participants. Many volunteers surveyed in Heimann and Medvecky's (2022) study were volunteering locally in conservation activities which differed from the formality of participants participation at Zealandia, where they are signing up to contribute to a larger organisation. This difference may explain the varied conceptualisations of what it means to contribute to community among the different populations. The qualitative element provided more insight into this difference and is further discussed in response to question two.

The quantitative results revealed that Zealandia long-term volunteers are highly motivated by helping the environment, getting outside and contributing or connecting to their community, and are not motivated by career. The nine-factor model, previously identified by Heimann and Medvecky (2022), was an adequate fit for participants' motivations. This finding demonstrates that the nine-factor model VFI is robust for understanding the motivations of environmental volunteers, and additionally, has utility in explaining motivations for volunteer retention.

4.3 Research question two

The second research question, 'How are these motivational factors understood and experienced during volunteering, and how might the desires underpinning these motivations be better met?' aimed to deepen the quantitative analysis by qualitatively exploring Zealandia volunteers' experiences of their motivations. The qualitative data showed that volunteering was an affirmative emotional experience for participants. Participants expressed a connection to the sanctuary that developed over time. Template analysis of the responses to four open-answer questions highlighted the various ways volunteers experienced their motivations. Using the nine factors as a template, participant responses were mapped onto their related factors, providing experiential context to each factor. Various subthemes were observed within most factors. Each factor is discussed below.

The first factor, ‘Help the environment’, was the most important to participants quantitatively, and this was also reflected in the qualitative responses. This theme provided insight into the emotional, relational and purposeful aspects of participants' experiences of volunteering. Participant responses highlighted that their motivation to help the environment centred on Zealandia specifically, rather than any environmental setting. Three subthemes were observed for this factor, ‘protect species’, ‘evidence of restoration’ and ‘knowing I am contributing to the Kaupapa’. The first, ‘protect species’ captured participants' construction of their relationship with nature. Some expressed their role as advocating for flora and fauna, some felt in a rush to protect species from extinction, and others felt their role was about reinstating nature to the way it was prior to human intervention. The second subtheme ‘evidence of restoration’ highlighted the joy participants felt in seeing evidence of the collective impact of their contribution to restoration at Zealandia. This was experienced both in volunteer time and throughout their everyday lives living close by to the sanctuary. The final subtheme, ‘knowing I am contributing to the Kaupapa’ showed the meaning participants derived from the knowledge that they were contributing to the long-term goals the sanctuary had, namely, Zealandia's 500 year vision.

Qualitative responses relating to ‘Get outside’ related to volunteers being motivated to spend time outdoors as they contributed at Zealandia. Comments again centred on the space of Zealandia and its valley being a part of their motivation to be outside. The subtheme, ‘experiencing mindfulness and mental wellbeing’ captured the reported wellbeing benefits participants expressed, with these also compounding over time. The second subtheme, ‘outdoor physical activity’, was constructed as part of the participants' routine to meet physical needs and an enjoyable part of the role. The final subtheme, ‘something different to my day job’ highlighted the enjoyment volunteers experienced through the specific activities at Zealandia. Participants experienced a novelty in the nature roles that differed from their everyday experience.

Community captured participants' experiences of being motivated to connect, give or be a part of what they considered as community. The qualitative element of this factor highlighted the various ways the volunteers constructed the concept of community. For some, community was the people around them and they felt it was their duty to give back, suggesting a more general conceptualisation of the term. Others highlighted particular settings, such as Wellington, Karori or Zealandia as their community. One subtheme was also observed for this factor, ‘giving back what Zealandia has given my local community’, where comments relating to this subtheme expressed being motivated in response to the impact Zealandia’s work had already had on their community. Qualitative responses were low for the ‘Community’ factor despite its high quantitative mean, suggesting that participants may have experienced the community motivation differently to how it was represented in the VFI.

The factors that moderately motivated Zealandia volunteers were expressed as important by participants in their open-answer questions. The high number of qualitative responses relating to ‘Learning’, ‘Values and Esteem’, ‘User’ and ‘Project organisation’ provided insight into motivating factors that were important to volunteers but were missed by the VFI, highlighting the importance of the qualitative element in capturing the depth of the ways they experienced their motivations. These are outlined below.

‘Learning’ was experienced as a pleasurable motivation, with three subthemes capturing meaning derived from participants' learning. The first, ‘interpersonal sharing of knowledge’ was constructed as learning from others and professionals at Zealandia, as well as sharing what they learned with visitors to the sanctuary. Participants shared the satisfaction they got from learning and sharing various pieces of knowledge that were of value to them. In the second subtheme, ‘love of learning and growth’, participants expressed continuous learning as a key motivator for their ongoing involvement. This theme suggested volunteers had a learning, or growth, mindset, enjoying the challenge of new information. The final subtheme expressed from the learning motivation was ‘my learning has changed my motivations’. This learning was constructed as an unexpected positive consequence of participants’ volunteerism, highlighting the growth it allowed them within their time at Zealandia.

The fifth factor, ‘Values and esteem’ appeared to capture the responsibility and volunteer identity motivations of participants. Some volunteers were motivated by their values aligning with Zealandia’s goals, or found that Zealandia was a convenient place to outwork their value of volunteering. Two subthemes for this factor were observed. The first, ‘volunteering adds purpose and identity’ highlighted the value-based decision from volunteers to contribute to Zealandia and the self-esteem they gained from their identities as volunteers. The second, ‘Zealandia needs me’ represented participant comments that constructed their motivation as a response to understanding the needs of the sanctuary.

The ‘User’ factor was related to being motivated by improving or accessing the setting of Zealandia. Participants recounted special volunteer experiences in the subtheme of ‘gain access to Zealandia in a way that visitors do not’, highlighting the privilege they felt from their status as volunteers. The second subtheme, ‘a safe space to enjoy nature’ related to participants feeling motivated by the safety they feel as volunteers, getting to enjoy nature within the controlled environment of the sanctuary. The last subtheme, ‘a personal sanctuary’ was expressed as a meaningful part of volunteering, where being in nature was an emotive experience that positively impacted participants wellbeing over time.

‘Project organisation’ was the seventh factor, representing participants being motivated by systems or people in charge at Zealandia. The qualitative responses for this factor also provided insight into

needs that were perhaps not being met in their experience of Zealandia, addressing the second part of research question two. Two subthemes were observed among responses which addressed the unmet needs, 'dissatisfaction with the project organisation causing motivations to change', and 'involvement requires able-bodied volunteers'. The first subtheme highlighted various grievances participants expressed regarding the organisation which had impacted their motivations over time, such as being asked to give too much of their time, and experiencing changes in the organisational structure that they did not agree with. The second subtheme highlighted the difficulty that volunteers with mixed or changing abilities experienced in their roles. Some found physical tasks became harder over time as their abilities changed and others had to step back due to be unable to exert themselves for physical roles.

The 'Project organisation' factor had the highest amount of qualitative responses relating to it. The high number of comments may speak to Zealandia's commercial reputation and long-standing relationship with volunteers. Having managed hundreds of volunteers since the sanctuary's inception (Campbell-Hunt, 2002), many lessons are likely to have been learned. Systems and strategies for volunteers and organisational structure for supporting smooth processes may mean that 'Project organisation' is something Zealandia volunteers appreciate about their experience. This supports the findings of other conservation research finding that well-organised projects and clear goals can motivate volunteers to commit to organisations (Bruyere & Rappe, 2007; Ryan et al., 2001).

However, it is also possible that the high response rate is due to the framing of one of the four open-answer questions: 'Have you ever changed the role you volunteer in? If so, please tell us why in a few words below'. It is possible that the wording invited responses that detailed participants role changes over time as there were many responses relating to various organisational changes that influenced a participant changing their role, meaning their comments were coded as 'Project organisation.'

The 'Social' factor was well-represented in the qualitative data despite being of low importance on the VFI. Participants expressed pleasure in spending time with staff, fellow volunteers and visitors to the sanctuary. There were no subthemes observed for the social function as the many responses related to the original definition of the factor.

The incongruence between the quantitative and qualitative findings regarding 'Social' may be explained by the items in the social factor relating to pleasure and friendships ('work with friends', 'meet new people', 'have fun' and 'see familiar faces'), rather than the more nuanced interactions many participants spoke of such as the joy of positively impacting the experience of a visitor to the sanctuary. Further, the addition of the 'Community' function may have impacted responses by having more items related to people-oriented motivations. The qualitative component highlighted that social

elements are motivating for a significant number of the volunteers, but may have been captured in other elements of the inventory such as ‘Community’, or were not captured because the inventory questions are too broad.

The final factor, ‘Career’, was not a motivating factor for participants quantitatively and this was also reflected in only two qualitative comments relating to career. The comments alluded to the participants experiencing dissatisfaction within the organisation, again addressing the second part of research question two, highlighting where needs might be better met. Participants responded how their motivations had changed from being motivated by the ‘Career’ function to unmet needs changing their motivations. Given that the responses are from long-term volunteers only, these experiences have not deterred them from committing to long-term volunteering in the sanctuary. For these volunteers, other motives have been strong enough to keep them volunteering. These may be functions that have been unexpected for them. This speaks to the meaning volunteers find within the sanctuary, particularly when they compound over time and change, keeping volunteers who might have otherwise left due to not getting their career aspirations met. Furthermore, the lack of data for this motivation shows that volunteers who sign up to volunteer with this motivation may not be sticking around for unknown reasons.

The qualitative element deepened the quantitative analysis and answered the second research question by providing a contextual understanding of how participants experienced each motivations. Participants experiences of their motivations highlighted gaps in what the VFI could capture about motivations despite its robustness, supporting the use of the mixed method approach. The findings are related to previous research in various ways and are further discussed in the following section.

4.4 Findings in relation to previous research

The quantitative and qualitative results build on and challenge previous volunteering literature in various ways. The following section outlines how key findings relate to existing research, discussing the successful fit of the VFI, values, helping the environment, connection to the land, and interpersonal factors.

The adequate fit of the factor model, as concluded by the CFA, suggests that Zealandia volunteers are motivated by similar functions to other conservation volunteers in Aotearoa. Heimann and Medvecky (2022) surveyed conservation volunteers from across Aotearoa who were part of diverse groups and organisations and who had volunteered for various amounts of time. The results showed that even with its unique 500 year vision and structure, long-term volunteers at Zealandia are motivated for similar reasons.

What is perhaps most significant about the good fit of the present data in Heimann and Medvecky's (2022) model, are the different time points the VFI refers to. The present study asked volunteers what motivated them to 'continue to give their time', referring to retention, whereas the previous model asked 'why you choose to volunteer in conservation'. While the wording of the two may have been perceived similarly by some volunteers, the present project more specifically measures why long-term volunteers are motivated to stay. The fit of the factor model highlights that the two are related, suggesting motivations may not change over time for Zealandia volunteers as others have found (Chacón et al., 2007; Snyder & Omoto, 2008).

Such a conclusion supports the recent findings of Sextus et al., (2024). In their research on long-term community conservation volunteers in Aotearoa, they found little change in motivations initially versus long-term. Though Sextus et al. did not use the VFI with their volunteers, their top long-term motivation results are conceptually comparable. The first four, 'to care for the environment', 'to help the local community', 'as a connection to nature' and 'to be outside, or amongst nature' (Sextus et al., 2024), are largely reflected in the top three factors from the VFI ('Help the environment, 'Get outside' and 'Community'). While 'as a connection to nature' was not captured by the VFI factors, the qualitative answers reflected this motivation.

Regarding the key qualitative findings, participant responses expressed emotionally driven motivations throughout all factors (a priori themes), supporting the findings of DiEnno and Thompson (2013) on the importance of emotions in conservation volunteering. Participants experiences of their motivations also highlighted that volunteering is value-based, supporting the arguments of Hoye and Kappelides (2021) and Zhou and Muscente (2023) that aligned values are important for volunteers. This finding suggests that Organisational Psychology theories such as SET and TPB, which commonly blur the distinction between paid and unpaid work in volunteer research, may not capture this important aspect of people's experience of volunteering (Hoye & Kappelides, 2021).

4.4.1 Helping the environment

'Help the environment' was an almost unanimous motive for long-term Zealandia volunteers, supporting the findings of the majority of previous conservation volunteer motivation research abroad and in Aotearoa (Alamenciak & Murphy, 2024; Bruyere & Rappe, 2007; Cowie, 2010; Heimann & Medvecky, 2022; Sextus, 2024). Bruyere and Rappe (2007) argue that this factor is a given in an environmental setting, as has been found for the 'Values' function that has consistently been cited as the key motive in general volunteer research (Zhou & Muscente, 2023). The present research supports this in both the quantitative and qualitative results.

The qualitative subtheme ‘protect species’ highlighted how participants experienced this motivation as connected to Zealandia and Aotearoa biodiversity and as both responsibility-related and pleasure-related emotions, supporting previous qualitative research (DiEnno and Thompson, 2013; Pagès et al., 2017; Ganzenvoort & van den Born, 2023). Participants loyalty to the project and its aims appear to confound over time, supporting Pagès et al. (2017) that responsibility builds over time for conservation volunteers.

Participants commonly expressed their desire to help the environment as a time bound response to climate change, challenging the arguments of Snyder and Omoto (2008) that volunteering is not an urgent matter. Related to general volunteering, the authors assert that unlike responding to emergencies, volunteering is not an urgent matter and is therefore not initiated by volunteers in responding to something immediate (Snyder & Omoto, 2008). For Zealandia volunteers, the time-conscious element in their language suggested that part of their experience of the motivation to help the environment was a response to what they felt was the ‘urgent’ matter of climate change.

Participants had a strong investment in Zealandia goals, as was observed in ‘Help the environment’ (particularly in the subtheme ‘knowing I am contributing to the Kaupapa’) and throughout ‘Project organisation’. This supports Sextus et al.’s finding that long-term volunteers are invested in long-term project goals.

4.4.2 Connection to the land

Participants shared a deep connection with the setting of Zealandia that appeared to have deepened over time, supporting existing research that motivations are tied to volunteers connection with the land they are volunteering on (Ganzevoort & van den Born, 2020; Guiney & Oberhauser, 2009; Pagès et al., 2017; Ryan et al., 2001), and challenging DiEnno and Thompson’s (2013) assertion that volunteer’s connection with nature is not bound to their voluntary setting. The connection to the sanctuary was observed among the qualitative responses to ‘Help the environment’, ‘Get outside’, and ‘User’.

Participants experiences of being motivated by changes in the sanctuary and beyond supports previous findings of tangible changes inspiring commitment in conservation volunteering (Ganzevoort & Van den Born, 2020; Pages et al., 2017; Ryan et al., 2001). In the subtheme of ‘evidence of restoration’, participants described experiencing being motivated to volunteer in response to witnessing regeneration inside and outside Zealandia. This experience of connecting to the restoration in the valley and wider Wellington suggests a reciprocal relationship for long-term volunteers, where they notice changes in the environment because they are volunteering, and the changes they see work to motivate their continued participation to protect the natural setting of

Zealandia. The strength of participants connection to Zealandia in response to the tangible differences they have seen since volunteering suggests that their efforts have compounded their relationship, adding evidence that conservation volunteering is a self-reinforcing relationship with nature (Ryan et al., 2001).

The good fit of the item ‘Kaitiakitanga or guardianship is important to me’ in the first factor supports Heimann and Medvecky’s (2022) conclusion that the te ao Māori concept is recognised and important for New Zealand conservation volunteers. Kaitiakitanga in action is seen when Māori embody their connection with the land by relationally caring for it (Walker et al., 2010). Many participants seemed to embody this relationship when they discussed their experience of restoration, such as ‘our threatened species’, and to ‘give voice to nature’. Given that long-term volunteers have spent a lot of time at Zealandia, the development of this connection to the concept also might be explained by the influence of Zealandia’s teachings throughout their time as volunteers. Part of being a volunteer at Zealandia means being immersed in a space that ensures te ao Māori and Mātauranga Māori (Māori knowledge system) are honoured and prioritised, as well as having the opportunity to learn from the many available resources. This aspect of Zealandia may be working to impact long-term volunteers' motivations, whether they explicitly mention the concept (as some did) or through their emotive expressions of expressing their relationship with the land they are volunteering on. This again supports the reciprocal nature of participants learning at Zealandia and developing a closer connection with the environment as a result.

Further, some participants expressed their learning during their time as volunteers changed their motivations over time, again highlighting the reciprocal relationship of environmental volunteers (Ryan et al., 2001). In the subtheme ‘my learning has changed my motivation’, participants shared how their learnings about native flora and fauna, te ao Māori and climate change had increased their connection with the vision of Zealandia, reinforcing their motivations for volunteering. This also supports Ryan et al.’s (2001) assertion that learning is an important long-term motivator.

Bruyere and Rappe (2007) identified ‘User’ as an additional function specific to environmental settings and the present study supports this finding. It was estimated that this factor might score highly given Zealandia requires an entry fee or an annual membership to enter, and volunteering provides free access. However, this was not the case, as it ranked sixth among volunteers. Mean responses to the items making up the ‘User’ factor were 4.58, within .43 of participants from both Heimann (2019) and Bruyere and Rappe (2007) who surveyed volunteers from settings without entry fees. However, it is possible that a portion of participants are members already, as membership has been a prerequisite to volunteering in the past (Campbell-Hunt, 2002).

The qualitative answers for ‘User’ highlighted the pleasure and enjoyment participants experienced from their exclusive access to spaces in the sanctuary, again highlighting their connection with their voluntary settings. This finding also supports previous research in Aotearoa where enjoyment was a key motive for conservation volunteers (Bell, 2003). While previous research using different theories has highlighted the enjoyment volunteering brings people (Kragt & Holtrop, 2019; Ganzenvoort & van den Born, 2023), Kragt and Holtrop, (2019) argued that functional theory does not capture enjoyment/fun in volunteer research. The present findings challenge this however, as the results from the ‘User’ function appear to have captured the enjoyment of volunteering.

The additional factor ‘Get outside’ suggested by Bruyere and Rappe (2007) was relevant for Zealandia volunteers and highlighted participants connection to being outdoors in the sanctuary. Being the second highest motive for participants, the present study supports Heimann and Medvecky’s (2022) findings that it is important for Aotearoa conservation volunteers. Participants experienced this factor in various ways, from a spiritual connectedness to the sanctuary, to a practical way of meeting their daily exercise needs, adding qualitative evidence to prior research on this factor (Bruyere and Rappe, 2007).

The subthemes expressing the emotional experience of the ‘Get outside’ and ‘User’ factors supported Guiney and Oberhauser’s (2009) findings that volunteers are motivated in response to experiencing the spiritual significance, stress reduction and aesthetic benefit of spending time outside while volunteering. Participants expressed appreciating the benefits of spending time in nature at Zealandia in these subthemes, also supporting the recent findings of Sextus et al. (2024) that volunteers are motivating by the experience of spending time in nature. The subthemes ‘experiencing mindfulness and mental wellbeing’ and ‘a personal sanctuary’ in ‘User’ and ‘Get outside’ highlight the more personal wellbeing motivations, also supporting Ganzenvoort and van den Born’s (2019) findings that conservation volunteers are motivated long-term by a more personal connection with nature.

However, a key motivating factor for participants was experiencing the ‘Get outside’ factor as a way to get outdoor physical activity, which challenges the findings of Sextus et al., (2024) that ‘to get exercise’ is a low motive for conservation volunteers in the Manawatu. For Zealandia volunteers, the motivation for exercise was connected with their connection with the sanctuary. Getting outdoors and being in the sanctuary provided them with an opportunity to exercise in a space they felt connected to, reinforcing their relationship with the space.

4.4.3 Interpersonal factors

Interpersonal factors were found to be important in the qualitative responses from ‘Community’, ‘Social’, ‘Values and esteem’, ‘Learning’ and ‘Project organisation’ factors, supporting previous

general and conservation volunteer research that relational factors are central to long-term motivations (Asah & Blahna, 2013; Ganzenvoort & van den Born, 2023; Ryan et al., 2001).

While the VFI showed that ‘Community’ was an important motive, signalling that interpersonal factors were important for volunteers, the qualitative responses allowed insight into various interpersonal motivations that also underpinned other moderately motivating factors. From the quantitative results, participant responses to items in the ‘Community’ factor provide support for Heimann & Medvecky’s (2022) argument that the factor should be included in all future research in Aotearoa. However, the lack of qualitative responses suggest that ‘Community’ is not as important to Zealandia volunteers. The ‘Social’ factor, despite being ranked seventh most important in the quantitative VFI results, proved to be an important part of participants experience as volunteers from their qualitative responses. The qualitative findings challenge previous findings, suggesting that rather than ‘Community’ being a motivating factor for conservation volunteers, interpersonal factors are a key motive.

Participants framed their interpersonal motivations in different ways, supporting various existing research for conservation relational factors. For example, ‘Community’ was made up of comments relating to altruism in contributing to the needs of others, supporting Sextus et al. (2024). For some, their ‘Values and esteem’ motivation was out of a sense of obligation to the needs to Zealandia, fitting DiEnno and Thompson’s (2013) concept of responsibility-related emotions. Some volunteers felt motivated by the appreciation from acknowledgement from visitors. Negative relational factors impacted participants motivations in relation to ‘Project organisation’ and ‘Career’, supporting findings related to volunteers leaving by Ganzenvoort and van den Born (2023).

Conversely, ‘Social’ was also commonly framed as connecting to others as a personal benefit of volunteering, experienced as a pleasure-related emotion (DiEnno & Thompson, 2013). Volunteers also cited particular leaders and relationships within ‘Project organisation’ as key motivating factors for continued participation as found by Asah and Blahna (2013) and Ryan et al., (2001). The relational needs and complexities present throughout the different factors highlights the nuance of interpersonal connections for Zealandia volunteers.

A further finding was the importance of learning from one another for participants motivations, supporting Ryan et al. (2001) and Alamenciak and Murphy (2024). This was observed in the subtheme ‘interpersonal sharing of knowledge’ within the ‘Learning’ factor, where participants expressed being motivated by learning from fellow volunteers and experts at Zealandia as well as sharing acquired knowledge with visitors. The learning available at Zealandia appears to be evolving

and continuously challenging, inspiring participants long-term motivations, which challenges Sextus et al.'s (2024) assertion that learning motivation decreases over time.

Social interactions, be it motivated by community, learning, project organisation or socially related, impacted different aspects of being a long-term volunteer, supporting Ganzenvoort and van den Born's (2023) finding that relatedness is a core need for volunteer retention. The authors found participants had a deeper need for connection, such as having a shared vision with fellow volunteers, being supported through difficult situations and generally feeling their efforts were worthwhile and noticed (Ganzenvoort & van den Born, 2023). While the present project contrasted theirs in its positively framed questions, the impact of deeper relational connections experienced at Zealandia was also observed in participants' answers. Social aspects such as meeting visitors and improving their experience, working alongside people different from them, and feeling appreciated by visitors for their service appeared to meet a deeper need for relatedness. Furthermore, this conclusion also supports their argument that qualitative research is necessary for understanding long-term conservation volunteer motivations (Ganzenvoort & van den Born's, 2023).

In summary, the findings of the present project add to the little research that has been done in Aotearoa on the motivations of conservation volunteers. It supports and adds to evidence that the environmental version of the VFI adequately captures the motivations of New Zealand conservation volunteers (Heimann & Medvecky, 2022), but highlights the importance of qualitative data in conjunction with the measure to understand the depth of how the motivations were experienced. The qualitative findings add evidence that the nine factors were experienced by long-term volunteers in ways that are value driven and add meaning to their voluntary experience. Further, the open-answer responses introduced nuance to the quantitative findings, highlighting the overlapping nature of long-term volunteer motivations.

4.5 Case study context

A key feature of the present study was the participant's current positions as committed volunteers, allowing the retention of volunteers to be understood aside from measures of their commitment. The analysis could focus on what does work by asking volunteers who were already committed what their motivations and experiences were. The present sample is also unique in the level of commitment from the long-term volunteers. Though the study was designed to capture participants involved for over one year, only one participant was a volunteer for exactly one year. Many participants had volunteered at Zealandia for over six years (62.8), and 35.2% had been there for 11 years or more.

It would also be remiss to not acknowledge the unique setting of the case study. Zealandia is world leading eco-sanctuary that has been highly successful in outworking their vision. The contextual

setting of the eco-sanctuary therefore was an important factor for participants' motivations. Volunteers in eco-sanctuaries are commonly deeply imbedded in the project, often financially contributing in addition to their volunteerism (Albrecht et al., 2021). In their book '*Developing a Sanctuary: The Karori Experience'*, Diane Campbell-Hunt (2002) details the unique foundations Zealandia began with. Zealandia was made up by a small staff team, and a large community of founding members who donated finances, time, and skills to create the sanctuary. Volunteers were a core part of operations from the outset, with the development of the vision made possible through volunteers' commitment (Campbell-Hunt, 2002). Strong investment from volunteers is an aspect of conservation volunteering that is well-recorded (Heimann & Medvecky, 2022; Ryan et al., 2001; Sextus et al., 2024). However, the majority of the volunteers at the time of writing (2002) were trust members of the Karori Sanctuary (Zealandia's previous name), signalling a deeper investment than most volunteers.

In the present study, it was not asked whether volunteers were trust members, however, some mentioned their involvement dated back to the beginning of operations (all volunteers were trust members when the sanctuary began (Campbell-Hunt, 2002)). While it cannot be known whether participants are trust members and therefore deeply embedded in the operations of Zealandia, it may be assumed that some participants reflect this point of view. The meaning derived from being a part of the organisation is clear, suggesting that providing volunteers with a sense of ownership in a project, perhaps by inviting them to be part of a deeper commitment, such as becoming a trustee, may foster commitment.

4.6 Implications

The findings from the present study show that Zealandia long-term volunteers find pleasure, meaning and purpose from their experience as volunteers. The long-term vision, the organisation of the project, opportunity to spend time in 'the valley' and the social factors all motivate volunteers to continue contributing to the important work of Zealandia. The pleasure and connection derived from continued participation inspires participants to live out their values of caring for the environment, and to grow as a result of the experiences they have in the sanctuary.

The present findings highlight the importance of connection to the land and one another for long-term commitment of conservation volunteers. Volunteering is a meaningful activity for many participants, thus continuing to provide opportunities for volunteers to connect to the flora and fauna of the sanctuary may continue to inspire voluntary commitment.

Committed conservation volunteers are an aging group (Cowie, 2010; Heimann & Medvecky, 2022; Sextus, 2024) and this was true for the present sample. Volunteer experiences highlighted an important aspect of this, which is the impact that changing abilities may have on volunteer

motivations. Offering flexible and supportive roles that allow for long-term volunteer's continued participation as they age will ensure there are opportunities for volunteers to continue to contribute.

Careers at Zealandia may not be relevant for long-term volunteers, however the few responses relating to the factor signal there may be more to understand regarding volunteer experiences of Career opportunities at Zealandia. Consideration of how long-term volunteers may further pursue career aspirations may be beneficial.

4.7 Parameters

The present study was not without limitations and thus there are parameters to the findings. Participants in the present study were overwhelmingly older, Pākehā and highly educated. Findings from their experiences are therefore not representative beyond this population. While the sample was mostly representative of current Zealandia long-term volunteers, there was an underrepresentation of Zealandia's younger volunteers (18-39). The underrepresentation of Māori in Zealandia's long-term volunteers, and therefore in the present sample, is not representative of Māori participation in voluntary activities (VNZ, 2022). The lack of these voices in the present study was a limitation of the project.

The success and reputation of Zealandia created a unique environment for volunteers. Comparing the findings to community conservation volunteers or settings where the vision and success are not long-term should also be done with caution. The findings from this project are therefore most relevant for similar projects that span a number of years and can inspire long-term investment.

The web-based nature of the survey may have limited how participants' experiences could be understood. There was a possibility of bias in their self-reporting, as well as capturing the 'keen few' volunteers who were deeply invested in the project (Salamon et al., 2018; Heimann & Medvecky, 2022). Participants needed access to devices and the ability to engage in the survey online without further support provided. This may have impacted the findings of the study given participants were self-selected in response to a call out from Zealandia. Further, though participants were asked to respond to what motivates them 'to continue' volunteering, the survey was cross-sectional, capturing their motivations at one time.

Due to the rich data received from the open-answer questions on the survey, it was decided not to do interviews for the qualitative aspect of the study. This allowed for the exploration of 86 participants' answers rather than 10 interviews. While it allowed for more participant experiences to be represented, it meant participants were not able to clarify nuances of their experiences, nor could their short responses adequately capture the meaning they were conveying. Qualitative interviews may better capture long-term volunteering experiences in future research.

Indicative interview questions though positively worded, were written to address desires underpinning motivations and to explore any unmet needs with volunteers. Given the interviews did not happen, the questionnaire would have benefitted from more specific open-answer questions. Namely, a question asking participants about their dissatisfaction in their roles may have gained insight into how their desires might be better met (more adequately addressing question two).

The study was designed to capture the meaningful reasons that volunteers 'stay' rather than why they 'leave'. Participants were present long-term volunteers and, therefore still motivated to partake in volunteering. Not having voices present who had left limited the insight that may be gained from understanding the experiences of volunteers who had moved on.

Regarding the survey itself, it may have benefited from some additional questions and alterations of demographic data responses. Many participants were older and more committed than was expected. The maximum responses possible for age (71+), frequency of volunteering (10+ hours), and years of volunteering (11 years or more) limited the ability to explore differences in long-term volunteer characteristics. For example, understanding how many volunteers had been there for 20+ years (early on in Zealandia's development) may have given insight into the experiences of that group.

Previous literature suggested that an additional item regarding volunteering to assuage guilt may capture motivations relating to colonialism and climate change (Clary et al., 1996; Heimann & Medvecky, 2022). The item 'I feel a responsibility to contribute through volunteering due to past wrongs' had a low mean (M = 1.81) and did not load convincingly onto any of the factors. It was therefore cut from analysis. Further research may capture this phenomenon better.

4.8 Future research

The majority of Zealandia long-term volunteers were more than volunteers, they were passionate individuals who had a high investment in the goals of the sanctuary. While this allowed insight into the experiences of this particular group, future research focussing on long-term conservation volunteers in another setting may yield different results. Further, longitudinal research using a mixed methods approach with the VFI and an exploration of experiences may capture differences in motivations over time.

It was beyond the scope of the present project to explore how various elements interacted to impact motivations. Continued exploration within the present dataset exploring how the frequency of volunteering, volunteer role, gender, and age interact with long-term motivations would also develop volunteer retention literature.

4.9 Concluding statement

The present case study provided an opportunity to understand the motivations and experiences of a group of ‘retained’ volunteers. The combination of the VFI and qualitative open-ended questions provided a successful methodology for developing an understanding of the motivations of long-term volunteers.

Participants were committed, passionate long-term volunteers who expressed a connection with the sanctuary that for various reasons, kept them coming back. Zealandia long-term volunteers find pleasure, meaning and purpose through their continued participation in conservation volunteering at the sanctuary. Participants were highly motivated by helping the environment, getting outside and participating in the interpersonal aspects of volunteering. Qualitative responses highlighted the importance of emotions in volunteering and aligned values with a long-term vision in inspiring ongoing commitment. Volunteers’ long-term involvement benefited their physical, spiritual, relational and mental wellbeing, and the impacts compounded over time. Participating in the vision of Zealandia allows volunteers to live out their values, and contribute to something they believe in and can see the results of.

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Appendix A

Full questionnaire survey flow

Block: Information page (1 Question)
Standard: Consent (3 Questions)

Branch: New Branch
If
If I have read and understood the information sheet for this study and consent to collection of my r... Yes Is Not Selected

EndSurvey: Advanced

Standard: Introduction (1 Question)
Standard: Screening (3 Questions)

Branch: New Branch
If
If How old are you? Less than 18 Is Selected
Or How long have you been a volunteer at Zealandia? Less than 12 months Is Selected

EndSurvey: Advanced

Standard: Volunteer information (VI) (11 Questions)
Standard: Demographics (6 Questions)

EmbeddedData
ED_G = ${q://QID11/SelectedChoicesRecode}
ED_E = ${q://QID10/SelectedChoicesRecode}

Standard: Additional information (2 Questions)
Standard: End_txfer (2 Questions)

Branch: New Branch
If
If Participate in an interview If you are willing to participate in an interview, please select the appropriate option below, before clicking on the 'Submit' button to complete this survey an... Yes, and Interview Is Selected

EndSurvey: Advanced

Understanding why people stay. A case study on volunteer retention at Zealandia Te Māra a Tāne in Wellington.

Information Sheet

Kia ora koutou, my name is Natasha Foley and I am a Master of Psychology student at Massey University. I am doing a study which aims to look at the different reasons people choose to volunteer at Zealandia, and to explore with a few of these people how they experience these motivations.

I am looking to speak with ‘long-term’ volunteers at Zealandia, whom I have defined as having volunteered for one year or more. I want to understand their motivations for why they keep coming back. I am hoping for at least 100 people to do the survey, so if you’ve got time, I would love to invite you to participate!

If you:
are over 18 years of age,
have been volunteering at Zealandia for one year or more (Since November 2022),
are willing to give about 10 minutes of your time to fill out my survey.

This survey will take about 10 minutes to complete, but maybe a bit longer if you decide to add more information about your responses (section three). Most of the questions require you to answer from 1-7 how important a statement about why you continue to volunteer at Zealandia is for you. Please tick each answer as honestly as possible. There are also a few open answer questions.

Your questionnaire information will be anonymous. At the end of the questionnaire there is an option to select if you would like to be contacted for a follow up interview. If you select YES, I will ask for your name and contact details. In this case, if you are selected for an interview I will need to access your survey answers so that I can understand your motivations for volunteering, therefore your questionnaire information will no longer be anonymous from myself and my supervisor. Your data will, however, remain anonymous from Zealandia and in any publications.

I will take care in the way I store the data (your answers), making sure that only myself and my supervisor have access to it. When the project is complete, I will give the data to my supervisor, and she will destroy it after five years unless the project is published in an academic journal. In this case, as part of an open science practise (meaning other researchers can check my analysis), the data would be available through the journal the research was published in. Your ethnicity data would not be shared however, and will only be used in this project to describe the demographics of people that take part in this study.

You do not have to accept the invitation to be a part of this research. This project is separate from Zealandia operations and your involvement will not impact your role volunteering with Zealandia in any way. If you are not comfortable with any of the questions on the survey, you do not have to answer. You are also entitled to withdraw from the project at any time before you submit your responses. However once you click submit, your data will become part of a larger dataset that I will not be able to identify and remove you from. If you complete and submit the questionnaire, that implies your consent to be an anonymous participant of the survey.

If you are interested in being interviewed on your reasons for volunteering and your experience of volunteering, then please tick YES when it asks you at the end of the survey.

Contact information [redacted]

This project has been reviewed and approved by the Massey University Human Ethics Ohu Matatika 2, Application OM2 23/48. If you have any concerns about the conduct of this research, please contact Associate Professor Fiona Te Momo, Chair, Massey University Human Ethics Ohu Matatika 2, email humanethics2@massey.ac.nz.

End of Block: Information page

Start of Block: Consent

By choosing to fill out the questionnaire and submitting it, you are agreeing to the following:
I meet the above criteria to participate in the study; that I am over 18, and have volunteered for one year or more.
I consent to my responses being used for analysis.
I consent to my data being stored or shared as outlined above.

I have read and understood the information sheet for this study and consent to collection of my responses.

(Please click on the 'Yes' choice if you wish to proceed.)

- ○ Yes (1)
- ○ No (2)

End of Block: Consent

Start of Block: Introduction

Overview of tasks in questionnaire

This questionnaire is divided into three parts.
In the first part, there is a survey about your motivations for volunteering.
In the second part, I ask some information about you, so we can see if there are differences in motivations for different groups of people. You can answer as many questions as you like from this section. Lastly, there is an optional third part for you to write about why you answered the way you did.

End of Block: Introduction

Start of Block: Screening

Screening for eligibility

How long have you been a volunteer at Zealandia?

- ○ Less than 12 months (0)
- ○ 1 year (1)
- ○ 1-2 years (2)
- ○ 3-5 years (3)
- ○ 6-10 years (4)
- ○ 11 years or more (5)

How old are you?

- ○ Less than 18 (0)
- ○ 18-23 (1)
- ○ 24-29 (2)
- ○ 30-40 (3)
- ○ 41-50 (4)
- ○ 51-60 (5)
- ○ 61-70 (6)
- ○ 71+ (7)

End of Block: Screening

Start of Block: Volunteer information (VI)

How many hours per month do you typically volunteer for?

- ○ Less than one hour (1)
- ○ 1-5 hours (2)
- ○ 6-10 hours (3)
- ○ 10+ hours (4)

Please select which volunteer roles you most often volunteer in.
(select all that may apply)

- ☐ AviAiders (e.g. Bird Feeder, Feeder Cleaner) (1)
- ☐ Visitor Experience (e.g. Visitor Experience Volunteers/Skippers) (2)
- ☐ Guided Tours (e.g. Volunteer Guides/NGAs) (3)
- ☐ Fence Checking (4)
- ☐ Track Maintenance (5)
- ☐ Species Surveys/Monitoring (e.g. Nestbox Monitoring, Kiwi Counting, Cave Weta Surveys, etc.) (6)
- ☐ Other Sanctuary Care/Infrastructure Tasks (7)
- ☐ Weeding & Restoration (e.g. Conservation Team) (8)
- ☐ Annual Pest Audit (9)
- ☐ Bait Out (10)
- ☐ Storytelling (11)
- ☐ Gardening (e.g. Wednesday Gardening Group, Infrastructure Team) (12)
- ☐ Other Conservation Tasks (13)
- ☐ Transect Line Maintenance (14)

☐ Perimeter Control (15)

☐ Administration (e.g. Front Desk Admin, Corporate Services Admin, Tours Admin, etc.) (16)

☐ Other (17) _____

Considering the roles you most often do, please select the below group that best describes your role at Zealandia.

○ Conservation (1)

○ Infrastructure (2)

○ Visitor Experience (3)

○ Guided Tours (4)

○ Administration (5)

Have you ever changed the role you volunteer in? If so, please tell us why in a few words below:

_____

_____

_____

_____

_____

There are many reasons why people volunteer. Please indicate the importance of each of these factors in explaining why you continue to volunteer at Zealandia.
(Please rate from 1 - Strongly unimportant, to 7 - Strongly important.)

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)
Work with friends	○	○	○	○	○	○	○
Make contacts that might help career	○	○	○	○	○	○	○
Get a foot in the door because I would like to work at Zealandia	○	○	○	○	○	○	○
Concern for the environment	○	○	○	○	○	○	○
Help restore natural areas	○	○	○	○	○	○	○
Work with a good leader	○	○	○	○	○	○	○
Give back to my community	○	○	○	○	○	○	○
Enhance the activities I enjoy doing	○	○	○	○	○	○	○
Help preserve natural areas for future generations	○	○	○	○	○	○	○
To be out in the fresh air	○	○	○	○	○	○	○

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)
Feel better about myself	○	○	○	○	○	○	○
I like being a part of the Wellington volunteer culture	○	○	○	○	○	○	○
Learn about environment	○	○	○	○	○	○	○
See improvements to the environment	○	○	○	○	○	○	○
Feel needed	○	○	○	○	○	○	○
Zealandia's reputation	○	○	○	○	○	○	○
Meet new people	○	○	○	○	○	○	○
Do something for a cause that is important to me	○	○	○	○	○	○	○
Have fun	○	○	○	○	○	○	○
Connect to my community	○	○	○	○	○	○	○

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)
Learn about specific plants	○	○	○	○	○	○	○
Enrich my future recreation experiences	○	○	○	○	○	○	○
Protect natural areas from disappearing	○	○	○	○	○	○	○
Be part of a well organised project	○	○	○	○	○	○	○
To live closely to my values	○	○	○	○	○	○	○
To work in the outdoors	○	○	○	○	○	○	○
Help me succeed in chosen profession	○	○	○	○	○	○	○
Explore possible career options	○	○	○	○	○	○	○

	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)
Know what is expected of me	○	○	○	○	○	○	○
Allow me to work on an area where I visit	○	○	○	○	○	○	○
Experience will look good on resume/C.V.	○	○	○	○	○	○	○
To express my values through my work	○	○	○	○	○	○	○
To get outside	○	○	○	○	○	○	○
Learn about specific birds	○	○	○	○	○	○	○
Ensure future of natural areas for my enjoyment	○	○	○	○	○	○	○
See familiar faces	○	○	○	○	○	○	○
I feel a responsibility to contribute through volunteering due to past wrongs.	○	○	○	○	○	○	○
Kaitiakitanga or guardianship over the land is important to me	○	○	○	○	○	○	○

Are there any other reasons that you volunteer that are not mentioned?

_____

_____

_____

_____

_____

Have your motivations for volunteering changed since you first started?

_____

_____

_____

_____

_____

End of Block: Volunteer information (VI)

Start of Block: Demographics

Gender What is your gender?

- ○ Male (1)
- ○ Female (2)
- ○ Non-binary (3)
- ○ Other (4) _____
- ○ Prefer not to say (5)

Which ethnic group/s do you belong to? *(You can select multiple items.)*

- ☐ Māori (1)
- ☐ Pākehā/NZ European (2)
- ☐ Pasifika (3)
- ☐ Asian (4)
- ☐ African (5)
- ☐ European (6)
- ☐ North/South American (7)
- ☐ Prefer not to say (8)
- ☐ Other: (9) _____

Select the option below that best describes where you live:

- ○ Central Wellington (1)
- ○ Suburb walking distance from the central Wellington (2)
- ○ Suburb outside of the city (3)
- ○ Not in Wellington (4)

Please select your highest level of formal education:

- ○ Some high school (1)
- ○ High school (2)
- ○ Non-university qualification (e.g., apprenticeship) (3)
- ○ Bachelor's degree (4)
- ○ Postgraduate degree (5)
- ○ Prefer not to say (6)
- ○ Other: (7) _____

Select which of the following describes your current situation:

- ○ Paid employment, 30 or more hours per week (1)
- ○ Paid employment, less than 30 hours per week (2)
- ○ Homemaker (3)
- ○ Unemployed (4)
- ○ Student (5)
- ○ Retired (6)
- ○ Prefer not to say (7)
- ○ Other (8) _____

End of Block: Demographics

Start of Block: Additional information

This is an opportunity to write an explanation for any of your responses. Completing this section is not essential but is appreciated.

If you would like to tell us more about what motivates you to be a long term volunteer at Zealandia, please comment below:

_____

_____

_____

_____

_____

If you would like to tell us how your motivations have changed while you have been volunteering, please comment here:

_____

_____

_____

_____

_____

End of Block: Additional information

Start of Block: End_txfer

I am looking to interview a small group of people as a follow up to this questionnaire, further exploring your experience of your motivations for volunteering.

You will receive a summary of results from Danielle when the study is complete.

If you select the option of being involved in an interview, you will be transferred to a separate survey to collect your contact details. If you select this option, you are giving me permission to access your survey data. This will remain anonymous from Zealandia.

Participate in an interview

If you are willing to participate in an interview, please select the appropriate option below, before clicking on the '**Submit**' button to complete this survey and be transferred to a separate webpage to enter your contact details.

In order to select participants that represent motivations of interest, I will need to access your survey data. Do you give me permission to do this? Your information will remain anonymous from Zealandia.

If you agree, please select the 'Yes, and Interview' option before clicking on the **Submit** button below to lodge your responses and close the survey.

- ○ Yes, and Interview (1)
- ○ Exit (2)

Appendix B

VFI environmental factor definitions (Bruyere & Rappe, 2007, pg. 510)

Help the environment: People volunteer because they want to do something that enhances the natural world.

Get outside: Volunteerism provides an opportunity to simply be in nature, away from the home or workplace and in a setting with open spaces and natural sounds.

Learning: People volunteer because they want to learn about the natural world. Volunteering for an environmental oriented program can give a volunteer the opportunity to learn about flora, fauna or environmental issues.

Values and Esteem: People volunteer in order to express their values or to feel as though they are doing something positive in return for the good things that they have received throughout their lives. Volunteers can also gain a sense of pride and self-worth as they participate in volunteer programs.

User: People volunteer to work in and improve an area that the volunteer uses or enjoys. An example of this motivation is a mountain biker volunteering on a trail they use for riding.

Project organisation: People are motivated to be part of a program that is well organized and uses their time well. A well-organized project will get the most work accomplished and give many volunteers a feeling that their discretionary time was used wisely.

Social: Participating in volunteer programs allows participants to meet others who share their ideas and values. It also provides an opportunity to do something positive with friends and family, and a volunteer program can be a place to meet new people.

Career: People volunteer to gain job related experience or to explore different vocational possibilities.

Appendix C

Excerpt of template analysis table for 'Help the environment'

Factors/a priori themes	Quantitative overview	Data	Subthemes	Qualitative overview
HELP THE ENVIRONMENT *Concern for the environment* *Help restore natural areas* *See improvements to the environment* *Do something for a cause that is important to me* *Protect natural areas from disappearing* *Ensure future of natural areas for my enjoyment* *(Kaitiakitanga or guardianship over the land is important to me)* CRONBACH'S ALPHA: .81	This factor gives insight into how volunteers are motivated to give their time by helping the environment. Led by their concern for the natural world declining and being a part of protecting the environment motivates volunteers to be involved in Zealandia. Responses to all items within this theme were high, giving insight into how important this factor is to Zealandia volunteers. Help the environment' was made up of eight statements relating to environmental values. Participants responded highly to statements related to caring for the environment, restoring, improving or preserving natural areas, and feeling it was important to work on natural areas for future generations. The item 'Kaitiakitanga or guardianship over the land is important to me' conceptually fit within this factor, and reliability remained adequate.	*I believe in the Inherent value of our biodiversity and to give a voice to nature through my actions* *Sense of pride and accomplishment helping the sanctuary thrive.* *love seeing how the valley has changed over the years and knowing that I help make it that way. Also love telling people in my day-to-day life about how amazing it is and encouraging them to visit.* *I enjoy seeing the valley and its facilities improve as time goes by.* *I volunteer because I think Zealandia' s 500 year vision to restore flora and fauna to the city is fantastic, and it needs people like me to do our part to make the vision a reality.* *There are so many wide ranging benefits of being a zealandia volunteer so it's difficult to know where to start. It benefits me as an individual, the collective culture of our city and especially nature. I suppose if I was going to distil into few words what drives motivation for long term volunteering at ZEALANDIA, is that the reward of seeing nature restore itself, bloom, expand and thrive with just a little bit of a help along. To see Kohekohe spreading like weeds, and screeching kaka painting the sky - what better reward to keep us motivated than more of nature itself* *Helping protect endangered species.* *Seeing how the valley has changed and developed over the last 20 years and how the bird life now extends beyond the fence into the greater Wellington area to share the joy of nature and realise how close we were to losing so much of the country's native treasures plant, bird and insect.* *what motivates me is the birds which come to my garden every day which would never have happened without Zealandia*	1. Protect species from going extinct/increase biodiversity 2. Motivated by evidence of restoration in 'the valley' and wider Wellington 3. Motivated by the knowledge they are contributing to the Kaupapa	This theme provided insight into the emotional, relational and purposeful aspects of participants' experiences of volunteering. Participant responses highlighted that their motivation to help the environment centred on Zealandia specifically, rather than any environmental setting. Three subthemes were observed for this factor, 'protect species', 'evidence of restoration' and 'knowing I am contributing to the Kaupapa'. The first, 'protect species' captured participants' construction of their relationship with nature. Some expressed their role as advocating for flora and fauna, some felt in a rush to protect species from extinction and others felt their role was about reinstating nature to the way it was prior to human intervention. The second subtheme 'evidence of restoration' highlighted the joy participants felt in seeing evidence of the collective impact of their contribution to restoration at Zealandia. This was experienced both in volunteer time and throughout their everyday lives living close by to the sanctuary. The final subtheme, 'knowing I am contributing to the Kaupapa' showed the meaning participants derived from the knowledge that they were contributing to the long-term goals the sanctuary had.

Appendix D

Results of CFA for each of the Volunteer Motivation Inventory scales

Measure	# of items	χ^2	df	*p*-value	RMSEA [90% CI]	SRMR	CFI
Career	5	14.717	5	0.0116	0.141 [0.061-0.227]	0.034	0.926
Help	7	31.108	13	0.0033	0.117 [0.064-0.170]	0.077	0.894
Social	4	0.771	2	0.6800	0.000 [0.000-0.148]	0.015	1.000
Values	4	0.212	1	0.6449	0.000 [0.000-0.207]	0.007	1.000
Community	2	—	—	—	—	—	—
Learn	3	—	—	—	—	—	—
Outside	3	—	—	—	—	—	—
Project	3	—	—	—	—	—	—
User	3	—	—	—	—	—	—
9-factor model	—	41.701	27	0.0352	0.073 [0.020-0.114]	0.052	0.945

Note. N = 99. The Help model allows the errors of items 4 and 5 to correlate. The Values model allows the errors of items 11 and 15 to correlate. The Community model had two items and was thus under-identified; model identification was achieved by fixing the two indicators to have the same loading. The Community and all the other models in grey are just identified (saturated) models with perfect fit. The 9-factor models comprised a single-factor Volunteer Motivation with the average of the specific items for each scale as the observed indicators. χ^2 = chi-square; df = degress of freedom; RMSEA = Root Mean-Square Error of Approximation; SRMR = Standardised Root Mean-Square Residual; CFI = Comparative Fit Index.