Motivations, Barriers, and Enablers of Native Wildlife Conservation in the Auckland Region of Aotearoa New Zealand

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Abstract

The decline of biodiversity is a global concern. In Aotearoa New Zealand, biodiversity conservation is considered to be of high importance by both the government and the public. Across landscapes, environmental managers have worked with communities to conserve biodiversity, including native wildlife. In spite of widespread conservation efforts, however, populations of native species have continued to decline. Engaging in conservation efforts is particularly challenging in urban contexts, as cities are known to have highly diverse social, cultural and ecological characteristics, making the design and implementation of biodiversity-focused management solutions a difficult process. In order for environmental management solutions to succeed, approaches must maintain an awareness of the factors influencing the motivations, barriers, and enablers that define the community's interest in conservation, and will likely dictate the support for particular conservation efforts.

This research examines the perceived motivators, barriers, and enablers of native wildlife and conservation in the Auckland region of Aotearoa New Zealand, as identified by people already involved in wildlife conservation efforts, in both paid and volunteer capacities. It also explores the primary threats native wildlife that participants identified as proper to the Auckland region, and the required conservation management actions. The research employs a mixed-methods approach comprising of a self-administered online survey and semi-structured interviews. Information was gathered regarding the participants' primary concerns about the conservation of native New Zealand wildlife, and the factors influencing their conservation behaviours. Thematic and textual analysis were used to analyse the data, with the application of a theoretical framework sited in Conservation Social Science as a disciplinary field.

Results revealed that the motivations for people's involvement in conservation efforts are primarily intrinsic, commonly based on the love for nature. Barriers and enablers to conservation, for both individuals and organisations, were perceived to be interconnected, and chiefly related to factors such as funding, time, knowledge-sharing, and geographical location. Social media emerged as a particularly effective tool in maintaining community conservation networks, raising awareness about conservation initiatives, and encouraging involvement from potential volunteers. Habitat loss and introduced mammalian predators were identified as the primary threats to native wildlife in the Auckland region, with factors such as urban expansion and climate change being influential. The research concludes that determining their perceived

motivators, barriers, and enablers of conservation efforts for people involved can be useful in facilitating decision-making and enhancing collaboration between various conservation stakeholders as part of larger environmental management frameworks.

Keywords: native wildlife, conservation, Auckland region, New Zealand, community, volunteers, motivations, barriers, enablers

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List of Abbreviations

BFA	Biodiversity Focus Areas
CTN	Connection to Nature
DOC	Department of Conservation
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
LCDB	Land Cover Database

Chapter 1: Introduction

The decline of biodiversity is a global concern (Skogen et al. 2018; Adebayo 2019; Isbel et al. 2022; Armstrong 2024; Pfenning-Butterworth et al. 2024). In Aotearoa New Zealand, biodiversity conservation is considered to be of high importance by both the government and the public, and widespread efforts to protect vulnerable endemic fauna from decline have garnered broad public support (Heimann and Meddvecky 2021; Department of Conservation 2020). In an effort to preserve biodiversity and safeguard endemic populations over 8.7 million hectares of public and private land in Aotearoa New Zealand is under some form of legal protection. The vast majority of protected land area (c. 8.5 million hectares) is managed by the Department of Conservation (DOC) (Department of Conservation 2017; Heimann and Meddvecky 2021). Aotearoa New Zealand has one of the highest percentages of terrestrial protected areas per total land worldwide with 34% of its land mass under protection (Willis 2017). However, many native species of wildlife are endangered. In view of its geographically isolated position, which has resulted in high levels on endemism, Aotearoa New Zealand has been globally identified as a biodiversity hotspot for the conservation of native species (Myers et al. 2000). Nonetheless, a wide range of threats to native wildlife remain.

The primary cause of biodiversity loss in Aotearoa New Zealand has been loss of habitat, as a result of agricultural conversion, urban development, forest depletion, and poor land management practices (Ministry for the Environment 2024; Clarkson 2022; Ewers et al. 2006; Moller et al. 2008; Bird et al. 2024). These anthropogenic factors causing habitat fragmentation generally represent significant challenges in effective conservation practices for endemic wildlife (Fletcher et al. 2018; Norton 2020). In recent times, the challenges presented by introduced predators to native wildlife have been a primary focus of conservation discussions (Russell et al. 2015). Concerns over the growing biodiversity loss in Aotearoa led to the launch of the Predator Free 2050 programme; this is an ambitious conservation goal that aims for the long-term eradication of all invasive predator species (including rats, stoats, and Australian brush tail possums, among others) that have been identified as being one of the leading threats to native biodiversity (Department of Conservation 2016). The scheme has been highly publicised by DOC and has become a point of focus for much of the conservation material circulated in relation to endemic fauna. In spite

of widespread conservation efforts, endemic population have continued to decline. As a result, there has also been a growing interest in including social and cultural perspectives in the planning and implementation of conservation efforts, where conservation agencies work with multiple communities and stakeholders – especially Māori groups – to generate more inclusive and more far-reaching conservation practices and policies (Lyver et al. 2018; Mascia et al. 2013; Towns et al. 2019; Wilkinson et al. 2021).

Across different types of landscapes in Aotearoa New Zealand, environmental managers have worked with communities to conserve biodiversity, including endemic fauna (Taylor et al. 2022). The effectiveness of conservation practices, however, relies on understanding and acknowledging the different views and approaches to nature, which drive the motivations for conservation efforts. Historically, conservation actions in Aotearoa New Zealand have been primarily shaped by biological insights (McMurdo Hamilton et al. 2021). This is not particularly surprising, as this approach follows the general direction of conservation strategies across the globe (Fox et al. 2016; McMurdo Hamilton et al. 2021). However, studies show that socio-cultural barriers equally impede conservation effectiveness, both in Aotearoa New Zealand and internationally (Sullivan 2019; Giakoumi et al. 2018). Aotearoa New Zealand's distinctive socio-cultural and ecological context makes it ideally suited to an exploration of the reasons why people support the conservation of native wildlife species, and how this can provide important information for shaping conservation efforts of native wildlife species in the future (Ministry for the Environment 2019; Ghijselinck et al. 2023). The country has a complex history that has resulted in a unique biodiversity context, especially for fauna. However, the history of Aotearoa New Zealand, as both a land and a country, has also been characterised by colonisation, extractive settlement, and significant changes in agricultural and forestry practices that have put pressure on many of its ecosystems, leaving them fragmented and modified (Holland 2000).

In recent years, conservation policy in Aotearoa New Zealand has increasingly emphasised the social and cultural dimensions of conservation (Brown 2003: Evans et al. 2017; Toomey et al. 2017; Towns et al. 2019). The diversity of Aotearoa New Zealand's geographical areas bring different challenges to different contexts, socially, culturally, politically, economically, and ecologically (McMurdo Hamilton et al. 2021). Engaging in conservation efforts is particularly challenging in urban contexts, as cities are known to have highly diverse social, cultural and ecological characteristics, making the design and implementation of biodiversity-

focused management solutions a difficult process (Taylor et al. 2022). Indeed, cities can present unique challenges to species conservation, due to issues like urban expansion, which do not commonly affect more rural regions (Ives eta l. 2016; Shaffer 2018; Soanes & Lentini 2019). The anthropogenic forces that commonly define urban contexts can also present multiple barriers to the maintenance of biodiversity and the protection of endemic faunas in these areas. To conserve the biodiversity of native wildlife, environmental managers have historically focused on reducing the negative impacts of human on nature (Ives & Kendall, 2014). Approaches focused on the complete removal of human activities, however, are not always sustainable in urban contexts, where the forceful division between wildlife and humans is not only impractical, but also likely to generate considerable disagreement. In cities, conservation actions need to be attuned to the views of the inevitably diverse community; this is necessary for any conservation strategies and efforts to proceed and succeed (Kendal & Ford 2018).

Although generally regarded as distinctly 'nature focused', wildlife conservation actions are also contingent on human processes of decision-making, and often operate in value-laden social contexts (Backstrom et al. 2018; Taylor et al. 2022). Here, cities are the ideal example of socio-ecological systems, where environmental management requires both scientific and socio-cultural considerations in order to provide a well-rounded and effective approach to the preservation of the natural world (Maller 2008). In Aotearoa New Zealand, the expansion of urban areas is particularly of note as it also entails significant social, cultural and ecological changes. Cities like Auckland are increasingly characterised by growing populations and expanding built environments, which signal mutating and distinctive social, cultural, economic, and ecological factors that co-exists in the larger bounds of the same urban context. Engaging with a range of understanding and expectations creates additional complexities for environmental mangers, and highlights the need to understand the community's multifaceted views on wildlife conservation, and the reasons for supporting or not supporting conservation strategies (Backstrom et al. 2018; Buijs et al. 2016; Taylor et al. 2022).

Given the diversity of communities within cities, finding sustainable and adaptable solutions for native wildlife conservation issues may be a challenge (Armitage et al. 2012). Nonetheless, improved and effective conservation practices may be realised in urban centres if the full spectrum of ecological, social, and cultural values are understood and harnessed to co-produce best-practice environmental management (Pascual et al. 2022; Taylor et al 2022).

In order for environmental management solutions to succeed, approaches must maintain an awareness of the motivations, barriers, and enablers that define the urban community's interest in conservation and will likely dictate the support for particular conservation decisions (Barraket 2004; Whatmore 2006). Motivations, in particular, will be shaped by social and cultural values, which shape people's views on conservation practices for wildlife in urban contexts (McMurdo Hamilton et al. 2021; Gomes et al. 2022.).

Equally, barriers and enablers, as perceived by community members, in both volunteer and paid capacities, will be central to understand what is seen as valuable and needed, and how this can be integrated into environmental management solutions in urban contexts.. Incorporating knowledge of perceived motivations, barriers, and enablers of wildlife conservation into decision-making will be essential for conflict mitigation as conservation strategies are devised and implemented in cities (Endter-Wada et al. 1998; Ives & Kendal 2014; Taylor et al. 2022). Understanding the reasons that drive an interest in native wildlife, and motivations for conservation in particular, may provide a more well-rounded overview of human-wildlife relationships in the Auckland region of Aotearoa New Zealand, also accounting for culturally salient aspects connected to identity.

This research uses the Auckland region as a case study area to explore the perceived motivators, barriers, and enablers of wildlife protection and conservation in Aotearoa New Zealand. The Auckland region includes nine ecological districts, as well as the Hunua ranges – a national protected area managed by Auckland Council. Currently, there are 56 birds, two bats, 18 terrestrial reptiles, one frog, and 11 freshwater fish species in the region that are classed as threatened, with some being at risk of extinction (Tiaki Tāmaki Makaurau - Conservation Auckland 2024a). In 2020, Auckland Council unveiled the 'Auckland 2030' plan, which aimed to safeguard biodiversity and protect the environment from a variety of anthropogenic forces. In spite of this, biodiversity in the Auckland region is continuing to be under severe pressure; only 25 per cent of the original extent of Indigenous ecosystems remain, making this the smallest proportion for any region in the country (Tiaki Tāmaki Makaurau - Conservation Auckland 2024a). Auckland has a number of 'hotspot' biodiversity areas, including reserves such as the Hunua Ranges area, which are often the focus of community volunteer efforts, such as those organised by the Hunua Birdlife Charitable Trust (Tiaki Tāmaki Makaurau - Conservation Auckland 2024b). Several community-run wildlife conservation initiatives can be found active in the area, including examples such the Orakei

& Waiatarua Wildlife Conservation Project. Urban development in Auckland continues to represent a growing challenge for wildlife conservation, as the loss of habitat for regional species continues to be a major point of concern (Auckland Council 2024c).

The Auckland region will be used in this thesis to highlight the importance of identifying the motivation, barriers, and enablers to conservation as identified by members of the broader wildlife conservation community, in both paid and volunteer capacities. Knowledge of the factors informing people's views of wildlife and wildlife conservation has the potential to make conservation more socially and ecologically effective (Jacobs et al. 2020). Determining their perceived motivators, barriers, and enablers of conservation efforts has the potential to redress power imbalances and marginalisation in decision-making, while also enhancing collaboration between various conservation stakeholders (Diaz et al. 2018; Ghijselinck et al. 2023). The project builds upon existing research conducted on the values of wildlife and conservation in other geographical and cultural contexts (Diaz et al. 2015; Basak et al. 2023; Liordos et al. 2020; Buckanoff and Williams 2024). In doing so, the thesis hopes to illuminate the importance of ongoing investigations into the perceptions and behaviours related to the conservation of wildlife in Aotearoa New Zealand, as part of larger environmental management frameworks.

1.1 Problem Statement

In Aotearoa New Zealand, public support for the protection and conservation of native wildlife appears to be generally established (Department of Conservation 2024). In spite of this, native wildlife populations have continued to decline and become endangered. The Auckland region is one of the most declining biodiversity areas in the whole country. While community-driven conservation action is essential for the safeguarding of native wildlife, it needs to be supported by appropriate regional and national initiatives and established wildlife conservation entities. An understanding of the perceived motivators, barriers, and enablers of wildlife conservation, for people in both paid and volunteer capacities, can aid the development and implementation of sustainable and targeted management approaches in the future. Identifying the reasons why people are interested in and supportive of wildlife conservation and the perceived motivators, barriers and enablers of conservation action that often come as a result can be central to the development of conservation solutions that are

attuned to the context and needs of the Auckland region as a social cultural, economic, and ecological entity.

1.2 Aim

The purpose of this research is to determine the perceived motivators, barriers, and enablers of native wildlife and conservation in the Auckland region of Aotearoa New Zealand, as identified by people who were already interested in supporting wildlife conservation efforts, in both paid and volunteer capacities. Determining the perceived motivators, barriers and enablers of native wildlife conservation action might help to stimulate the creation and implementation of more inclusive future strategies that close the gap between environmental managers and the expectations of the public.

1.3 Research Question and Objectives

This study was conducted to answer the following research question:

- What are the motivations, barriers, and enablers for people's involvement in native wildlife conservation efforts in the Auckland region of Aotearoa New Zealand?

To answer the research question, two objectives were formulated:

- To identify the perceived threats to native wildlife and the reasons why people are supportive of conservation in the Auckland region
- To identify the perceived motivators, barriers, and enablers for involvement in conservation efforts in the Auckland region

1.4 Thesis Outline

This thesis is organised according to the following structure:

Chapter Two provides background to the study by giving an overview of the Auckland region, including its geography, biodiversity status, and current conservation management actions in place.

Chapter Three situates the thesis within the framework of conservation social science, and reviews the existing literature on the relationship between humans and wildlife; the role of emotions in shaping the interest and support for conservation; the importance of volunteers in community-run conservation initiatives; the implications of anthropogenic threats on native wildlife in Aotearoa New Zealand; and the importance of understanding motivations, barriers, and enablers for people's involvement in conservation practices

Chapter Four explains the methods used for data collection and analysis, including the key characteristics of the participants involved in both the online survey and semi-structured interviews.

Chapter Five presents the results and findings of this research, including the results of the survey and interviews. The Chapter is divided thematically, according to the patterns that emerged in the analysis, especially in connection to the perceived threats to native wildlife and the factors that influence motivations, barriers, and enablers for conservation.

Chapter Six discusses the findings in relation to the research objectives and existing literature, in order to identify the factors that shape the perceived motivations, barriers, and enablers for native wildlife conservation in the Auckland region.

Chapter Seven reflects on the research as a whole and concludes the thesis. Implications for environmental management are also outlined, which integrate the findings on motivations, barriers, and enablers of native wildlife conservation in the Auckland region. Suggested areas for future research are also outlined.

Chapter 2: Background

The Auckland region was specifically chosen for reasons connected to land use practices, residential intensification, and the decline of native wildlife populations. The context of this broad urban area presents a significant set of challenges for native wildlife conservation, especially as connected to the urban expansion that comes as a result of population growth. In recent years, Auckland has witnessed a concerning growth in land intensification processes, where woodland and bush areas, which commonly provide habitat for native species, have been converted to agricultural and house building purposes (Carroll et al. 2011; Liu et al. 2021). This has resulted in the steady drop in wildlife population numbers, causing some species to become endangered (Department of Conservation 2022; Robertson et al. 2021). As a result of this, community conservation initiatives have been growing in numbers, in an effort to protect and preserve native wildlife species (James 2001; Booth et al. 2022). Because of the changes in land use including residential intensification that have affected native wildlife populations in recent years, Auckland represents an ideal case study for exploring not only people's interests in wildlife, but also specific conservation behaviour in wildlife conservation communities, which are often focused on evolving projects (Tiaki Tāmaki Makaurau - Conservation Auckland 2025).

2.1 Geography, Biodiversity, and Ecological Districts of the Auckland Region

The Auckland Region is governed by Auckland Council and encompasses the area extending from the Kaipara Harbour entrance and Mangawhai in the North to the Waikato River and Miranda in the South (Lindsay et al. 2009). It includes the Inner Islands of the Hauraki Gulf, Little Barrier Island, and Great Barrier Island, and extends a further 1000Km northeast to include the Kermadec Islands (as illustrated in Figure 2.1).

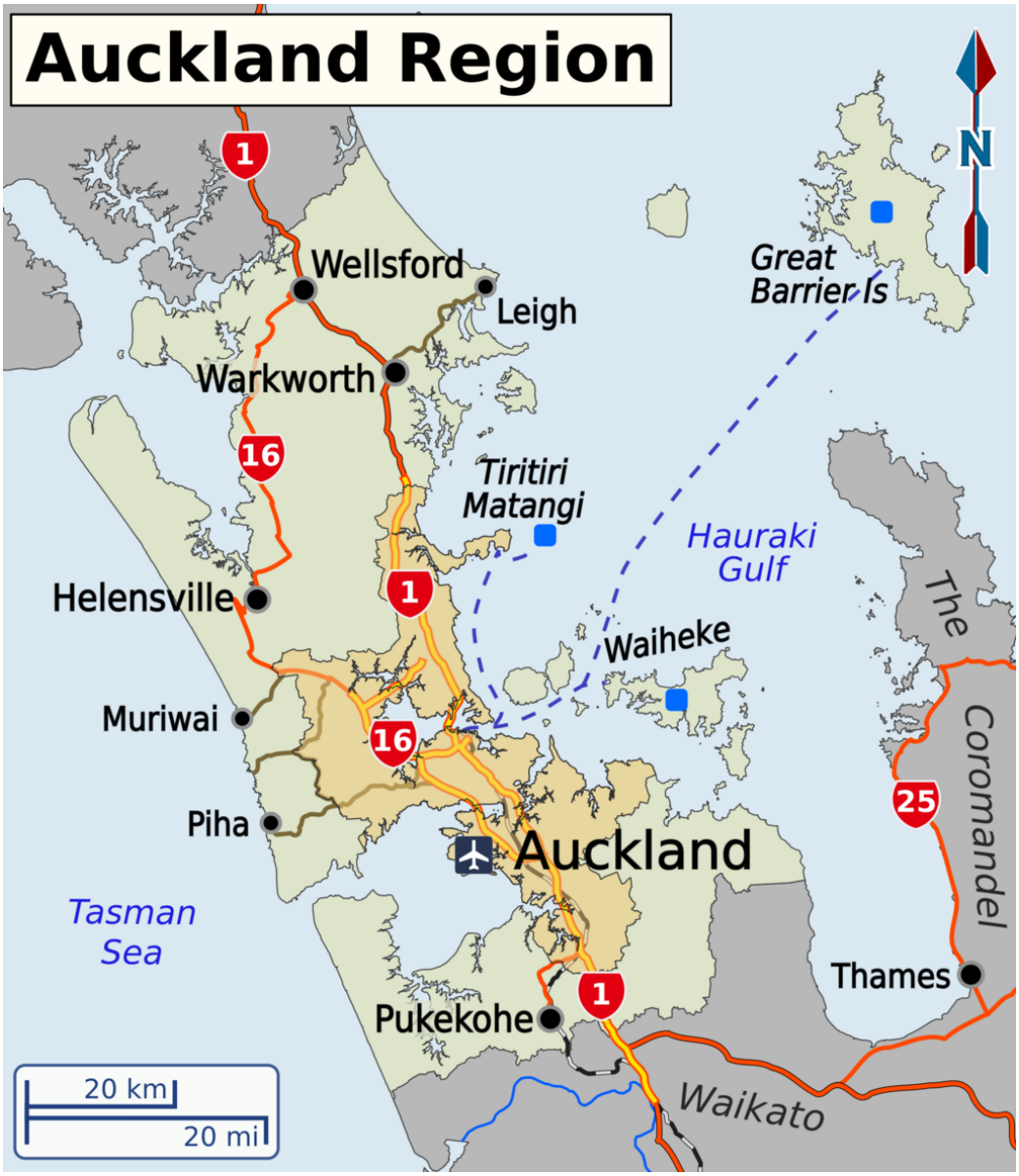

Figure 2.1. Map of the Auckland region, marked in green and yellow hues. Source: LINZ Data Service.

Auckland includes 12 ecological districts. In addition, the broader Auckland Conservancy also includes an area to the South that encompasses parts of the Manukau, Hunua, and Awhitu districts, and operates under the management of the Waikato Regional Council. This is illustrated in Figure 2.2 below.

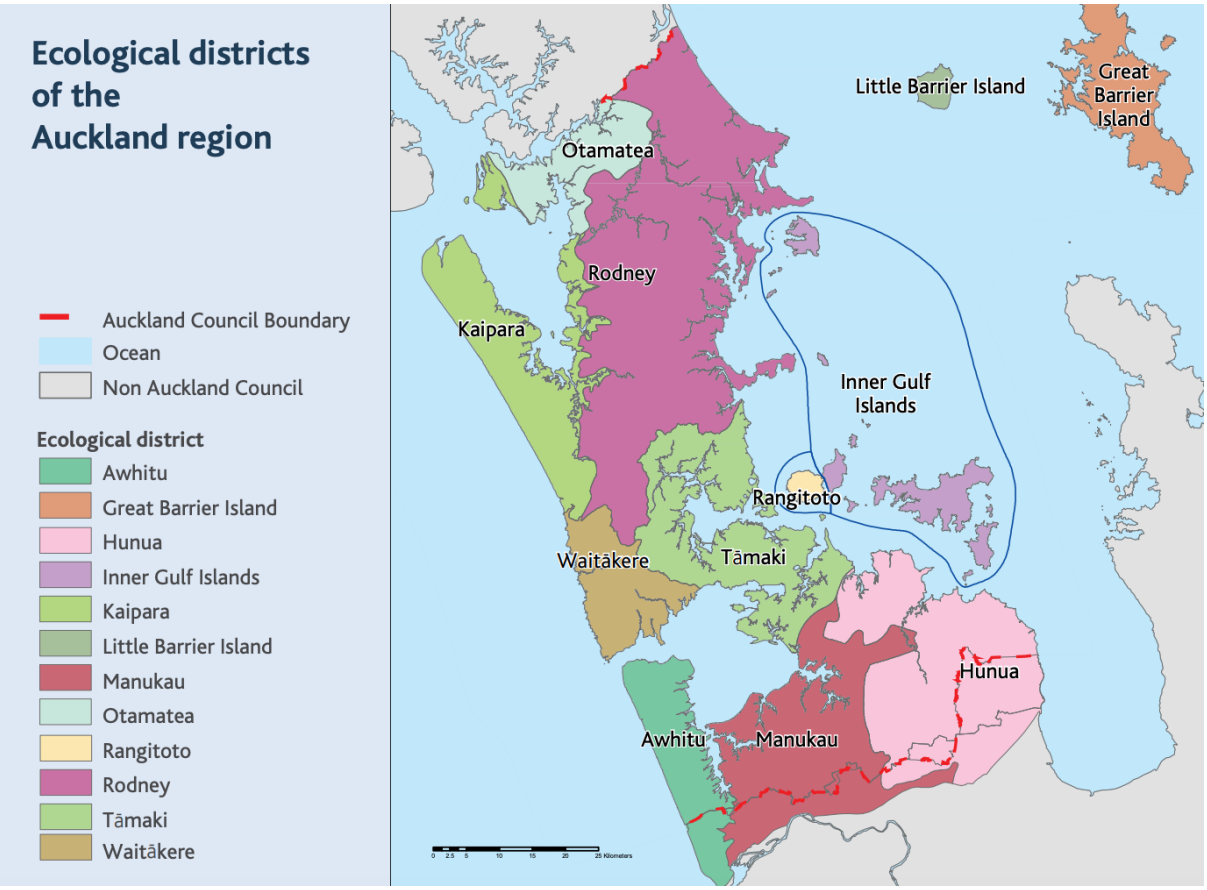

Figure 2.2. Ecological Districts of the Auckland Region. Source: Auckland Council.

The connection between land and sea is a defining feature of Auckland, and this has shaped the way settlements have developed in the region for centuries (Department of Conservation 2014). Auckland has around 2000 km of coastline, which includes a great variety of features such as islands, estuaries, reefs, rocky shorelines, spits, and dunes (Department of Conservation 2014). It is also home to three major harbours: Kaipara, Manukau and Waitemata.

Auckland is the largest urban area in Aotearoa New Zealand, with a population of around 1.6 million (StatNZ, 2023). It has the largest population density within Aotearoa New Zealand, while being located within a nationally important landscape (Department of Conservation 2014). In the 2023 Census, 44.0% of the population identified as New Zealand European (Pākehā), 12.2% as Māori, 18.7% as Pasifika, and 34.9% as Asian; the remaining percentage included identified ethnicities belonging to Middle Eastern, Latin American, and African groups (StatsNZ 2023). By 2031, Auckland is expected to grow to nearly 2 million people and will be home to 38% of Aotearoa New Zealand's population, as a result of immigration and a continuous northwards drift within the country (Department of Conservation 2014).

The links between population change, economic activity, and environmental degradation are well recognised both in regional areas and as a broader global trend (Weber & Sciubba 2018; Dodson et al. 2020; O'Sullivan 2020). In the Auckland region, population growth has led to an expansion in the urban form of the city, continuing to sprawl into the countryside and impacting on the biodiversity of significant natural areas (Department of Conservation 2014; Zhang et al. 20204; Xu 2021). The rising cost of land outside of the metropolitan limits, combined with increasing demand for countryside living, has led to a distinct trend for rural subdivision. Similarly, coastal subdivisions and upzoning have also seen a spike in popularity, resulting in a decline in water quality and growing sedimentation of rivers and coastal waters, deeply affecting marine environments for wildlife (Department of Conservation 2014; Gordon et al. 2010; Greenaway-McGrevy & Phillips 2023). Although the built-up area within the Auckland urban area is highly dense, most of the land cover for the wider Auckland region is mainly composed of exotic grassland, which is primarily for agricultural use, including dairy farming (see figure 2.3 below).

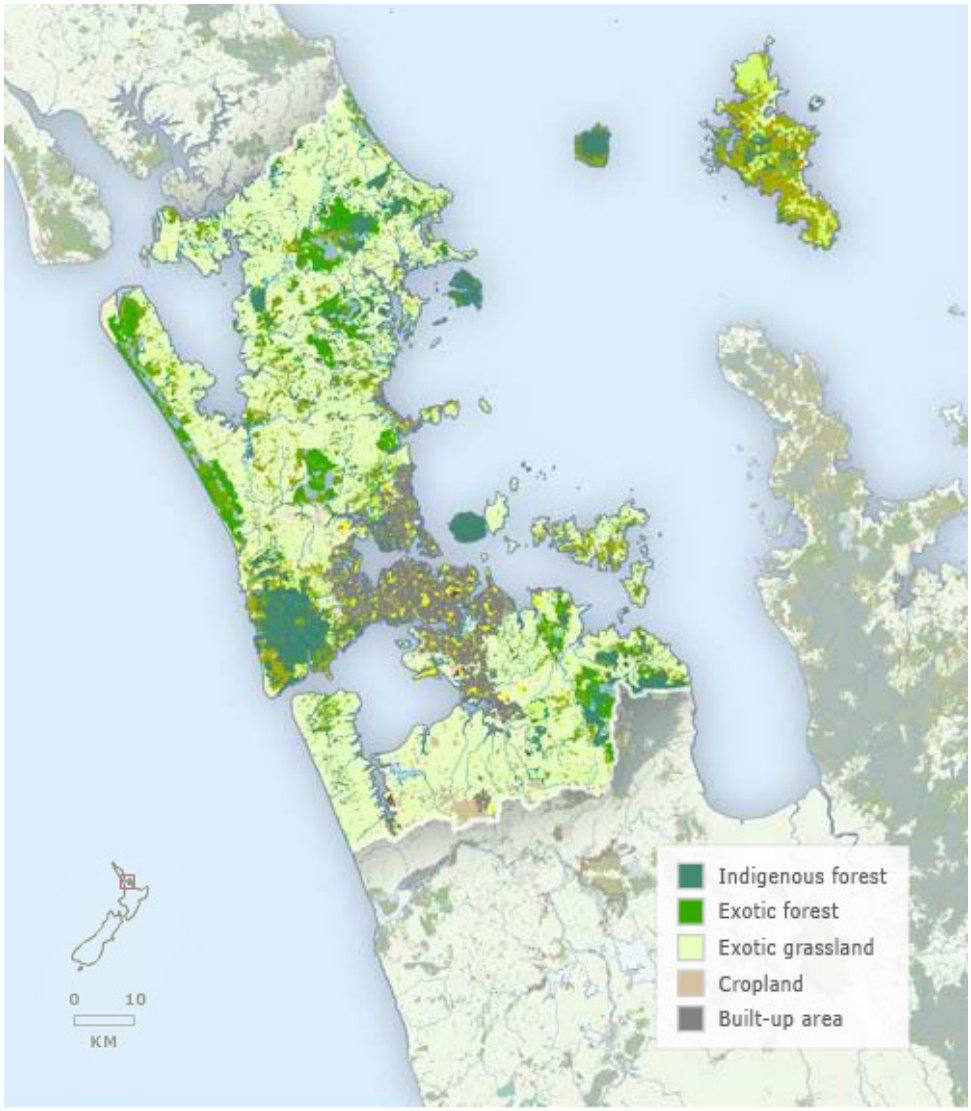

Figure 2.3. Land cover map for Auckland region. Source: McClure 2016.

Auckland is home to 20% of Aotearoa New Zealand's native threatened vertebrate fauna, and 19% of its native threatened plant species (Department of Conservation 2014). Notably, these include the New Zealand fairy tern/*tara-iti*, the brown teal/*pāteke*, the black petrel/tāiko, the chevron skink/*niho taniwha*, the kākāpo, and the yellow-eyed penguin/*hoiho*, among others. Loss and fragmentation of native land cover, and the widespread presence of introduced species, for both flora and fauna, are generally considered to be the main threats to Auckland's biodiversity (Department of Conservation 2014). Vegetation clearance of land is mainly attributable to housing development and lifestyle blocks, road development, and the use of the natural landscape for recreation (Lindsay et al. 20). In recent years, the Auckland region has lost a large amount of the biodiversity from its ecosystems, with only 22% of its native cover remaining (Department of Conservation 2014; LCDB 2024).

Both mainland Auckland and surrounding islands have small river and stream catchments, with relatively low flows. The Hoteo, Mangatawhiri, Wairoa and Kaipara Rivers are the largest rivers, and it is estimated that there are 9400km of rivers and streams in Auckland, with around 21% of Auckland's waterways being located in Indigenous forest (Auckland Council 2020). Many areas of wetland have been drained, with only 4% of Auckland's original wetlands remaining (Department of Conservation 2014). Significant wetlands can primarily be found on public conservation land on Great Barrier Island and the South Kaipara Peninsula, and at Te Henga/Bethells Beach (Huan 2016; Singers et al. 2017). Freshwater bodies provide habitat for significant threatened wildlife species of bird and fish, such as the Australasian bittern/*matuku* and the black mudfish/*waikaka*. Many threatened ecosystems, as well as much of the remaining Indigenous vegetation, are located on privately owned land or water, and therefore not managed by the Department of Conservation (Department of Conservation 2014). These areas are vulnerable to further loss from urban development, logging, and additional farming activities (Lindsay et al. 22).

2.2 Current Native Wildlife Conservation Initiatives

The Auckland region includes several identified 'biodiversity focus areas' (BFAs). These areas represent a representative range of all Indigenous species and ecosystems in Auckland (Auckland Council 2024a). These are also known as areas of 'specific ecological significance'. BFAs include key sites for the conservation of threatened species and represent the minimum habitat requirements each species would need to survive in the Auckland region in the future. As known areas of ecological significance, BFAs are used as examples to guide the delivery of conservation activity, by assisting the Council in prioritising investments in management activities. Primary efforts for conservation in biodiversity hotspots, in both the Auckland region and Aotearoa New Zealand overall, have been focused on habitat preservation and pest/predator control (Bird & Brunton 2011; Saebrook-Davison & Brunton 2010; Keegan et al. 2022). As BFAs have been identified on both public and private land, they also guide Council support for private landowners and other community partners to make the best use of limited resources, in an effort to preserve biodiversity. Although BFAs are non-statutory, the careful management of these areas can support the protection and conservation of unique ecosystems, so that ecological links between sites can be strengthened.

In an effort to encourage landowners' biodiversity conservation efforts, Auckland Council provides support in the form of expert advice, as well as funds and subsidies for fencing and pest/predators management tools (including traps), which are distributed on a competitive basis (Auckland Council 2024a).

Predator control is widely encouraged in the Auckland region. Auckland Council currently have 'a Pest-free Auckland' strategy: this is a conservation initiative aimed at helping native New Zealand species to flourish, by eliminating introduced pests and predator animals, including cats, possums, stoats, rats, and feral pigs (Auckland Council 2023a). The initiative is partly funded by the Natural Environment Target Rate, which was introduced in July 2018. Activities for the 'Pest-free Auckland' initiative have a distinct community focus and include: site-led conservation activities on both on public and private land; community-led conservation activities; the introduction and reintroduction of native species (both animal and plant); tools, resources and advice that support community conservation; grants to be distributed on a competitive basis; showcasing community action and celebrating success; and running campaigns to raise awareness and motivate Aucklanders to play their part (Auckland Council 2023a).

Auckland Council also manages grants and funding opportunities for community groups focused on environmental action and native wildlife conservation. These are awarded by application on a competitive basis, and are chiefly administrated by local Districts Boards. Auckland Council maintains that these grants provide a 'direct, tangible way of supporting Aucklanders' aspirations for their city and responding to regional needs (Auckland Council 2024b). 'Local grants' that are administered by local District Boards are available for sums over $2000; applications are open twice a year, and require a detailed funding application and identification of long-term conservation benefits. 'Quick-response grants' generally cover sums of up to $2000 and are offered more frequently by District Boards throughout the year, depending on budgets. Regional grants can also be awarded, if the applicant can prove the benefits will extend to multi-board areas within the broader Auckland region; these grants are highly competitive, and sums can vary, according to the nature of the application and the budgets available (Auckland Council 2024b). The size of the grant that can be applied for by conservation-focused community groups, including wildlife rescues, will depend on the scope of the project, and how well the strategic environmental goals align with those of the Council for the Auckland region overall. Although the funding opportunities for community

conservation groups appear plentiful, Auckland Council's funding strategies have been widely criticised by entities such as Forest & Bird and Preadtor Free NZ, claiming that continuous budget cuts and astringent criteria make the grants difficult to secure, and risk disempowering people involved in community conservation initiatives (Forest & Bird 2023; Doole 2024).

2.3 Summary

This Chapter has provided a broad overview of the Auckland region, highlighting important aspects connected to geography and biodiversity, with a particular focus on threats to native wildlife. In addition, the Chapter also provided an overview of the native wildlife conservation frameworks that are currently overseen by Auckland Council, including support and financial incentives for community-led conservation initiatives.

The next chapter, Chapter 3, will offer a review of the relevant existing literature, as primarily sited in the disciplinary field of Conservation Social Science, in order to construct a theoretical framework for this research.

Chapter 3: Literature Review

This Chapter reviews the literature relating to the human perceptions of wildlife, values, and attitudes to conservation, and the motivations, barriers, and enablers of people involved in conservation efforts. Section 3.1 introduces Conservation Social Science as the disciplinary field in which this research is situated. Section 3.2 provides an overview of the role that values play on attitudes to conservation. Section 3.3. explore the shaping of human perceptions of wildlife, including the impact of emotional responses in forming the 'connection to wildlife'. Section 3.4 explores the importance of community-led conservation efforts, and the motivations and barriers for volunteer involvement. Section 3.5 reviews relevant sources that explore the impact of nature-focused media viewership on pro-environmental behaviour, and specifically the use of social media as a conservation tool. Section 3.6 reviews perspectives on perceptions and attitudes to native wildlife and conservation initiatives (including volunteer involvement) as sited the New Zealand context. Finally, Section 3.7 provides a summary of the findings form the literature review, as relevant to this research project.

3.1 Conservation Social Science

Conservation social science is a recent discipline that uses social science principles to improve conservation practices and environmental management (Bennett et al. 2017; Blicharska et al. 2018). Conservation social science integrates human dimensions into the management of natural resources. In a wildlife context, conservation social science places an emphasis on the social and cultural values associated with endemic populations and integrates them into biological and ecological frameworks for decision-making and management. According to Pimid et al. (2022), conservation social science approaches can be beneficial in examining three fundamental aspects of conservation: individual attributes of specific species (e.g. values and perceptions, in the form of likes and dislikes); social phenomena (socio-economics of management and policy); and social processes (local efforts and decision-making). While these aspects are by no means exhaustive of the reach, aims, objectives, and uses of conservation social science as a field, they do provide a preliminary indication of the areas of interest covered by approaches in this discipline.

The current biodiversity crisis requires a broad group of approaches that draw successfully from both ecological and social sciences (Martell and Rodewald 2024). This approach can be

particularly important for decision-making in wildlife conservation, especially in relation to the development of strategies that could garner public support and support pro-conservation behaviour in the long run (Kidd et al. 2019; Martell & Rodewald 2020). A framework merging sociological and ecological approaches to conservation has the potential to create conservation strategies that are salient to individuals representing a wide range of views and values towards wildlife and the environment (Martell and Rodewald 2024; Manfredo et al. 2021). Within the context of conservation policies and practices, explicit consideration of socio-cultural values has the potential to improve our ability to "tailor messages" for diverse audiences within the same broad regional community, by representing multiple stakeholder interests and result in positive community responses. This could help to manage negative responses and overall conflict in situations where views on conservation issues may be highly polarised (Martell and Rodewald 2024; Manfredo et al. 2021).

3.2 Values and Attitudes to Wildlife and Conservation

It has widely been found in the literature that peoples' motivations and behaviours connected to wildlife conservation actions are influenced by their values; this has been explored in different studies across global geographical areas (Ihemezie et al. 2021; Gebregziabher et al 2019*;* Stockhill et al. 2022). Traditionally, these values have been viewed as either intrinsic (for wildlife itself) or instrumental (as useful to humans), and have been central to understanding people's desire for protecting nature (Gomes et al. 2022). More recently, a third category of relational values has been conceptualised to signal the relationships that people form and maintain with animals, both in abstract and material terms. These relationships carry associations with a range of preferences, and principles and virtues that are assigned to wild animals. The relational values of wildlife are often at the centre of human responses to conservation efforts, and shape views on needs and requirements (Chan et al. 2016; Chan et al. 2018; Campbell & Gurney 2023).

In 2022, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) has developed a conceptual framework to support its objective of improving biodiversity, sustainable development, and ecosystem function. As part of the framework, IPBES issued a Values Assessment typology that acknowledges diverse conceptualisations of multiple values of nature, including wildlife, and their benefits. The

values included in the IPBES framework are instrumental, intrinsic, and relational (IPBES 2022). The inclusion of the 'relational values' category particularly aims to encompass novel and comprehensive visions and understandings of the natural world (IPBES 2022, Pascual et al. 2021). As suggested by this framework, these values can be assessed both quantitatively and qualitatively, according to biophysical, monetary, and socio-cultural factors (IPBES 2022). A framework based on multiple values of wildlife is particularly relevant to the New Zealand context as it enables the inclusion of different approaches to conservation based on different sets of knowledge, including the uptake of Indigenous knowledge and ideas regarding wildlife (Chan et al. 2016; Diaz et al. 2018; Ghijselinck et al. 2023). Understanding which social and cultural values may guide people's motivation for the conservation of wildlife, and how they approach conservation processes, can serve as a powerful source of information for environmental management, especially in terms of both gaining support and resolving conflict (Thome 2015; Manfredo et al. 2017).

As social and cultural values can influence stakeholders' perceptions of conservation measures, public support for conservation programmes will also be influenced by perceived conflicts over wildlife management solutions (Gale & Ednie 2020; Odour et al. 2020; Pimid et al. 2022). As such, conservations approaches and wildlife management strategies can become more effective if there is first an understanding of how plans reflect social and cultural views, and how these might inform motivations; these could work in conjunction with ecological perspectives in order to generate long-term solutions that are widely accepted (Gregory et al. 2012a; McMurdo Hamilton et al. 2021). Multifaceted socio-cultural approaches to decision-making in conservation have the potential to generate iterative approaches to wildlife and environmental management that are founded in inclusive and transparent solutions, placing communities at the centre of proactive practices (McMurdo Hamilton et al. 2021).

Conflict between community stakeholders and conservation agencies about the values of wildlife remain a significant threat for achieving successful conservation outcomes (Pimid et al. 2022; Bhatia et al 2020; Wei et al. 2018). Community stakeholders' held values of wildlife, which drive the perception of both fauna and conservation needs, are commonly known to be pluralistic. Social and cultural values can be significant drivers in enhancing the power of conservation messages and the ways in which they are communicated. For instance, the social and cultural values surrounding charismatic species, for example, can be a significant driver

for people's support of those species, placing an emphasis on how people's personal values (including emotional impressions, and likes and dislikes) can influence their views on conservation efforts and needs (Prokop et al. 2023; Macdonald 2015). A clear example has been identified in Aotearoa New Zealand, where support for the kiwi is often driven by a mixture of social, cultural, and ecological values held in relation to this particularly charismatic and highly recognisable bird (Walsh 2021). Here, perceptions of 'natural character' in relation to endemic species may impact on motivations and influence responses to conservation (Newton et al. 2008). People may hold a particular interest in particular species of native wildlife as a result of individual, social, and cultural associations. This may trigger particular responses to environmental strategies, and impact on the outcomes of conservation efforts. Here, charismatic species can actually be used as a tool for wider conservation strategies (Prokop et al. 2022; Burnett et al. 2024). Findings show that, when considering human preferences for wildlife conservation, perceived animal charisma can supersede endangered status (Colléony et al. 2017; Miriyam et al. 2022) Knowing and channelling the social, cultural, and ecological perspectives that inform stakeholders' views of wildlife in Aotearoa New Zealand can not only promote community empowerment, but also assist in revising conservation management overall (Pimid et al. 2022).

3.3 Perceptions and Emotional Responses to Wildlife

The perceptions that humans hold of animals, and the importance that these play in human life overall, is well-established in the scholarship (Eriksson et al. 2020; Bruskotter & Wilson 2014; Dickman 2010; Tee et al. 2010; Sinclair et al. 2022). It has been found perceptions connected to both wildlife and wildlife management are commonly influenced by a variety of elements related to environmental, economic, socio-political, and cultural factors. In turn, those perceptions can shape various factors that impacts on people's attitudes towards and their motivations for conservation (Basak et al. 2023; Fabien et al. 2020). Eriksson et al. (2020) particularly explore people's responses to and "acceptance of" wildlife has also been explored in terms of 'attitudes', which are seen to reflect common evaluations of wildlife ranging from negative to positive. These evaluations have been found to commonly oscillate between gradients such as 'like to dislike, love to hate' or 'in favour to against' (Eriksson et al. 2020, p. 422). Overall, the scholarship on human-wildlife interactions has showed that gaining a better understanding of people's perceptions of wildlife is essential for explaining the fundamental views that individuals hold towards ideas of conservation, especially in terms

of motivations, barriers, and enablers Those perceptions are central not only to managing wildlife and wildlife conservation actions, but also in providing a resolution to conflict (Kellert and Wilson 1993; Fulton et al. 1996; Bhatia et al. 2019; Kellert 2012; Ross et al. 2018; Manfredo and Dayer 2004).

An important area within human-animal interaction scholarship places a particular emphasis on what is known as the 'experience of wildlife'. This is generally based on the emotional responses that encountering wildlife can elicit, and how this creates a culturally inscribed and almost mythologised idea of certain animals – including what is known as 'charismatic' species (Colléony et al. 2017; Krause & Robinson 2017). The emotions that are generated by encountering certain wild animals are largely due to the perceptions, beliefs, and values that societies have historically built around them (Castillo-Huitrón et al. 2020). Indeed, particular species of wildlife are able to engender certain emotions in humans, which are commonly dictated by how that animal is perceived, what values are associated with it, and how the experience of encountering it is processed and decoded. Angelo and Jerolmack (2012) suggest that our perception of nature is profoundly shaped by social forces. Indeed, societies appear to have developed predispositions for emotional reactions towards certain species of wild animals (Kellert and Wilson 1993; Castillo-Huitrón et al. 2020); those emotions are inevitably connected to value systems, and are able to cause either positive or negative outcomes.

Emotions such as happiness, as connected to the experience of wildlife, are commonly experienced when "cherished species" are seen as thriving "in their given place" (Castillo-Huitrón et al., p. 2), signalling a connection between the perception of 'natural habitat' and the socio-cultural approaches to the values of wildlife experiences. Similarly, feelings of sadness may be experienced by perceiving wildlife as 'endangered' or 'vulnerable' in their natural habitat, suggesting that frameworks of guilt and responsibility also accompany the wildlife experience as connected to particular species (Castillo-Huitrón et al. 2020; Prinz 2004). If the experience of wildlife is perceived as positive, it is commonly because it has ignited a feeling of excitement and passion; these are important factors in constructing a meaningful wildlife experiences, which may in turn impact on motivations for the conservation of wildlife (McIntosh and Wright 2017). Therefore, perceptions of wild animals, the values that are ascribed to them, and the feelings they generate on encounter, are essential for defining the nature of the experience. Feelings of happiness have been highlighted in the

literature as being particularly relevant is defining positive wildlife experience, and in turn provide the foundation for maintaining supportive views towards conservation (Prinz 2004).

Scholarship has also been published on issues of safety when encountering wildlife, and how this affects human perceptions to wildlife, and possibly even attitudes to conservation (Johansson et al. 2024; Chavez et al. 2023; Börger et al. 2024). Notions of safety come into play in our perceptions of what nature 'is' and where it 'belongs', affecting our approach to wildlife (Simakani et al. 2023). When it comes to encountering large wild animals, in particular, notions of both 'safety' and 'habituation' also represent key factors in shaping response and emotions, and defining the wildlife experience, for both tourists and the local population (Moscardo et al. 2006). In order to elicit positive emotions in encounters with wildlife, it essential to provide education, and avoid potentially dangerous encounters, where perceived categories of 'predator' and prey' can become upturned. This is particularly relevant to what is known as 'wildlife tourism', and the motivations and experiences of tourists when encountering wild animals (Coghland & Prideaux 2008; Curtin 2009). In the New Zealand context, this safety framework proves particularly important when evaluating people's responses to species such as the New Zealand sea lion/*pakake*, which could potentially harm or injure humans when encountered in the wild, and if appropriate and respectful measures are not taken (White 2011).

3.3.1 The Connection to Nature (CTN)

The term 'connection to nature' (or, CTN) is frequently used in the literature to describe aspects of people's attitudes towards nature, mainly representing the emotional elements that construct the human-nature relationship, together with cognitive and behavioural factors (Hughes et al. 2018; Kals & Müller 2012; Cheng & Monroe 2012; Mayer & Frantz 2004). A connection with nature may be developed through repeated and common engagement with the natural world, and experiences that play a particular part in shaping perceptions and attitudes, especially in childhood (Hughes et al. 2018; Hatty et al. 2022). The connection to nature is commonly understood to be a multidimensional concept, which may have an impact in developing positive conservation behaviours, and strengthening effective conservation behaviours. Findings in the literature have found that one route to conservation success requires changing human behaviour (Schultz 2011; Hughes et al. 2018). While perceptions are not the only factor that might influence behaviour (Kollmuss & Agyman 2002), the literature has commonly found that a strong connection to nature may be an important driver

in promoting positive conservation behaviours, and general support for pro-environmental initiatives (Richardson et al. 2016; Collado et al. 2015; Richardson & Sheffield 2017).

Within the framework that considers the importance of a connection to nature in influencing positive conservation behaviours, one particular strand of the scholarship focuses particularly on what can be termed the 'connection to wildlife'. This explores aspects of human attitudes towards wild animals, and the interplay of emotional, cognitive, and behavioural components in shaping perceptions of human-animals interactions and attitudes towards conservation (Castillo-Huitrón et al. 2020; Narayan & Rana 2023). This areas of the scholarship has particularly considered the different aspects of how affective elements shape human interactions with wildlife, and how these impact on the experience of enjoyment and mental health, as well as cohabitation, tolerance, and conflict, especially in shared spaces, in both urban and non-urban landscapes (Chavez et al. 2023; Eklund et al. 2023; Paschaletto Micchi de Barros Ferraz et al. 2025). Key findings within the literature focused on the broader 'connection to wildlife' show that emotions play an integral role in shaping preferences of human-wildlife interactions, and can actually impact on human-decision-making when devising policy and legislative approaches to wildlife conservation (Silva dos Santos et al. 2020; Notaro & Grilli 2002). These findings provide important foundational concepts for exploring the motivations, barriers, and enablers for conservation, especially in community-led efforts focused on native wildlife.

3.4 Volunteer Motivations and Barriers for Wildlife Conservation

The central role of the community for the success of wildlife conservation efforts is well-established within the literature (Agrawal & Gibson 1999; Berkes 2007; Young et al. 2021; Esmail et al. 2023; Zafar et al. 2022; Fariss et al. 2022;). The important part played by volunteers, in particular, has been explored widely within the scholarship across many countries. Volunteers have been found to be a committed and cost-effective workforce, contributing to achieving conservation goals, while also acting as advocates for conservation efforts in their local communities (Sextus, Hytten & Perry 2024b; Bushway et al. 2011; Conrad & Hilchey 2011; Peters et al. 2015). Although the importance of volunteers for conservation initiatives is well-established, it is also well-known that conservation organisations can often have issues with recruitment, while also experiencing high-turnover rates once volunteers become involved (Asah and Blahna 2013; Ding & Shuett 2020). For

this reason, some areas of scholarship have been particularly focused on exploring the possible motivations for volunteers, with a view to possibly increased the recruitment and retention of volunteers for conservation organisations (Asah & Blahna 2012; Alender 2016; Sextus, Hytten & Perry 2024b). An increased understanding of volunteers' motivations, as well as perceived barriers, can indeed provide important background for shaping strategies and approaches for conservation organisations the future.

Across studies, the literature has found that there are significant variations in motivations for volunteers involved in conservation efforts. These are dependent on mutating factors connected to individual circumstances, personal views, and different emotional responses to wildlife, which often vary according to social, cultural, and geographical contexts. Overall, however, common strands can be identified within the scholarship as summarising key volunteers' motivations, and providing an overview of central impacting factors. 'Helping the environment' is commonly identified as the most influential motivations for conservation volunteering (Bruyere & Rappe 2007; Gratzer & Brodschneider 2021; Heimann et al. 2022; Thomas et al. 2021; Sextus, Hytten & Perry 2024b). The literature provides a range of reasons for this type of motivation, which include a desire to address environmental issues, wanting to make a difference, and a need to restore the local environment, including habitat areas for native wildlife (Atkin et al. Alender 2016; Dunkley 2019; Thomas et al. 2021).

Across the literature, learning was also found to be a key motivation for environmental conservation volunteers (Domrose & Johnson 2017; Liarakou et al. 2011; Johnson et al. 2018; Pagès et al. 2018; West et al. 2021; Sextus, Hytten & Perry 2024b). The findings here suggest that people who are motivated by a desire to learn are already interested in the natural world, and wish to gain further knowledge about plants, animals, and environmental issues (Guiney & Oberhauser 2009; Schild 2018). Another key motivation for conservation volunteers was found to be of a social nature, encompassing factors such as making new friends, meeting and working with others with similar interests, and attending social gatherings after volunteering, such as shared dinners (O'Brien et al. 2010; Ryan et al. 2011; Sextus, Hytten & Perry 2024b). For these volunteers, conservation initiatives were perceived to be part of 'quality time' spent interacting with other link-minded individuals. Similarly, another motivation identified in the literature was connected to the opportunity for people to get exercise and other health benefits, when spending time outdoor for conservation initiatives (Hvenegaard & Perkins 2019; Pillmer et al. 2017). Within this motivation category, the 'experience of nature' has also been

identified within the literature as a factor, with ideas of 'nature enjoyment' and a 'sense of purpose' contributing to the volunteers' desire to support and be involved in conservation efforts (Hvenegaard & Perkins 2019; Raihania & Walker 2007).

In conjunction with studying volunteers' motivations for involvement in environmental conservation efforts, the literature has also explored possible barriers. In similar terms as with motivations, barriers has been found to be multifaceted, and can vary across geographical areas and demographic groups. Nonetheless, some central factors have emerged in the literature as creating barriers for potential volunteers, or even for volunteers already involved in conservation initiatives (Sextus, Hytten & Perry 2024b). Key barriers identified in the literature include: the lack of information or awareness about volunteer opportunities Hobbs and White 2012; Hoye et al. 2020); lack of spare time due to work, study, or family commitments (Heimann et al. 2017; Frensley et al. 2017; Higgins & Shackleton 2015); the geographical distance that volunteers need to travel, and possible associated issues with transport (Madsen et al. 2021; Thomas et al. 2021); perceived issues with self-worth and confidence, affecting the ability to participate (Hobbs & White 2012); apprehension about commitment to volunteering on a steady and long-term basis (Hoye et al. 2020); and a lack of resources, including funding (Hvenegaard & Perkins 2017). Health issues, particularly connected to physical well-being and limited mobility, were also identified as a key barrier for potential volunteers belonging to the 60+ age group (Pillemer at. al. 2017; Hobbs and White 2012).

3.5 Media Consumption and Conservation Behaviour

Studies within the international literature have shown that engagement with nature-focused media, such as television programmes, documentaries, and different forms of digital media viewing, can encourage pro-environmental behaviour (Arendt & Matthes 2014; Dunn et al. 2020; Hynes et al. 2020; Downs et al. 20203). This is found to be especially true for wildlife-focused media, which provide a seemingly up-close and personal viewing of the animals, which might not otherwise be available to the vast majority of views across the world (Bergman et al. 2022). As an indirect experience of nature viewing wildlife documentaries may go some way in fulfilling a similar function to spending time in nature and viewing wild animals in their natural habitats. This is found to be especially relevant in the context of children's environmental education, where the consumption of screen media such as

documentaries can be impactful in developing pro-environmental behaviour in the future, especially when blended with physical experiences of nature and wildlife (Downs et al. 2023; Koblin 2020). Findings within the literature specifically show that, by proposing these indirect interactions in various forms, screen media potentially have the ability to shape emotional responses and impact on attitudes to wildlife conservation. In addition, the consumption of wildlife-focused media can be particular useful in spreading awareness over important conservation issues, and generating support for conservation initiatives. The literature has found that, in certain circumstances, engagement with social media has been particularly useful for circulating conservation information. As such, social media platforms can contribute significantly to environmental conservation.

3.5.1 Social Media as a Conservation Tool

Broadly defined, social media refers to "a group of internet-based applications that build on the ideological foundations of Web 2.0, and that allow the creation and exchange of user-generated content" (Kaplan and Haenlein 2010, p. 61). Long-standing examples of social media platforms include Facebook, Instagram, TikTok, and X (formerly Twitter). A particularly important aspect of the definition of social media is the 'social interaction' that results from sharing content (Schellnack-Kelly 2024), commonly found in comments and responses to particular posts. The impact of social media for sharing information is well-documented in the literature. According to da Mota and Pickering (2020), social media users are able to share knowledge that, although often based on personal experience, might have some practical application and impacts on the wider population. In this context, informational support provided by social media users is also complemented by 'socio-emotional support" (da Mota and Pickering (2020), drawing attention to the connection between emotions, attitudes, perceptions and behaviours. Social media pages on information sharing platforms, such as Instagram, are particularly useful in providing information for users that is specifically tailored around preferences and interests. Social media platforms provide users with a confirmation of information sources that meets their needs, and can in turn shape information-sharing behaviours (Khoo 2014).

Khoo (2014) proposes that social media can encourage different kinds of information-sharing behaviour; the analysis of how people respond to and interact with the content of social media posts can potentially guide researchers in drawing connections between the use of social media technologies and particular opinions, perceptions, attitudes, and behaviours. Khoo

suggests that analysis information-sharing behaviour on social media pages can uncover biases and knowledge synthesis in the population. Significantly, Khoo also suggests that interaction with social media posts can actually have an impact on changing opinions, sentiment, and decision-making on a particular issue, whether small or big (2014, p. 86). The latter impact described by Khoo is identified as not only intertwined with a variety of information-sharing behaviours, but also as directly resulting from the application of particularly pre-existing opinions on the contribution made by the information shared. Indeed, the ability of social media posts to possibly influence opinions, attitudes, and behaviours is relevant to the analysis of people's perceptions of native wildlife in Aotearoa New Zealand, if it is found that they follow social media pages focused on native wildlife.

In additional to traditional forms of information-sharing media, such as newspapers and broadcast television, social media has provided a different way to learn about animals and wildlife conservation (Roebrge 2014; Shan 2022). In particular, social media can also contribute to drawing the public's attention to conservation needs and the possible urgency of safeguarding wildlife. Although not the only way to achieve conservation awareness, social media platforms can be used as tool by conservation organisations and agencies to arouse public attention towards particular conservation issues at hand. This also includes an awareness of specific governmental polices which may either support or hinder wildlife conservation (Nghiem et al. 2012). Specifically, Nghiem et al. (2012) have found that social media are particular useful in identifying threatened species for the public and for sharing awareness of their features. This information-sharing strategy has also been shown to have the potential of cementing the emotional attachment to popular wildlife species, and to equally increase the appeal of unpopular ones, so that the public can pay more attention to their needs (Kidd et al. 2018). In this context, Shan et al. (2022) also found that the geographical location of the target audience has a considerable impact on attitudes towards conservation, and how any social media strategies to distribute information about particular species that are under ecological threat need to be attuned to specific social and cultural factors.

Several researchers believe that social media can be actively used to promote the public image of particular conservation organisations, and that information-sharing platforms can inspire the public's interests in the particular issues that those organisations are concerned with (Bergman et al. 2022). Several studies have been conducted that explore the use of social media by organization that engage with the general public on issues carrying social

importance, including approaches to the environment. It has been found that social media sites are about to not only raise awareness of animal welfare issues, but also go a long way in educating the members of the public who would not otherwise be in a position to experience encounters with wildlife first-hand . Schellnack-Kelly (2024), for instance, has found that the Facebook pages relating to Kruger Park in South Africa are able to showcase the animals and conservation work carried out at this national game reserve. In particular, Schellnack-Kelly concludes, the Facebook pages enable users unfamiliar with the game reserve to ask questions and obtain more information, which may eventually encourage an actual visit.

Research has been conducted on how social media pages for conservation and animal welfare groups can act as a form of information repository that encourages an active interest in conservation. Garaba (2012), for instance, contends that public programming for heritage conservation groups can be enhanced through the use of social media platforms. The ability of social media pages to be regularly updated with new materials makes them an ideal conduit for information sharing and user involvement. In similar terms, Manca (2021) finds that the content of social media pages for public organisations are easily shaped according to changes in focus, reflecting the public's shifting interests and context-related focus. Social media pages can easily engage with the public by following the trends of society. In this way, the use of social media can place an emphasis on important issues that the organisation is concerned with, as well as shape the public image or organisations in order to improve public relations. Although this use of social media as a conservation tool sounds promising, Bountouria and Giannakopoulosa (2014) also found that the benefits provided by the networking and information-sharing of social media technologies can be offset by the lack of actual funding and policy support for organisations. Focusing specifically on case studies of archival organisations in Greece, Bountouria and Giannakopoulosa conclude that, in spite of the efforts channelled via social media, a lack of financial and human resources remains the primary hindrance in supporting the work of organisations that rely on public engagement in order to succeed.

3.6 Perceptions of Wildlife and Attitudes to Conservation in Aotearoa New Zealand

Ample research exists in the international context on the human-wildlife connection, and how perceptions of wildlife, can influence attitudes towards conservation (Chan et al. 2018; Neil, & Allendorf 2016; Saif et al. 2020; Hill 2004; Bhatia 2017; Bruskotter & Wilson 2014;

Coghlan & Prideaux 2008). Nonetheless, scholarship in this area focused on the Aotearoa New Zealand context, and especially as connected to native fauna, has been less plentiful. Recent research supported by the Department of Conservation (2021) has explored factors that may impact on New Zealanders' desire to engage with environmental action, support biodiversity, and conservation strategies. The research found that closer 'encounters' with the environment – including spending more time outdoors – had a significant impact on the public's desire to become involved and support initiatives. This report is very useful in understanding the public's "perceptions of the New Zealand outdoors" (p.7), by also examining barriers to taking actions and the implications of these. The focus of this report, however, seems to be primarily placed on broader values attributed to nature and issues of biodiversity, rather than the specific relational values affecting the conservation of native wildlife, especially in relation to motivations, barriers, and enablers.

Important research on human-animal relationships and wildlife conservation in Aotearoa New Zealand has been conducted within the context of Indigenous perspectives (McAllister et al. 2023; Nolan 2021). Studies utilising a Te Ao Māori framework have been proactive in highlighting the important cultural and ethical discourses that surround conservation in Aotearoa New Zealand, and how attitudes towards wildlife are generally influenced by notions such as heritage and spirituality (Woodhouse et al 2021). Here, the application of Māori principles has been particularly essential in elucidation the part played by cultural values and perceptions – especially as connected to the notions of *kaitiakitanga* (guardianship, or resource management) – in influencing views and attitudes connected for native wildlife conservation (Patterson 1992; Roberts et al. 1995). Within a Māori values framework, scholarship has also explored the safeguarding of wildlife in view of the concept of *taonga*, marking a specific endo-focused connection between cultural values and motivations for conservation (Paterson 1999). These important studies based on the application of Kaupapa Māori methodologies to environmental and wildlife management provide essential grounding material for understanding the importance and influence of social, cultural, and ecological values on views of wildlife and wildlife conservation in Aotearoa New Zealand, especially in connection to motivations, barriers, and enablers.

Research on environmental management and conservation in the New Zealand context has also generally been focused on broader instrumental on aspects of the human-nature relationship, and has not necessarily placed an emphasis on human-wildlife relationships as

connected to value systems. For instance, attitudes towards ecological conservation have been explored in relation to tourism imperatives, with the idea of New Zealand's 'pure' image in mind (Morgan 2002; Chand 2020). Within this, some scholarship has explored the placed occupied by wildlife viewing in tourism management and how people perceive wild animals as emblematic of Aotearoa New Zealand as a whole (Pearce and Wilson 1995; Tisdell 2007). Overall, the scholarship on wildlife in Aotearoa New Zealand, across a range of discipline, has been primarily sited in the fields of biology and animal behaviour including discussions over environmental threats, such as introduced predators and habitat destruction, especially from an economic perspective (Lenting et al. 2009; Hamilton & Baker 2019; Chilvers et al. 2006). The relational values of wildlife in the New Zealand context are generally embedded in the uniqueness of Aotearoa New Zealand's native wildlife (Ghijselinck et al. 2023).

Some studies also focused on comparisons of attitudes towards native and introduced wildlife in Aotearoa New Zealand, and how these impact on conservation management strategies (Bertram 1999; Atkinson 2006; Duncan et al. 2006; Forsyth 2006; Russell 2014). In more specific terms, scholarship can be found on people's cultural attachment to the kiwi as a national icon, as well as the role played by 'national identity' in collective pro-environmental action (Milfont et al. 2020; Walsh 2021; Craig 2023). Similarly, studies on how perceptions towards protection and conservation of the native wildlife, especially focused on the kiwi, may be connected to conservation strategies have also been explored relation to issues of 'tolerance' and 'acceptance', and the importance of protecting native wildlife from introduced predators such as cats and dogs (Walsh 2021). This is in keeping with the direction of international scholarship, where acceptance is often assessed using measures connected to animal population and reach, and how these are impactful in relation to human life (Eriksson et al. 2020; Decker & Purdy 1988; Bruskotter & Fulton 2012). Scholarship exploring conservation strategies and management for native wildlife in Aotearoa New Zealand, especially concerned with birds, has certainly been a focus. In these studies, however, emphasis seems to have been primarily placed on ecological threats, such as the loss of habitat and the threat of extinction, and other human-caused impacts on eco-systems (Garcia and Di Marco 2020; Fea 2021; Pryde 1998; Robertson 2022).

In the context of exploring community-led conservation efforts, Heimann and Medevcky (2022) provided a focused and detailed study on the attitudes and motivations for conservation in Aotearoa New Zealand by focusing on the context of volunteers. This

exploratory research aimed to determine what motivates conservation volunteers in Aotearoa New Zealand, gauge their attitudes toward modern-day conservation, and summarise their demographic information. The key finding of the study is that the conservation and cultural context in Aotearoa New Zealand could be reflected in volunteer motivations and attitudes, and that New Zealand conservation volunteers are primarily motivated by a feeling of responsibility towards the environment. Continuing on the exploration of the experiences of conservation volunteers, Sextus, Hytten, and Perry (2024a) explored the barriers to involvement, and the recruitment and retention challenges faced by community-based conservation organisations in the Manawatū region of Aotearoa New Zealand. Key findings in this research show that one of the most effective ways of recruiting new volunteers is through social interaction, and that the main barriers to participation are time commitment and health issues.

To date, however, no dedicated scholarly study has been produced that specifically investigates perceived motivations, barriers, and enablers of wildlife conservation for people already involved in efforts in the Auckland region, and how these might impact on support for conservation action and strategies in the community. Therefore, a gap exists in the literature. A focused exploration of people's perceived motivations, barriers, and enablers for wildlife conservation will aim to direct the attention of conservationists and environmental managers to the factors that drive the support for wildlife conservation (Ghijselinck et al. 2023).

3.7 Summary

A conceptual framework sited in Conservation Science allows for more comprehensive explorations of which social and cultural factors impact on motivational reasons for supporting the conservation of native wildlife. This literature review illustrates how the perceptions of wildlife and attitudes to conservation are commonly influenced by emotional responses, and a range of experiential factors, which are often dependent on people's individual circumstances, including possible encounters with wildlife. In this context, the 'connection' that people may feel with wildlife, based as it is on emotional responses, will be central to pro-environmental and specifically pro-conservation behaviour. The literature also suggests that, while direct encounters with animals are usually the most conducive to creating a strongly felt connection with wildlife, indirect avenues such as media consumption,

including wildlife-focused documentaries and social media, also have the potential of shaping people's perceptions of wildlife and encouraging pro-conservation behaviour. Overall, the current findings in the research prove that social media, in particular, have the potential to shape perceptions of wildlife through awareness and familiarity, and can have a direct impact on people's attitudes towards conservation.

In relation to the actual pursuit and success of conservation efforts, the findings in the literature also show the importance of community involvement in the pursuit of wildlife conservation initiatives. The impact of volunteers is also widely established within the literature; findings suggests that a range of factors may impact on motivations and the continued involvement with conservations initiatives. These are usually found to be of an intrinsic nature. Equally, the literature also shows that there are a number of common barriers for volunteer involvement, which are characterised by time constraints.

The review of the literature has also shown that, while considerable scholarship exists on perceptions, attitudes, and emotional responses to wildlife, and the factors influencing people's desire to support and become involved with conservation efforts, very little scholarship exists on these concerns within the New Zealand context. Indeed, no extensive literature exists on the motivations, barriers, and enablers perceived by people involved in wildlife conservation initiatives in the Auckland region as a sample population, highlighting the importance of researching this topic.

Chapter 4: Research Methodology

As discussed in Chapter 1, this research aims to understand the motivators, barriers, and enablers of wildlife conservation for people involved in efforts in the Auckland region. This Chapter provides an overview of the research design for the project and outlines that sampling procedure, and the processes used for data collection and subsequent analysis. The methodological choice of a regional case study will also be described, as well as the ethical considerations for the research. The approach taken in this research is particularly informed by the work of Heiman and Medvecky (2022) and Sextus, Hytten & Perry (2024a), whose studies focused on motivations, barriers, and commitment for community conservation volunteers in the broader national context of Aotearoa New Zealand and the Manawatū region, respectively.

4.1 Methodological Approach

Both quantitative and qualitative methodologies can provide insights into the experiences of those involved in community conservation. While both can bring different advantages when applied individually, the greatest benefits can be found in using both quantitative and qualitative methods alongside each other (Bernard 2013; Breyman 2016; McChesney 2021). For this reason, a mixed-methods approach was used. This consisted of an anonymous online survey, and a series of semi-structured interviews.

This project explores the 'what', the 'how', and the 'why' of people's interest in and support of wildlife conservation in the Auckland region, with a specific focus on the motivators, barriers, and enablers of community conservation efforts. The choice of a mixed-methods approach used in this context stems from the understanding that quantitative data alone will not sufficiently answer the research aim. A mixed-methods approach allows for different aspects of the objectives to be explored and is well-suited to the identification and comparison of similar patterns in both quantitative and qualitative data sets, therefore providing a robust integration of findings (Walter 2019; Pope et al. 2000; Skamagki et al. 2024).

The mixture of both predetermined and open responses in a survey aims to provide a broader view of both broad patterns and individual thoughts and beliefs (Dawadi 2021). The predetermined questions in the survey identify broad patterns, while the open-ended questions

of the semi-structured interviews allow a better understanding of the reasons behind these patterns.

Several research philosophies can guide research focused on community conservation and the experiences of volunteers (Petriello et al. 2024; Newing et al. 2024). The research philosophy guiding this project was interpretivism. Interpretivism is typically well-suited to studies where the research aim and objectives involve an attempt to understand the meanings and interpretations that people assign to their experiences (Chowdhury 2014). As a research paradigm, interpretivism starts from the position that reality is socially constructed (Nickerson 2024)**.** As such, reality is inevitably subjective, and is constructed by the observer through their experience of it, rather than being independent of the observer (Greiffenhagen, Mair & Sharrock 2011).

Interpretative research projects include several steps that require individual reflection beyond a simple content analysis (Weisner 2022). These include concretizing and further sharpening the research aim and objectives in relation to the data; the areas to be studied, commonly expressed via thematic patterns; the research materials to be included or excluded, including from the data; and adjusting these to one another in the course of analysis (Wiesner 2022). A key tenet of an interpretive methodology is the analysis of data from multiple perspectives, by triangulating knowledge from different angles (Babones 2015; Dawadi 2021). In view of this, an interpretative approach is well-suited to this project.

For this project, the benefits of an interpretative methodology were twofold: on the one hand, it aided the understanding of the quantitative data form the survey by placing it in context, in order to identify patterns in volunteers' interest in and support of conservation, and which ideologies seemingly guide this; on the other, the interpretative framework allowed a deeper exploration of participants' perceptions of motivators, barriers, and enablers of community conservation, by understanding the rich identity stories that construct individual experiences as expressed in interviews (Schiebelhofer 2023). These findings were placed within in the social, culture, ecological, and policy frameworks of Aotearoa New Zealand, in order to find the most meaningful interpretations. As the context of Aotearoa New Zealand is particularly multifaceted, an interpretative framework allowed for a clearer exploration of the different factors that may impact views and experiences. The interpretative approach also recognised that the researcher would be making sense of the data by applying her own subjective

framework of interpretation based on previous knowledge, including the existing literature (Bhattacharya 2017).

4.2 Case Study Approach

To date, seven studies have been undertaken that focused on the motivations, barriers, and enablers of volunteer involvement for wildlife conservation in the national context of Aotearoa New Zealand (Heimann 2019; Heimann & Medvecky 2022; Woolley et al. 2021; Sextus, Hytten & Perry 2024; Ford 2021; Mercier et al. 2024; Gerolemou et al. 2022). These studies generally provide an overview of patterns in volunteer behaviour. For instance, while Heiman and Medvecky's study is very data-rich, they focus on the demographic information, motivations, and attitudes of environmental volunteers in the New Zealand-wide context, and do not explore the regional nuances of the motivations, barriers, and enablers of wildlife conservation for people involved. Indeed, studies such as Sextus, Hytten & Perry (2024a) demonstrate the considerable value to be found in focusing on the regional context of people involved in community conservation, and volunteers in, providing an opportunity to explore people's perceptions of wildlife conservation in a focused setting. As it was my aim to delve more deeply into feelings, beliefs, and interests, as far as community wildlife conservation goes, choosing a regional case study also allowed for a more in-depth exploration, and reduced the danger of falling into national generalisations (Paparini et al. 2020). Examples in the literature have provided the rationale framework for this project, and the decision to focus on the Auckland region as a case study for the exploration of people's interests and support of wildlife conservation, and specifically the perceptions over involvement in conservation efforts. It was also important to bear in mind the time restrictions imposed on this research project, and the need to set boundaries over what could be achieved within the expected 12-month timeframe (Matthew & Huberman 1994). Choosing a case study was also seen as beneficial for the successful and timely completion of the project.

In view of Auckland's very specific idiosyncrasies, it is important to have knowledge of volunteers' perceptions of wildlife conservation efforts that are specific to and focus on this area's context, as applying information relevant to other areas in Aotearoa New Zealand to the Auckland context may prove disadvantageous. By focusing on Auckland as a case study, my research intends to provide insights that are specifically connected to the idiosyncrasies of this particular area and does not aim to generalise findings in a national context.

Nonetheless, the methodological approach and findings, as connected to the Auckland region, may also prove useful for future studies that may take a greater New Zealand-wide approach, with Auckland being representative of other similar urban contexts across the country. The employment of a case study approach here is particularly useful as it allows to obtain an in-depth appreciation of perceptions of wildlife conservation practices as connected to a real-life context (Crowe et al. 2011). The need for a study focused on the regional context of Auckland was one of the primary reasons for choosing this area as a case study for the project. Additionally, I live in Auckland, and I am particularly interested in views and strategies for native wildlife conservation in this particular region. Over the years, I have been growing increasingly more concerned about the often highly threats that urbanisation and other anthropogenic forces pose to the conservation of biodiversity in this city.

4.3 Research Design

The choices made in research design are generally dependant on the nature of the study. Data collection strategies and analysis tools will need to work in relation to the aim and objectives of a research project, so careful consideration must go into methods choices (Creswell & Creswell 2018).

In order for the efficacy of a mixed-method approach to be maximised, it is important to identify similar textual and variables that can run across both quantitative and qualitative aspects (Creswell & Creswell 2018). For this project, similar variables were incorporated into the design of the anonymous survey and the semi-structured interviews, in order to allow for a systematic continuation of narrative, which expanded meaning from one data set to the other while also providing the opportunity to gather additional insights into the specific motivations, barriers and enablers of wildlife conservation as perceived by people already involved in conservation initiatives, in both paid and volunteer capacities. As I decided to focus specifically on these aspects after the survey closed, no questions directly focused on motivations, barriers, and enablers of wildlife conservation were included in the survey itself. Therefore, the interviews also included specific questions on these factors, in order to provide specific materials and data to explore the finalised aim and objective for the project.

The survey was used to determine:

1. The reasons why the conservation of native New Zealand wildlife is seen as important and supported
2. Which conservation management actions are seen as the most critical
3. What tools might be effective for growing the interest in native New Zealand wildlife, including social media and documentaries

The semi-structured interviews were used to:

1. Obtain further information on survey elements, including why there is an interest in and support of wildlife conservation
2. Identify the specific motivations, barriers, and enablers of wildlife conservation in the Auckland region for people already involved in conservation, both in paid and volunteer capacities
3. Explore which efforts and strategies are seen as required for the conservation of native wildlife in the Auckland region.

4.4 Survey Methodology

Different survey types include phone surveys, face-to-face, and online surveys (Snolnoki & Hoffman 2014). Online surveys have been found to be particularly useful in reaching greater numbers of potential participants who share similar interests (Wright 2017). When anonymous, online survey can potentially ensure a greater level of sincerity in the answers, as they do not include any form of interaction or identification (Ball 2019). The use of anonymous online surveys also does not require the researcher to obtain contact lists and can be shared widely through platforms such as social media. While there can be drawbacks for online anonymous surveys, including the possibility that respondents will not fully complete the survey or be inclined to skip more questions, the benefits provided by a wider reach can outweigh the limitations (Narak & Narayan 2019). Being primarily quantitative in nature, a survey is generally more useful in gaining a broad perspective on the issue, and provide an indication of recurrencies, patterns, and trends (Lall 2021). The research of Heiman and Medvecky (2022) is a prominent example of a survey being used in Aotearoa New Zealand to explore the attitudes and motivations of conservation volunteers.

An anonymous survey was selected for the following reasons:

- Coverage and autonomy: online surveys have the potential of reaching a wide range of participants, while also maintaining autonomy, anonymity, and confidentiality (Wu et al. 2022). The invitation to take the survey was posted on several prominent wildlife groups, including Auckland-based groups on Facebook and Reddit. Platforms such as X (formerly Twitter) and TikTok were not used, due to my own personal clash in values with these entities. The invitation to take the survey was also emailed to several Auckland-based wildlife rescue and conservation entities, which are known to also commonly work with volunteers, including the Auckland DOC branch and several native wildlife sanctuaries. The online nature of the survey ensured that it could be quickly distributed and potentially proved less confrontational for potential respondents (Wu et al.2022). Once the invitation was posted and circulated, it was the respondents' decision to either take or not take the survey, therefore making the survey both anonymous and self-administered. This was seen as beneficial to the research, as the anonymity of the survey encouraged honest answers and eliminated some of the biases that could come with face-to-face surveys (Kaushal 2014).
- Cost and time: possible costs and time expenditures were considered when choosing an online survey (Wu et al. 2022). An anonymous online survey involved no monetary cost to both the researcher and the respondents. The online survey was also efficient in terms of time, as minimal physical time was expanded by the researcher in recruiting participants, with the exception of the time it took to design the survey instrument and circulate the invitation on social media platform and via email.

While there are clear advantages to using a self-administered and anonymous online survey, possible disadvantages were also considered in choosing this instrument in the research design. The primary disadvantage is that, although the invitation was circulated to target groups in terms of participants, the survey was technically open to all, and there was no guarantee that respondents would actually be interested in the conservation of native New Zealand wildlife (Andrade 2020). A limitation was identified in the difficulty of reaching people who are not on social media, or who were not on the information-sharing network for the wildlife entities that the survey invite was circulated to. However, overall, the benefits of using an online anonymous survey were deemed to outweigh the possible disadvantages, as

this particular instrument allowed for a wide reach and overview in terms of views and experiences, as focused on the interest in and support of native wildlife conservation.

4.4.1 Survey Design

The survey was designed to gain a preliminary overview of why people are interested in and support wildlife conservation, and which aspects of conservation they see as most important, including required actions and threats. Originally, the survey was designed to be inclusive and open to participants across the whole of Aotearoa New Zealand, who could then select their area of residency from a list of regional options. The survey instrument was designed in Qualtrics (Provo, UT, USA) using a mixture of multiple-choice questions and open questions. Some of the multiple-choice questions also provided the respondents with an opportunity to add any additional thoughts or information in an 'Other' box; the 'other' box was provided in order to ensure that participants could give answers outside of the options listed (Walter 2019). The predetermined responses in the multiple-choice questions were based on the direction of the current literature on approaches to wildlife conservation. The open-ended questions were designed to give respondents full choice in providing answers, which included the choice of words that were used to express concepts. This was as seen as beneficial in order to identify textual recurrencies and thematic patterns, and outline patterns for analysis (Albudaiwi 2017). The survey also included a series of initial demographic questions, in order for the researcher to gain a descriptive understanding of the respondents.

After a satisfactory draft of the survey was developed in Qualtrics, and approved by the supervisor, it was pre-tested via a pilot. Pre-testing is an important and necessary step in ensuring that the research instrument being used is effective and user-friendly; pre-testing is also central to identifying any problems that need resolving (Oksenberg et al. 1991). Pre-testing allowed the researcher to review the wording used for both the survey and interview questions, in order to ensure that textual meaning was clear and easy to understand, with no danger of confusing or double-meaning questions (Presser et al. 2004; Collins 2003). For the survey, pre-testing was also used to ensure that all steps in the survey worked as intended, including the progression logic that was applied in Qualtrics to some questions. After a completed preview of the survey questions was finalised in Qualtrics, a link to the survey was distributed to a select number of individuals with similar characteristics to those who might become the final sample of participants for the survey. This step was also important in

determining the length that it would take to complete the survey, so that an estimate could be included in the participant information sheet. After pre-testing was complete, the survey was launched. It was originally kept open for a period of three weeks. After I noticed some imbalances in demographics, I opened the survey again for a further two weeks, in an attempt to capture a more diverse sample of participants and increase the number of responses.

After the survey was launched, I continued to work on refining the aim and objectives for the project in relation to the existing literature, and these were slightly amended in the process as a result. This is in keeping with the interpretative research philosophy (Wiesner 2022). As such, only some of the original questions that were asked in the survey proved relevant to the finalised aim and objectives. I recognise that more direct questions could have been asked to target the final aim and objective of the project. In addition, after the survey results were collected and reviewed, I decided to focus only on the Auckland region as a case study; as a result, the raw data collected that pertained to different regions of Aotearoa New Zealand became redundant and was excluded from the study.

4.5 Interview Methodology

While the survey provided a general overview of people's interest and support of native wildlife conservation in Auckland, it did not fully give an opportunity to explore this in-depth. In particular, it did not provide sufficient information on the motivators, barriers, and enablers of wildlife conservation as perceived by community volunteers. For these reasons, semi-structured interviews were also undertaken to allow wildlife conservation supporters to express their views on the topic in detail and opening the conversation to non-predetermined areas (Berg & Lune 2017). The aim of semi-structured interviews was not only to explore the topic further, but also to fill any gaps in knowledge that were identified in the results of the anonymous survey.

The use of semi-structured interviews as a data collection method has also been employed for exploring the conservation behaviour of people involved in wildlife conservation (including volunteers), especially when the researcher wishes to gain a more in-depth view of motivators, barriers, and enablers, which would not be fully achievable through the quantitative constraints of a survey (Ingram et al. 2013). Semi-structured interviews are particularly appropriate when exploring the personal experiences of volunteers and the

interests and support for conservation and conservation initiatives (Douglas & Rollins 2007; Lorimer 2010; Furlong et al. 2024). The use of semi-structured interviews can be particularly useful when employed in conjunction with a survey in order to gain deep and meaningful insights into volunteer experiences. This method can be highly beneficial when wanting to establish common trends in the general interest in and support for conservation, as well as explore participants' specific feelings, thoughts, beliefs, and values into a particular topic (Creswell & Creswell 2018).

Walter (2019) noted that recruiting participants for interviews can be challenging, as this process involves direct interactions with the researcher and may prove daunting to potential participants. As clear criteria need to be met, in order for the interviews to be beneficial, there needs to be clarity in the call; participants also need to be highly motivated to be involved. As the need for interviews was identified later in the project, and once the anonymous survey was already launched and circulated, an invitation to engage in follow-up interviews was not included as part of the survey. For the recruitment of interview participants, purposive sampling strategies were applied, with an aim to included maximum variation (Coyne 1997). Ideal participants were identified as being already involved in wildlife conservation efforts, in either paid or volunteer capacities, including leaders of groups and projects; these were target interviewees as they were seen as able to provide a multi-faceted view on conservation initiatives, incorporating different perspectives. An invitation to be part of semi-interviews was circulated on the same social media platforms as the invitation for the anonymous survey; the invitation to interview was also emailed to the same wildlife conservation and rescue centres in the Auckland region. As the interview participants directly reached out to the researcher to be involved, this potentially included some self-selection bias (Kaźmierczak et al. 2023). However, this strategy also ensured that the researcher could apply pre-screening steps, and only participants who met the criteria as being involved with wildlife conservation action in the Auckland region were selected.

The sample size for the interviews was carefully considered. Current literature presents different views and little consensus on how many interviews are necessary for a research project of this nature (Guest et al. 2006; Vasileiou et al. 2018). With the purpose of the study and time constraints in mind, 8 people were selected for interviews. While this may seem relatively few, the interviews provided valuable insights into a range of perspectives from a cross-section of volunteers and professionals working in the conservation sector in Auckland.

This was ensured by my decision to include a range of perspectives, including leaders and managers of wildlife conservation groups and entities, in both paid and unpaid capacities. It must be noted that, although the findings are beneficial for the purpose of this research, they cannot be generalised in terms of the wider population in the Auckland region (Walter 2019). Interviews were conducted online via Zoom. For practical reasons, audio and video recording tools were used for the interviews, as opposed to live notetaking. All participants were made aware of the researcher's intention to record prior to the interview starting and given the opportunity to opt out. All participants agreed to be audio and video recorded, as relevant to the specific setting.

4.5.1 Interview Design

The design of the interviews was aimed at allowing participants to express their views on the topic of native wildlife conservation in the Auckland region, and the perceived motivators, barriers, and enablers of involvement in conservation efforts, for people in both volunteer and paid capacities.

A series of questions focused on the topic were drafted for the interviews (Appendix 5). In keeping with the methodological direction suggested by existing literature, core interview questions were structured in conjunction with a number of possible associated sub-questions, (Creswell & Creswell 2018; Jamshed 2014). Both core questions and associated sub-questions were specifically designed in relation to the aim and objectives for the project, to ensure that valuable and focused insights could be gained from the answers. As the aim was for the interviews to be semi-structured, open-ended questions were employed; this ensured a level of flexibility and an opportunity for participants to fully express their thoughts, views, and opinions (Agee 2009). This approach was taken in keeping with the overarching framework for qualitative research design, which should be maintained adaptable in order to allow for different patterns and thematic strands to emerge (Ritchie et al. 2013).

Pre-testing steps were also taken for the interviews. The interview questions were reviewed by the project's supervisors at Massey University, as well as by some of my work colleagues at Auckland University of Technology, who are experts in the fields of Communication Studies, Media Studies, and Social Sciences, and have experience with conducting both surveys and interviews. All suggested changes for clarity and ease of use were applied by the researcher. A review of the interview questions was particularly important in order to ensure

that the data provided by the interviews would be appropriate for addressing the overall aim and objectives of the project. Following these pre-testing steps, and multiple reviews of the interview questions, a finalised version was approved by the supervisors.

Participants were recruited by sending targeted emails to wildlife conservation groups in the Auckland region, including both volunteer groups and paid entities. The groups that were emailed invitations to participate included:

- The Department of Conservation (DOC) - Tāmaki Makaurau/Auckland
- Auckland Zoo
- Auckland Council
- The Oratia and Waiatarua Wildlife Project
- Forest & Bird Auckland
- Eco-Matters
- Beautification Trust
- Te Korowai o Waiheke
- Kelly Tarlton's Marine Wildlife Trust
- Hunua Bird Life Charitable Trust
- 20 Acre Wood Titirangi
- Waiheke Marine Project
- BirdCare Aotearoa – Greenbay
- Rivercare Group Te Wai o Pareira
- Native Bird Rescue Waiheke Island
- Urban Ark - Manawa Taiao

Out of all the organisations and groups that were contacted, 8 responded and expressed an interest in being involved. Interviews were organised with spokespeople for these groups. Interviews were recorded and then transcribed.

4.6 Data Analysis

The survey and the interview data were analysed separately and then integrated through associated variables and thematic grouping.

4.6.1 Survey Data

After data was collected via the survey instrument in Qualtrics, data analysis was done by using Qualtrics StatsIQ. Quantitative analysis was carried on the pre-determined responses of the survey questions survey questions, using numerical values to represent the number of participants who selected the same answer. Where participants could select only one response from the list, the data was presented in both percentages and count; where participants could select more than one response form the list, the data presented in count. The numerical values from the data were cleaned and organised in Microsoft Excel spreadsheets. Where appropriate and useful, graphs were generated to provide a visual representation of the results (Shreffler & Huecker 2023).

The answers provided by the survey respondents in the open-box sections, as part of the 'Other 'category for certain questions, were analysed both qualitatively and quantitively, and organised thematically. Data for each open-box question were organised and analysed individually. First, qualitative close-reading was carried out on all the respondents' open answers (Rauscher 2021). Recurrent patterns were identified and grouped by recognising common use of terminologies and contextual clues. Numerical values were included in the thematic groups to indicate frequency, and the data were then displayed quantitively.

4.6.2 Interview Data

For the analysis of the interview data in this project, the researcher took an inductive approach. Inductive research, also commonly known as 'bottom-up thinking', begins with observing specific elements in the data, and then looking for meaningful patterns. An inductive approach provides an easy to use and systematic set of procedures for analysing data, which generally produce reliable and valid findings (Thomas 2006). Using an inductive approach allows the researcher to:

- condense raw textual data into a brief, summary formats
- establish clear links between the research objectives and the summary findings derived from the raw data
- develop a framework of experiences and views that are evident in the raw data (Thomas 2006).

An inductive approach is driven by observations. Therefore, data collection in interviews, as part of an inductive approach, was kept open ended, allowing for the emergence of either expected on unexpected patterns. Indeed, the primary goal of an inductive approach is to recognise patterns within the data, as well as identifying relationships between aspects of the data (Thomas 2006). This involves critical thinking on the researcher's part and is therefore acknowledged as a subjective process. Once patterns and relationships are found, the researcher then forms suggestions on how the data can be analysed in context and made meaningful, according to the research objectives of the process. An inductive approach also entails iterative steps, where the focus of the research project may need to be adjusted as patterns and relationships in the data are revealed (Thomas 2006).

As part of an inductive approach, the research specifically applied thematic analysis to the interview data. This approach is very flexible, as it allows the researcher to change, move, add, and collapse data codes as they move through the research. Thematic analysis is focused on identifying implicit and explicit patterns within textual data (Guest et al., 2012). Thematic analysis goes beyond superficially counting words and phrases and identifying frequency of use, as it is often the case with qualitative content analysis (Braun & Clarke, 2006). Thematic analysis looks at coded recurrencies in order to identify specific patterns found in the data, and to describe a particular aspect of the world (Gavin 2008). Thematic analysis is non-numerical, but instead highlights direction and prominence in context.

Once the interviews were transcribed, the textual data manually was coded manually. Textual coding involves the interpretation of texts – in this case, interviews – to obtain information on the ways in which people make sense of the world (McKee, 2003). Throughout this process, codes were changed, shifted, and collapsed as new categories emerged, and clear themes were confirmed. This took several iterations. Once clear thematic patterns were identified, these were analysed and discussed in the context of existing literature focused on the experiences of volunteers for wildlife conservation efforts, both in Aotearoa New Zealand and globally, especially as connected to perceived motivators, barriers, and enablers.

4.7 Research Ethics

For any project involving human subjects, it is the researcher's obligation to ensure that the welfare, privacy, dignity, and rights of all people involved are maintained and protected, so to safeguard the communities which the research studies (Bos 2020). It is essential for the participants to remain empowered and maintain agency throughout the research, so confidentiality and the right to make choices in the research are of paramount importance (Israel & Hay 2006). Prior to the commencement of data collection, for both the survey and interviews, potential ethical concerns in connection to the research were evaluated in relation to the 'Massey University Code of Ethical Conduct for Research, teaching and Evaluations involving Human Participants' (Massey University 2024). Because this research did not focus on any sensitive or overly personal matters, and it was not expected to cause any harm or discomfort to either the researcher or the participants it was deemed low risk, therefore it was not submitted to the Human Ethics Committee. The researcher was deemed responsible for maintaining ethical standards. Approval to proceed with the research was granted by Massey University (Applications numbers: 4000029892; 4000029205). Details of the project were recorded in the University's database for inclusion in the annual reports to the Health Research Council Ethics Committee (HRCEC) and the Massey University Research Committee (URC).

The methodology for this project was submitted to the supervisors for review. Key ethical principles identified were: participants' autonomy, avoidance of harm, benefits to the participants', and justice (Code 2017, 5-6). When considering these principles, potential ethical issues that I discussed and evaluated with my supervisors included the need to uphold confidentiality, the need to grant full agency to participants, and the need to obtain written consent from all participants, including for the recording of interviews. As a result, appropriate strategies were devised to avoid any significant ethical conundrums, and to keep the project as low-risk. Participant information sheets and consent forms, for both survey and interviews, were drafted. The consent form for the survey was integrated as a specific first question within the instrument on Qualtrics; the survey therefore remained completely anonymous. Failure to grant consent would prevent any potential participant to progress the survey. It was decided that, if any respondents were to reveal any identifying information in the survey answers, this would not be included in the results and final version of the research.

For the interviews, participants were required to sign a consent form prior to the interviews commencing; this was done electronically. I stored the consent forms carefully in a safe place on my computer. All aspects of the interview process were explained to the participants; participants were also given an opportunity to ask questions before commencing.

Although the identity of the interview participants was known to the researcher and the supervisor, confidentiality was guaranteed to the participants, and all results were anonymised in the final version of the research (Saunders et al. 2014). As all participants gave consent for the interviews, and multiple measures were taken not to reveal any personal and identifying information, I was confident that my obligations for the respect, welfare, autonomy, and confidentiality of the participants were upheld. Each participant was reassured that all data and information gained through the interviews would be used only in the dissemination of findings for this research.

4.8 Limitations

Some limitations have been identified for this data, both in relation to data gathering, and in relation to the reach of the results once placed in context.

4.8.1 Sampling Bias

Sampling bias is related to the way in which survey participants are selected; this can happen when there is a possibility that the sample is not random. In this case, one is less likely to get a sample of responses that is representative of the wider population (Scheaffer et al., 2011). Online surveys often tend to eliminate survey bias, in that they are generally completely anonymous, and anyone can self-administer the survey. Although using an online survey as an instrument potentially afforded a wider reach, it also provided an inevitably biased sample towards people who have an online presence, and who utilise the specific platforms via which the survey was shared. In terms of respondents, this could mean that older members of the community would not have had access to the survey, as they might have been less likely to be familiar with or frequent these platforms. A limitation of the study is that the findings regarding social media use may be skewed towards great social media engagement because the people that participated in your survey are all active on social media.

4.8.2 Sample Size

Access to participants in this research created some limitations to both the sample size and the overall reliability of the data. While I shared the invitation to take the survey widely across various social media platforms, and also emailed the invitations to several conservation and communities entities within the Auckland region, uptake and involvement remained voluntary. As such, as there was no way for me to ensure that receivers of the invitation would actually take the survey. This meant that ensuring a high number of participants for the survey uptake remained a challenge. The sample size for the survey responses for this research was smaller than anticipated. Although the final number of 75 survey responses is not too small to conduct the research and explore its aim and objectives, I maintain an awareness that the sample is not large enough to be taken as representative of the views of the whole population in the Auckland region. Although this is a limitation, this research still gives a good indication of the views of people already interested in native wildlife conservation and makes a solid grounding for the further exploration of behavioural perceptions of motivations, barriers, and enablers for conservation in the interviews. Equally, as the number of interviews for this research is not overly large, I recognise that the views expressed by the participants cannot be regarded as exhaustive or fully representative. Nonetheless, the interviews still provide valuable insights into the experiences of individuals who serve in leadership positions for native wildlife conservation groups, in both paid and volunteer capacities.

Chapter 5: Results

This Chapter presents the results of the survey and interviews. It describes and identifies key factors that influence the support for and engagement with conservation efforts within the Auckland region. The Chapter will begin by describing the participants for both survey and interviews, followed by an overview of the perceived factors that impact on motivations, barriers, and enablers for conservation. The currently identified threats and areas for management within the Auckland region will also be presented and described.

5.1 Descriptive Characteristics of Participants

Overall, the survey received 82 responses from respondents in the Auckland region. However, 7 of these responses were largely incomplete, and not suitable for use in the research. Out of the total, 75 responses were able to be used. For some specific questions, response numbers oscillated between 73 and 75. As the survey link was posted on social media pages and groups and emailed to organisational email addresses (rather than individual), it is not possible to establish an overall response rate. For the interviews, 8 representatives from Auckland-based conservation organisations were interviewed.

5.1.1 Survey Respondents

The survey was completed by people of a wide range of ages (as illustrated in Figure 5.1). 25.3% of respondents were 46-55 years old, 24% were 36-45 years old, 20% were 56-64 years old, 12% were 26-35 years old and 9.3% were 18-25 and 65+ years old.

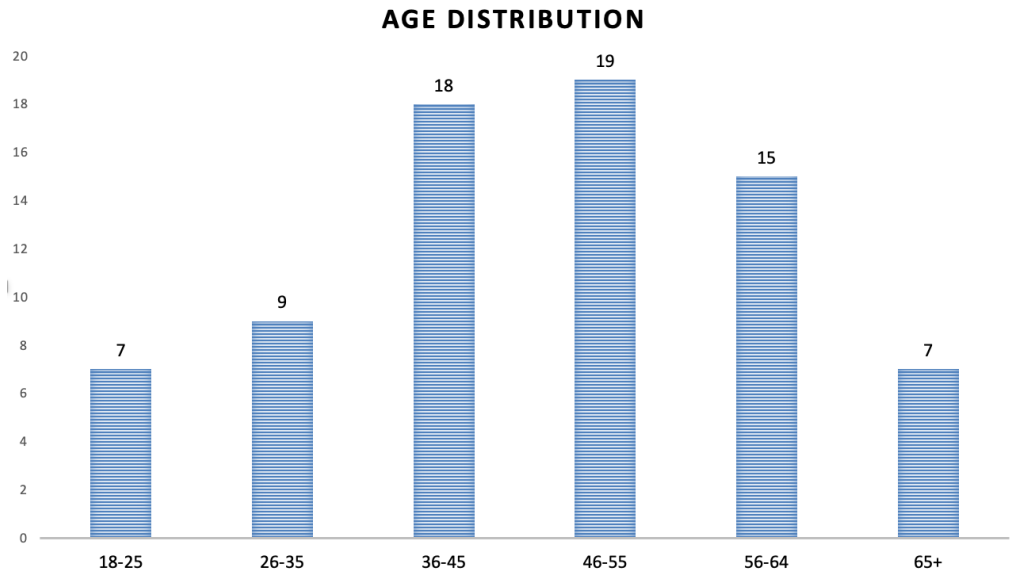

Figure 5.1. The age distribution of survey respondents. Results are expressed in count.

56 (76%) of survey participants identified as 'Female', 18 (24%) identified as may 'Male', and one participant left this question unanswered.

The survey was completed by people of a range of ethnicities (as illustrated in Table 5.1). All 75 respondents answered the ethnicity question. The ethnicities listed in Table 5.1 are an amalgamation of those recorded in the pre-determined responses, and those added by respondents in the 'Other' selection box.

Table 5.1. The ethnicity of survey participants.

Ethnicity as Listed by Participants	Count
New Zealand European (Pākehā)	47
British	7
Māori	4
Māori and Pākehā	4
Australian	2
Indian	1
Australian European	1
New Zealander	1
European	1
South African	1
Singapore Chinese	1
	Total: 75

Out of all the ethnicities recorded, "New Zealand European (Pākehā)" was the most predominantly selected, accounting for a significant 62.6% of the total. This indicates that, overall, the perspectives recorded by the survey are primarily from Pākehā women aged 36-64.

5.1.2 Interview Participants

Eight people were interviewed for this research, including individuals working in both paid and volunteer capacities for a range of organisations within different geographical areas of the Auckland region. The descriptive characteristics of the interview participants are summarised in Table 5.2.

Table 5.2. Key characteristics of the interviewees.

Interviewees	Gender	Age Group	Type of Engagement
1. Executive Member of Conservation Group	Male	30-45	Voluntary
2. Chairperson of Wildlife Rescue Centre	Female	60+	Voluntary
3. Chairperson of Wildlife Conservation Community Group	Female	60+	Voluntary
4. Executive Member of Wildlife Conservation Group	Male	45-60	Paid
5. Executive Member of Community Restoration Organisation	Female	30-45	Paid
6. Manager of Wildlife Conservation Organisation	Female	45-60	Paid
7. Executive Member of Conservation Organisation	Male	45-60	Paid
8. Executive Member of Environmental Conservation Organisation	Female	45-60	Paid

5.2 Threats Facing Wildlife in the Auckland Region

The interviewees identified several threats to native wildlife in the Auckland region, with recurrent thematic patterns clearly emerging. These are illustrated in Table 5.3 below, inclusive of associated sub-themes.

Table 5.3. Primary identified threats to wildlife in the Auckland region.

Theme	Sub-themes	Frequency
Lack of Habitat	Urban development/expansion	8
	Deforestation	6
	Splitting large sections (for building)	3
	Loss of corridors/no vegetation left	3
Predators/Pests	Killing native birds	8
	Cats (feral and domestic)	4
	Dogs	2
	Rats, stoats, and possums	3
	Eggs being eaten	1
Large scale environmental change	Climate change	3
	Planetary changes	1
	Rising sea temperatures	1
	Sedimentation	1
Incoming Diseases	Avian flu	2
	Influx from overseas	2
	Fast-spreading impact	2
	Bird colonies under threat	1

There was consensus among all interview participants that habitat loss and introduced predators were the two primary threats, as all interviewees indicated this. Habitat loss in the Auckland region was perceived to be caused primarily by urban expansion. Introduced predators were primarily identified as cats, with dogs, rats, stoats, and possums also being mentioned. All participants stressed that lack of habitat and introduced predators are the threats that require the most immediate and consistent management actions, in order to conserve native wildlife. The following quotes illustrate these intersecting concerns:

> "Really, you know, two things. Introduced predators and human expansion. You know, clearing everything in sight basically. Breaking up sections to build new houses everywhere. Especially apartment buildings, with no section, no garden. No habitat left" (Interview 2).

> "In the short term, we're very aware of the imminent threat posed by introduced predators and pests. […] All sorts of introduced species are having an impact on our native species. Also, habitat destruction continues almost unabated, and it has had a vast impact on our native species" (Interview 4).

> "I think one of the biggest threats is lack of habitat. The fragmentation of forests and the lack of corridors to move between different parts of Auckland for native species" (Interview 5).

Two interviewees also identified the possible influx of disease, especially coming from overseas, as a looming threat that may impact the health and conservation of native New Zealand species, and especially birds, in the future. For example, the manager of a marine wildlife conservation organisation explained:

> "Disease is also another major threat. If we get [avian influenza] here, then we are in trouble. New Zealand is one of the few places in the world that hasn't got it. It's a threat that has knocked back conservation in Europe and America so badly. It will spread very quickly because, yeah, some [birds] live in colonies. So if you think, that in one few week period you can lose 92% of the population, it's definitely a major threat" (Interview 6).

Three interview participants specifically listed climate change as a significant threat to native New Zealand wildlife, providing a broader view on the impact that global environmental changes have on endemic fauna. The following quote exemplifies this:

> "It's the big picture for me. The more instant ramping up one is the global climate crisis. So, the changes that we're seeing in the Auckland region right now, both on land and particularly at sea, with warming sea temperatures…and as a result we're seeing the arrival of new invasive species which are out competing with our native species" (Interview 7).

Overall, the results show that two distinct categories of 'threat' were perceived to exist by the interview participants: on the one hand, participants identified local, immediate threats that are occurring within the Auckland region; on the other, participants discussed broader global threats that affect wildlife in Auckland, such as the impact of climate change.

Although interconnected, the two categories of threats identified in the Auckland region were perceived differently by the interview participants, and might therefore necessitate different management approaches, for example:

> "I think there's a distinction between what we do and like, say, Greenpeace…that is very climate change orientated, very big picture. Abstract thinking, save the world, and all that. That is not necessarily at odds with our conservation, but conservation is more like…how do we preserve wildlife? Yeah, we're there. Tangible. Real life examples" (Interview 1).

In addition to the management of immediate threats in the Auckland region, one of the participants specifically warned about the dangers of not acting on the impacts of global ecological changes:

> "Then there is the existential and still somewhat unknown threat of what climate change is going to mean for many of our species. And that really brings me on to the more philosophical side of things is…what can we do? Truly, the biggest threat is inaction. Despite having incredible engagement from certain sectors of our population and probably better than in some countries, with respect particularly to things like predator control […] as a species, as the human population of Aotearoa, we are not focusing on the solutions to our planetary problems" (Interview 4).

It was clear from the results that both of these categories of threat, with their associated management actions, function as motivational factors for the support of conservation and the involvement in conservation management activities. Indeed, the participants indicated that management efforts for the most 'hands on' threats to native wildlife in the Auckland region, such as habitat restoration and predator control, can be more proactively organised and easily accomplished. Equally, a clear feeling of frustration was also detectable in some of the participants' answers over the perceived sense of environmental apathy that is seen as causing communities in Auckland, and Aotearoa New Zealand overall, to disregard global environmental forces such as climate change, and the impact that these have on the conservation of native wildlife.

5.3 Required Management Actions

As part of the survey respondents were asked which management actions, they believe are important for conservation. All respondents answered this question. 'Preserving habitat' was the most often selected across the pre-determined responses, with 66 respondents choosing this. 'Establishing more protected areas' and 'Educating the public' were equally selected by 62 participants. Although selected by fewer participants, 'Maintaining wildlife centres' and 'Breeding programmes' were still selected by over half of the participants as illustrated in Figure 5.2.

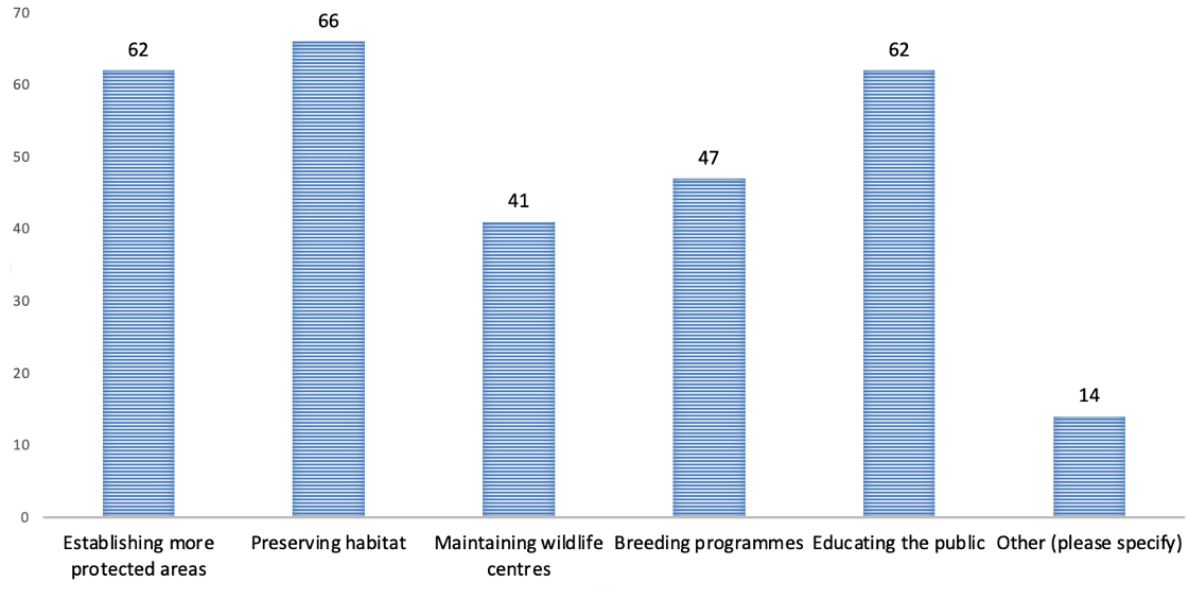

Figure 5.2. Required conservation management actions in the Auckland region, as selected by the survey respondents.

Fourteen participants selected 'Other', but only 13 provided information on the other actions that they saw as important for the conservation of native New Zealand fauna. These have been grouped thematically as follows:

- restoring habitat (5)
- controlling predators, including cats and dogs (4)
- consultation with Iwi and inclusion of mātauranga Māori (1)
- creating a community for conservation (1)
- more effective management of protective areas (1)
- more government funding given to DOC (1)

The importance of habitat emerged as a strong theme within the answers of the survey respondents, with 'preserving habitat' and 'restoring habitat' being perceived as the management actions requiring the most attention. Habitat restoration also emerged as one of the two most prominent required management actions to support conservation in the interviews as illustrated in Table 5.4 below.

Table 5.4. The most prominent required management actions, as identified by interview participants.

Theme	Sub-theme	Frequency
Habitat Restoration	Maintaining native biodiversity	8

	Community efforts for habitat restoration	8
	More mindful urban planning (including by Auckland Council)	6
	Planting and weeding (community-run)	6
	Maintaining green spaces/gardens (private landowners)	5
Predator Control	Community efforts	8
	Setting/emptying traps	6
	Individual efforts on private land/gardens	5
	Killing/disposing of predators	4
	Community efforts such as predator- shooting initiatives	4
	Education ('what to do')	4
	Controlling cats	4
	Reluctance to kill predators	3
	Feeling sorry for predator species (even if introduced)	3

The interview participants perceived 'maintaining biodiversity' as an area of high importance for habitat preservation and restoration. Within this, the impact of community efforts was perceived as central for effective management, with initiatives focused on 'planting and weeding' being seen as particularly important. Encouraging the conservation efforts of individual landowners were also perceived to be important, with the specific maintenance of green spaces emerging as central for preserving biodiversity and restoring habitat for native wildlife. In addition, 6 interview participants also identified the need for Auckland Council to encourage more careful and mindful urban planning, in order to preserve habitat.

'Predator control' also emerged as a common theme in the interviews as an immediately required management action, with tangible outcomes. Thematic factors connected to 'Controlling predators' were also mentioned by 4 respondents in the survey. Factors connected to enabling predator control, as identified in the interviews, are illustrated in Table 5.4 above.

When discussing predator control in the Auckland region, all interview participants agreed that focused community efforts are essential for the success of initiatives covering larger areas. Five interview participants also identified the efforts of individual landowners as central to controlling predators in small areas, including private gardens. Four participants

discussed predator control efforts as being focused on setting traps, and disposing of dead animals once caught. For larger community efforts, 4 participants also discussed the organisation of large predator-shooting initiatives as particularly efficient, especially for introduced mammals such as possums. Education programmes, focused on the need for predator control and how to use tools for capture and disposal, were identified as essential enablers by 4 interview participants.

Notably, some factors were identified by interviewees as acting as barriers for predator control initiatives. A reluctance to kill introduced mammalian predators was particularly discussed by 3 participants; similarly, 4 interviewees specifically discussed cats as a problematic predator to manage in the Auckland region. 'Feeling sorry' for the animals, even if they are invasive introduced predators, was particularly discussed as a barrier to supporting predator control, especially in terms of killing and disposal, highlighting the recurrent impact of emotions on the support for and involvement with conservation management actions.

Cross-referencing results between survey and interviews shows that, although 'Establishing more protected areas' emerged as the second most significant required conservation management action in the survey, this was not mentioned or discussed specifically in any of the interviews. The focus on 'educating the public', on the other hand, emerged strongly in both the general results of the survey in relation to required management actions, and the specific actions required for successful predator control in the interviews. This indicates that educating the public on tools and strategies was perceived by all participants to be an important aspect of conservation management actions within the Auckland region.

5.4 Motivations to Support the Conservation of Native New Zealand Wildlife

The survey aimed to provide a preliminary understanding of why people are interested in and support the conservation of native wildlife in the Auckland region. Firstly, respondents were asked if they thought it was "important" to "support the conservation of native New Zealand wildlife"; all 75 respondents answered "yes". This result was significant as it showed that all respondents already had a pre-existing interest in native wildlife conservation.

Respondents were then asked to "please select the reasons why you think we should focus on the conservation of native New Zealand wildlife". A list of pre-determined responses was

provided, together with an open box, labelled as 'Other (please specify)', where participants could list their own reasons. Figure 5.3 illustrates the reasons selected by participants. 'They' in the answer options provided refers to native New Zealand wildlife. As participants could select more than one option in the same response, results are shown in count only, rather than percentages.

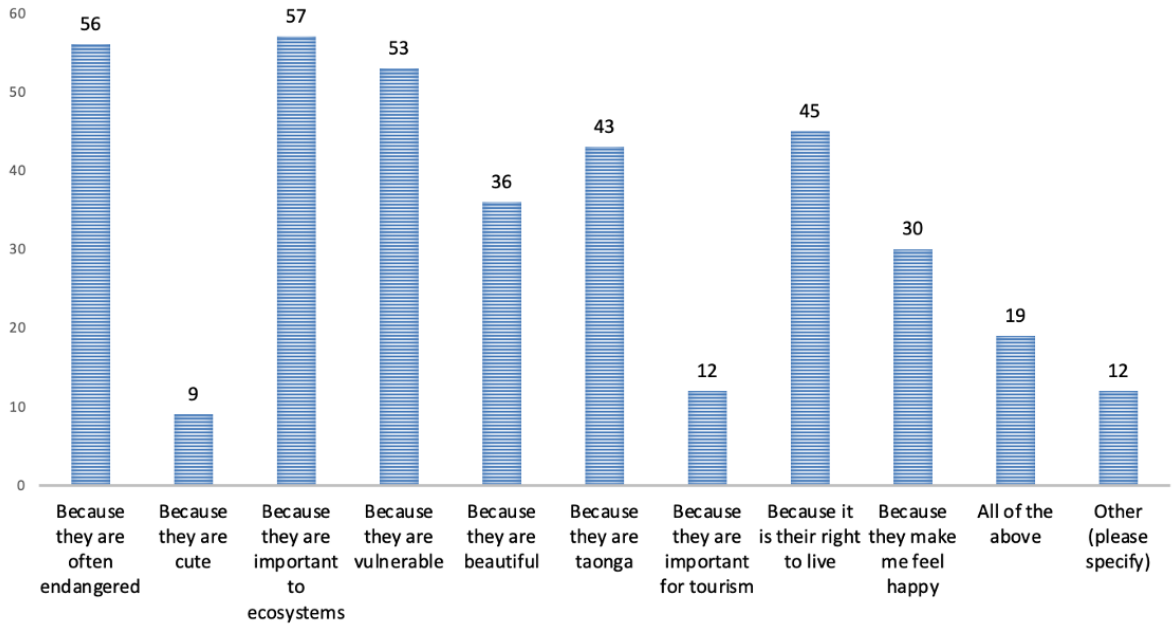

Figure 5.3. Reasons to support conservation as indicated by the survey respondents. Results are expressed in count.

The option 'Because they are important to ecosystems', 'Because they are often endangered' and 'Because they are vulnerable', were the most often selected answers. 'Because they are beautiful' and 'Because they make me feel happy' were selected with similar count numbers by the participants, 36 and 30 respectively. The option 'Because they are important to tourism' was the second least selected individual option, marginally ranking above 'Because they are cute' as the least selected. The reason connected to tourism shows a particular motivation that is more focused on human 'uses' and gain from wildlife, rather than the well-being and intrinsic qualities of the animals themselves. While these two options were selected with lower frequency, it is notable that they were not completely absent from the selection, signalling the multifaceted nature people's reasons for supporting native wildlife conservation in the Auckland region. Overall, respondents' motivations emerged as primarily intrinsic and ecological.

As participants could select multiple options in the same answer, and the majority did so, the results show that people's motivational reasons for supporting the conservation of native wildlife are multiple and interconnected. This finding, is, however, nuanced, as certain answers were selected more frequently than others. Notably, the option "All of the above", was selected by a quarter of respondents. This shows that while a small group of participants placed equal importance to all reasons listed, some ascribed significant importance to some and not others.

Twelve participants selected the 'Other' category and provided their own reasons as to why the conservation of native species should be a focus. Clear thematic patterns have emerged from analysing the open answers and were coded according to carrying similar connotations. These have been grouped as follows, inclusive of numerical values:

- Because they are unique to New Zealand (4)
- Because we must look after them for future generations (3)
- Because they are part of New Zealand's identity (2)
- Because it is our duty to resolve the issues we have created (1)
- Because they are part of the richness of the world (1)
- Because they are important to preserve biodiversity (1)

5.4.1 Personal Motivations for Conservation

There was consensus among interviewees that personal motivations for supporting conservation and being involved in efforts, both in paid and volunteer capacities, are primarily intrinsic. The motivational factors identified in the interviews are shown in Table 5.5 below.

Table 5.5. Personal motivations for conservation, as identified by interview participants.

Theme	Sub-theme	Frequency
Motivations	Love for nature	8
	Connection with nature	8
	Wanting to see the animals thrive	7
	Happiness/feeling good	5
	Saving the planet/wildlife	3
	Spiritual connection with the land	2
	Caring for the environment/rectifying mistakes	2

The motivations that were expressed in the interviews were primarily connected to factors inspired by a 'love' for nature, the 'connection' that individuals feel with the environment, and the desire to see native wildlife thrive. Therefore, the personal motivations of the interviewees were completely intrinsic, as there was no mention of any possible motivational factors connected to instrumental human 'uses' of wildlife, such a tourism. The intrinsic nature of individual motivations is exemplified in the following extracts:

> "It's the love for nature, for the environment. There is no other motivation. There's no money in it. There's no other motivation possible […] when it comes to it, it's really just that connection and that love" (Interview 3).

> "It's the thought of seeing them [the animals] flourish. The thought of restoring the ecosystem. It's a lovely feeling. It's just really fulfilling" (Interview 5).

> "My motivation is […] I love our native environment. That connection, and or maybe, that disconnection, is one of the main reasons why people don't feel sort of motivated, you know. This is about people's experiences […] that connection to nature is so important. People have to feel it in their heart" (Interview 8).

> "What brings in the funding is connection, yes. It's also what brings in our volunteers, Everything goes back to connection, with the environment, with nature" (Interview 6).

It was made clear by all participants that being involved in conservation efforts for native wildlife makes them feel happy and fulfilled, and this in itself continues to fuel motivations for pursuing conservation management efforts. Two interview participants also specifically discussed how, in their opinion, being involved in conservation activities generates happiness by also fostering a form of 'spiritual connection' with the animals and the land. This can act as a further motivation for wanting to do more, as the following quote illustrates:

> "Engaging with nature itself…you're sort of developing a spiritual connection, you know, an emotional connection with the land… so people can sort of like, look back 2-3 years later and say, look at all these trees that I planted, they're still here there and didn't wash away. I did that. That's why people care. It makes them feel happy" (Interview 1).

The idea of 'happiness' also emerged as a motivational factor in the survey, with 30 respondents selecting 'Because they make me feel happy' as a reason for focusing on the conservation on native New Zealand species. Results from both survey and interviews therefore show that emotional responses, such as happiness, have a significant impact on people's motivations for supporting conservation and being involved in conservation management efforts, in both paid and volunteer capacities.

5.5 Barriers and Enablers for Conservation

Interview participants were asked about the barriers to native wildlife conservation they had encountered both in terms of barriers for conservation in general, and barriers specifically for the involvement of individuals in hands-on and physical conservation efforts. Overall, all participants indicated that barriers and enablers for conservation efforts are often interconnected. In this context, if a barrier to conservation is identified, a directly related enabler might be found in actions and decisions that aim to eliminate or reduce that barrier. Clear thematic patterns emerged in the participant's answers and are illustrated in Table 5.6 below.

Table 5.6. The interconnectedness of barriers and enablers for conservation efforts.

Theme	Sub-theme	Frequency as Barrier	Frequency as Enabler
Barriers and Enablers	Funding (for organisations)	8	8
	Time/'busy lives'	8	0
	Social media	0	8
	People 'not knowing' about conservation initiatives/Spreading knowledge of initiatives	6	6
	Geographical distance	5	5
	Family constraints	5	0
	Focus on job/earning money	5	0
	Costs involved (for individuals)	4	3
	Transport	2	1
	Focusing on positives	0	5
	Difficulty in involving younger demographics	3	3
	Outdated legislation	2	2
	Being disconnected from nature	2	2
	Watching nature documentaries	0	1

The interconnectedness of some barriers and enablers emerged as particularly significant in the interviews in relation to money/funding, people 'not knowing' about conservation initiatives, and geographical distance to conservation sites. One of the interviewees specifically discussed this in terms of interdependence:

> "Barriers and enablers are the same thing. Like, if we don't have enough money, and that stops us doing something…having more money will generally allow us to do it" (Interview 2).

When it came to discussing barriers for organisations, including for both large publicly funded entities and smaller volunteer and recuse groups in the Auckland region, there was consensus among participants that 'money' was the principal barrier for the pursuit of conservation efforts:

> "You know, there's nothing like enough money to go around. [Our] budget has gone down rather than up, whereas the problems are only getting worse. So fundamentally, we need more funding" (Interview 4).

> "When it comes to barriers and enablers, funding is a really big issue. You know, to make things happen, yeah. We could make the huge things happen if we had more. This is not just talk about 'ohh, we need more money'. No, it's a very, very real and concrete need. There costs involved in conservation, especially for predator control" (Interview 2).

When talking about funding as a barrier, one interviewee discussed the difficulty of gaining public funding to support volunteer-run organizations as being an impactful factor:

> "A big barrier is money. There is no money whatsoever. No formal money coming into bird rescues. Not even from DOC. You need to jump through all these […] hoops, to get certified, but you don't get any sort of financial support with it. I need to work full-time to be able to run my bird rescue. And I still rely on donations…you know, from the public" (Interview 3).

In terms of gaining funding, another interviewee discussed the possibility of gaining long-term, corporate funding as a clear enabler, together with ongoing donations from the public:

> "Council funding is never enough. There's just not enough of it, and it's hard to get. We have funding from [corporate] businesses. That has made a huge difference. I was the only staff person, and I was a volunteer. Now I work here full-time, and we also have a second full-time person, permanent. But we still need donations, from people who might be able to spare $10 from time to time" (Interview 6).

In terms of broader conservation approaches, two interview participants identified current legislation as a clear barrier to the success of conservation efforts.

> "I think a lot of our wildlife legislation is really old. So we're working in a 1960s, 70s, 80s paradigm, when it's 2025 and you know the world is changing so fast these days that we need our own ability to change with that" (Interview 7).

> "To be very practical, New Zealand is a very bureaucratic, and legislation driven country. And much of our legislation is old and not fit for purpose […] we need better legislation for conservation, you know, which is sort of a barrier but also becomes an enabler" (Interview 4).

The fact that the interviewees identified the current wildlife legislation in New Zealand as too old and not fit for purposes indicates an underlying need to review processes and policies, including the Wildlife Management Act, which has been in effect since 1953. Even though the Act has been amended many times since its creation (including recently in 2022), the two participants still perceived it to be largely outdated.

When discussing factors that might prevent individuals from being involved in conservation efforts, especially in a volunteer capacity, all interview participants identified 'time' as an important barrier. All participants discussed how people have very busy lives, with clear demands within both work and family environments. Therefore, finding spare time to engage with conservation efforts, especially of a physical nature, can be very difficult. All interview participants made it clear that there are a good number of people who volunteer, as their own personal circumstances allow it. However, the participants also discussed how that number could be larger, if time constraints (especially connected to work and family needs) were not a factor:

> "Some people just don't have the energy or the time. They'll have other priorities like putting food on the table, keeping the roof over their head, and if they're doing that, often they don't have the headspace to be able to think about giving back and doing something else" (Interview 8).

> "There are many barriers, I think…but time is a big one. A really big one. It's not about caring…I think most people care, to a degree. It's finding the time to do anything about it. Some find it very difficult" (Interview 5).

Interviewee 2 specifically discussed how gender can also be a factor in people's ability to engage with conservation initiatives, and can constitute a barrier in certain familial circumstances:

> "I think it's particularly hard for women who have families, who have kids. They are busy at work, and then they are busy at home. I have seen it…your time is completely sucked up by that and I know even for me, when I was working, that's what it was like. My daughter's married with two little girls. There's no way she'd have any time or energy left over to commit to anything,

> like a planting day or anything like that. Yeah, it's definitely more a problem for women, married women with kids" (Interview 2).

There was also consensus among participants that geographical proximity is a central factor, as both a barrier and as an enabler. All participants discussed the importance of organising conservation activities in locations that are close and easy to reach for the local community, with tasks that do not take up too much time to accomplish. Two participants also stressed the need to make the experience feel 'inclusive', drawing attention to the importance of social factors as further incentives and enablers for the success of community conservation initiatives. This is exemplified in the following responses:

> "Time, energy, location. If you do or don't have transport. How well funded the projects are. It all has an impact […] To be successful, it all needs to be very localized. The enjoyment of nature is important, people need to see it up close. But that enjoyment of nature needs to be close to their backyard, that's sort of like… it's very central. It needs to be close to where they are. And they need to feel involved. They need to feel part of it. It needs to be social, too. Maybe have a barbecue at the end of the planting day. I think that helps" (Interview 1).

> "Very busy lives in our modern world. Very, very busy lives. Absolutely. You know, in terms of enabling, it is always like…what can we do? You know, that is our position, our job, but also other areas when you're involved with sort of like restoration and conservation activities…What allows it to happen? What are things that make it happen? I think, it's meeting people where they are. And so that might be place based, or that might be time based" (Interview 8,).

This indicates that impeding factors often compound to prevent individuals' involvement in conservation management efforts in communities across the wider Auckland region.

Two interview participants also discussed how, as much as a perceived emotional connection with nature can act as a motivator, experiencing a sense of 'disconnection' from nature can act as a barrier for people's support of and involvement in native wildlife conservation efforts. This is exemplified in the following extract:

> "People can just be disconnected from nature, you know. Especially kids. This is a problem, especially in more urban areas around Auckland. Kids don't even know where their milk comes from, they don't know, you know…in the urban environment, they might never even have seen a cow. Then they sure as hell don't know anything about a kiwi or a gecko or something, you know, or a native plant that might be growing in the bush down the road from their school. Then it's hard for them to care, or do anything about it" (Interview 2).

Six participants also discussed how 'not knowing' about ongoing conservation efforts can also be a barrier to involvement. Participants discussed how, often, members of the public, even if interested in being involved in conservation, simply do not know where, how, and when they are happening.

> "Awareness is an issue. Like, you know, that people are not aware, they just don't know what's happening. Or what they can do. Not everyone. Yeah, that is still a big issue" (Interview 1).

In addition, five interview participants also discussed different facets of how 'focusing on positives', and the material difference that people can make to specific areas and species, acts as a great motivation and enabler. The following extracts illustrates this:

> "One of the things we decided to do was to always have a positive […] Choosing a special species in the area and then we're having a focus on that. And so, we will have a promotion and a campaign, to see what people can do for that" (Interview 8).

> "I think you need to show people how they are making a difference…how what they do, the money they donate, has an impact. If they can see the positives, then they might want to do more" (Interview 6).

This indicates that spreading awareness of positives outcomes about conservation activities that are taking place is perceived to be as an important enabler for encouraging involvement. In addition, encouraging the public through concrete achievements focused on particular species is also seen as a central enabler for growing community conservation efforts.

The particular ability of social media to be used as an enabler for conservation efforts was identified clearly by all interview participants. Nature-focused documentaries were also identified by one interviewee as a potential enabler, inspiring pro-environmental behaviour. The possible function of social media and documentaries as conservation enablers is discussed more in-depth in the following section.

5.6 Social Media and Documentaries as Motivators and Enablers

Both survey and interviews aimed to identify effective avenues for sharing information about wildlife and conservation initiatives, which can help grow support and involvement in conservation efforts in the Auckland region.

5.6.1 Social Media

The respondents were asked if they followed any social media pages/accounts focused on native New Zealand wildlife. All 75 respondents answered this question. Sixty-two respondents (83%) answered "yes" to this question, while 13 (17%) answered "no".

The 62 participants who indicated that they do follow social media pages on native New Zealand wildlife were asked: "Why do you follow social media pages focused on native New Zealand wildlife?". This question was asked with the intention of scoping what areas of interest respondents are focused on when following social media pages on native New Zealand wildlife. Results are illustrated in figure 5.4.

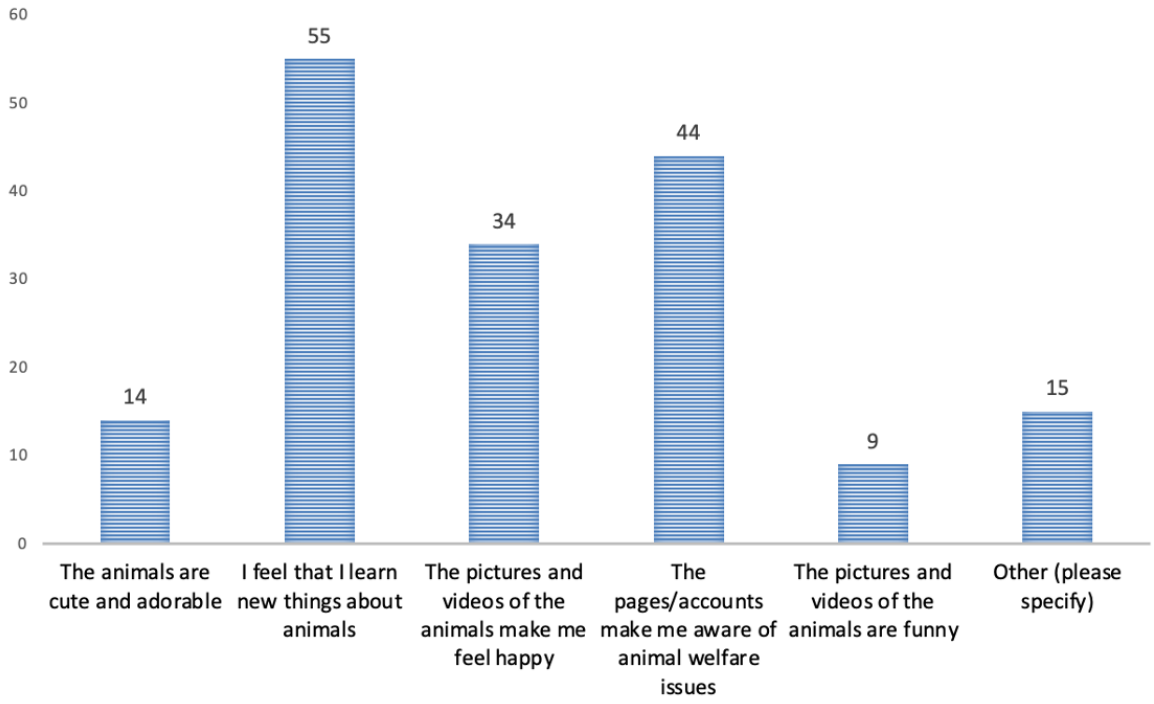

Figure 5.4. Respondents' reasons for following social media pages on native wildlife.

In addition, 15 respondents also selected the 'Other' category, and provided their own reasons as to why they follow social media pages in the open box. The answers were coded and grouped according to similar connotations, as follows:

- To be part of a community like-minded people who also care about native wildlife (4)
- To learn more about pest control and management (3)
- Because they spread up-to-date knowledge about native wildlife (3)

- A general interest in the conservation of native wildlife species (2)
- To learn about why people are interested in native wildlife species (1)
- To learn more about the threats to native species and how to help (1)
- A general love for native species (1)

Notably, the idea of animals being perceived as "cute and adorable" as an influencing factor for following social media pages was also prominent, signalling that emotional responses to native wildlife have a significant impact in influencing people's interest and guiding people's choices when engaging with conservation work. Overall, reasons related of 'learning', 'gaining awareness' and 'spreading knowledge' were the most frequently selected by respondents in both the pre-determined and open responses, indicating that matters connected to education are perceived to be the primary reasons for following social media pages about wildlife and conservation. This indicates that social media might have a particular value in generating an interest in conservation efforts and might function as an enabler for generating interest and knowledge about native wildlife conservation

The impact of social media in growing supporting and enabling conservation efforts and initiatives also emerged as a clear theme in the interviews. The different aspects of social media as an enabler discussed by the participants are illustrated in Table 5.7 below.

Table 5.7 Uses for social media as a conservation enabling tool, as identified by the interview participants.

Theme	Sub-theme	Frequency
Social Media as Enabler	Spreading knowledge and awareness	8
	Growing the conservation community	8
	Telling stories to get people interested	6
	Getting people involved in initiatives	6
	Encouraging money donations	3
	Reaching 'young people'	3

All participants agreed that social media was an important way to spread knowledge and awareness of conservation needs and initiatives, both for the community and for individuals. In conjunction with this, social media were perceived to be essential enabling tools for growing community interest and involvement in the Auckland region. Community-building

was particularly seen as an important aspect of social media as a conservation enabler. The following quote illustrate the uses of social media as a conservation enabler, especially as connected to knowledge sharing and growing community involvement:

> "Knowledge is important. Social media helps with that. It builds knowledge of wildlife for the community. But also for the odd person who wants to know, and be involved" (Interview 1).

> "When it comes to it…What tools? What strategies can we use? You know, to enable involvement…so we do a lot on social media. You have to make it cool and you have to make it easy" (interview 7).

> "Social media has been a massive help for community groups to get the word out and to get people knowing what's around them. It helps them to feel seen and supported" (Interview 5).

In addition, social media posts were perceived by participants to be an important venue to 'tell stories' about native species, threats, and conservation efforts. Here, effective storytelling was particularly seen to be a central enabler for gaining people's support, growing awareness, and possibly generating an interest in being involved in conservation initiatives.

> In my experience, social media is, you know, a good tool to get the stories out there. Yeah, absolutely. I put at least once a week, something on my Facebook page….it keeps the story alive. You know…it's just like with the cats. We know through telling stories about the damage that cats cause […] I think the mindset is changing a little bit. I think people are a lot more aware of the damage that cats do now, because we keep sharing about it, you know. Yeah, it's about consistently sending the same message out on the social media" (Interview 3).

> "I do feel that that message can be spread a lot more widely, a lot more efficiently through social media. You need good storytellers who are able to galvanise. Social media is perfect for that" (Interview 1).

Notably, 3 interview participants also identified social media platforms as important enablers in increasing the number of donations to conservation organisations. This is illustrated in the following extract:

> "I need to always post on Facebook about what animals we have in the rescue, and how well they are doing. If I forget to do it for a week or two, I can see the number of donations drop. There's a direct connection" (Interview 6).

It was indicated by these participants that visibility for particular species and conservation initiatives increases people's interest and encourages higher levels of financial support.

Across the survey and the interviews, the ability to spread knowledge and awareness about conservation initiatives, threats, and animal welfare issues, and growing a community of like-minded people, were the primary shared factors for considering social media as an effective enabler for conservation efforts in the Auckland region. Interestingly, factors connected to 'happiness' in viewing social media posts about native animals, which was an option selected by a noteworthy 34 respondents in the survey, did not emerge as a significant factor connected to the benefits of social media usage for enabling conservation in the interviews.

5.6.2 Documentaries

The survey aimed to establish if respondents watched nature documentaries about New Zealand native wildlife, and if so, what feelings and emotions resulted from the experience. All 75 respondents answered this question.

The majority answered 'Yes' to having watched documentaries on native New Zealand wildlife (87%); only 10 participants answered 'No' (13%). Here, the number of participants that had previously watched documentaries about native New Zealand wildlife is significant.

As the survey aimed to establish whether watching wildlife documentaries elicited certain emotional responses, which may potentially impact on people's behaviours in relation to conservation, this question asked participants to classify specifically the feelings in response to watching documentaries (see figure 5.5).

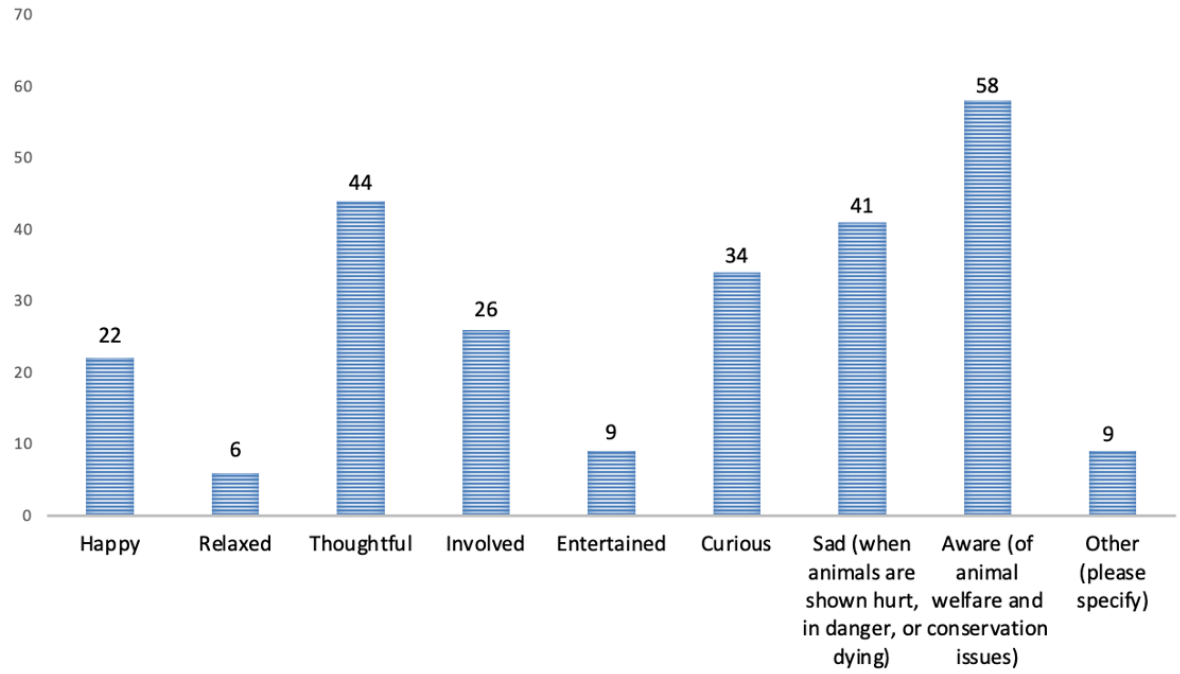

Figure. 5.5. Emotional responses to watching documentaries, as identified by respondents. Results are expressed in count.

In addition, 9 respondents selected the option 'Other', and provided their own answers in relation to the feeling elicited by watching documentaries about native New Zealand wildlife. Clear thematic patterns have emerged from analysing the open answers and were coded according to carrying similar connotations. These have been grouped as follows:

- Angry at the damage to animals caused by humans, and at how not enough is being done to protect them (3)
- Glad, if positive progress for conservation is shown (1)
- Worried and depressed (2)
- Informed and motivated (3)

It is notable that three respondents specifically identified documentaries as having a motivational impact. Set in conjunction with the significant number of respondents who identified documentaries as useful for sharing knowledge and awareness about animal welfare and conservation issues, this indicates that documentaries on native New Zealand wildlife can potentially function both as motivators and enablers in supporting conservation efforts for both individuals and the community.

The function of documentaries as an important resource for learning about wildlife and as a motivational factor for conservation in the Auckland region was also identified by one of the interview participants. The participant stated:

> "When I was growing up…We had wildlife programs on the television. Good ones. Really good documentaries. Even when my kids were little. There were huge amounts of documentaries […] You could learn a lot." (Interview 2).

The interviewee also specified that, because of this physical disconnect with nature, it will be unlikely that individuals would know much about native species, including the iconic kiwi, as they do not have any common opportunities for encountering them. She claimed that we need "good documentaries" to capture the imagination of children and adolescents, as they are "the future" of conservation. The participant suggested that, in order to enable a greater interest, motivations, and possible involvement in conservation efforts for younger people, it is necessary to share "short snippets" of documentary-style narratives on social media. The participant identified this as a lack in her organization's practices, and something that they "should do more of" (Interview 2).

4.7 Summary

This Chapter described the findings from the survey and interviews. The demographic characteristics of the survey respondents and interviewees were presented. The descriptive characteristics of the survey and the interviews were presented along with findings which related directly to the main objectives of this research project. This included results related to primary perceived threats to native New Zealand wildlife in the Auckland region and the reasons for supporting the conservation, along with the different perceived factors influencing the motivations, barriers, and enablers for conservation efforts. Habitat loss and introduced predators (including cats) were identified as the two primary threats to native wildlife in the Auckland region, necessitating specific and focused conservation management actions. The results showed that the participants were primarily motivated by ecological and intrinsic factors, including an emotional connection with nature that inspired the protection of native animals in their natural habitats. The main barriers to conservation, and people's involvement in conservation efforts in a volunteer capacity, were identified as lack of time and funding, as well as factors involving geographical distance and the difficulty of spreading awareness and education about threatened species and ongoing conservation initiatives. Important enabling factors to address these barriers were identified, including additional funding, spreading

knowledge of initiatives, focusing on positives, and reducing geographical distance between volunteers conservation sites. The use of avenues such as social media and documentaries was also found to be effective in inspiring motivations for conservation, and acting as an enabler for spreading knowledge and upkeeping strong community networks focused on conservation.

Chapter 6: Discussion

This Chapter discusses the findings of this research in the context of existing literature. It is divided into five main sections. Section 6.1 addresses Objective 1 of this thesis, discussing why the conservation of native species is seen as important and the threats that are perceived as the most significant in the Auckland region, as well as the conservation management actions currently in place. Section 6.2 addresses Objective 2 of this thesis, discussing the perceived motivators, barriers, and enablers for the conservation of native New Zealand wildlife in the Auckland region. Section 6.3 provides a broad a broad overview of the limitations in the data, and Section 6.4 provides a summary of the findings discussed in this Chapter.

6.1 Current Threats and Management Actions

Both the survey and interviews explored reasons why conservation of native species is seen as important, while the interviews considered the nature of the threats, and the management actions required to mitigate these in the Auckland region in more detail. The data from both the survey and the interviews showed that introduced mammalian predators, urban development, and loss of habitat are perceived to be the biggest threats in the Auckland region. This is to be consistent with the findings in the literature (including environmental reports), which generally identify loss of habitat and introduced predators as primary threats to native biodiversity in Aotearoa New Zealand overall (Dowding & Murphy 2001; Macinnis-Ng et al. 2021; Brown et al. 2013; O'Donnell et al. 2017). The focus on urbanisation as a threat to wildlife is particularly in keeping with the literature focused on the Auckland region, where urban development is seen as a primary cause for habitat fragmentation and loss (Simrock & Wright 2015; Xu & Gao 2021). The need to continue to focus on these specific threats as conservation and environmental management priorities was a clear finding of this research.

Interviewees also provided a 'bigger picture' view highlighting that, beyond the specific threats within the localised contexts of both Auckland region and Aotearoa New Zealand overall, climate changed represents a global threat to biodiversity that with significant implications for native wildlife species in Auckland. The recognition of global climate change

as a clear threat shows an awareness of how New Zealand environmental systems are deeply connected to and affected by actions and consequences that go beyond the country's shores, showing a critical understanding of the impact of anthropogenic forces on a global scale. The identification of climate change as a threat to native wildlife, and as an outcome of changing ecosystems, is in keeping with the findings from the international literature, which place local and regional wildlife management action within the context of global environmental change (Woo-Durand et al. 2020; Sattar et al. 2021; Manes et al. 2021). The impact of climate change on native wildlife has also been identified in research conducted in Aotearoa New Zealand specifically (Macinnis-Ng et al. 2021; Keggan et al. 2022; Weinhäupl and Devenish-Nelson 2024). For instance, research shows that the planet's rising temperatures have caused local forest floors to harden, reducing the availability of food for some species (Wilkinson 2020). As the data in both survey and interviews focuses on both local and global threats to wildlife, this indicates a need to consider wildlife management actions in the Auckland region as a result not only of more obviously visible issues such as growth of urban sprawl, but also as attuned to strategies for conservation that take into account global environmental change.

6.1.1 Habitat Loss

"Preserving habitat" was the most selected option when participants were asked which actions they considered to be the most important and required for native wildlife conservation. Here, 66 participants selected this option, clearly identifying the possible loss of habitat as the most significant threat to native wildlife. The focus on habitat was reiterated in the answers provided in the open box for the same question, where 5 participants also clearly listed "restoring habitat" as an essential action for native wildlife conservation. The focus on both preserving and restoring habitat here suggests that there is an awareness of not only the essential need to maintain habitat for native species, but also to engage in direct efforts that restore habitat in areas that had previously been affected. Although trends for habitat loss can traced across the globe, the New Zealand context presents a unique set of challenges. These generally exceed global trends and, at least in part, reflect the insular origin of our ecosystems and species (Clarkson 2022). Two of primary causes of habitat loss for native wildlife species in Aotearoa New Zealand, and which have profoundly affected eco-systems, are deforestation and urbanisation (Ewers et al. 2006). The latter is particularly worthy of note for the Auckland region, where the fast pace of sprawling urban growth has caused significant adverse outcomes for native wildlife habitat, causing significant biodiversity (Coombes 2003).

The identified need to reverse biodiversity decline in the survey results particularly suggests the need for proactive engagement to ensure sustainable future practices that avoid habitat loss in the Auckland region in the future, including the possibility of reintroducing vegetation and fostering areas of growth in an effort to re-establish habitat for native species. The findings show a distinct awareness in the participants of the need for hands-on engagement in devising environmental management plans that place the presentation and restoration of habitat at the centre of decision-making processes. This appears to be in line with existing suggestions in the existing literature on urban planning in the Auckland region, which call for a paradigm shift towards spatial ecology, where strategies for urban growth must be developed in conjunction with conservation and habitat management, with both preservation and restoration in mind (Coombes 2003; Richardson 2022).

Restoring habitat for native wildlife in the Auckland region, remains a challenge. The interview participants discussed the impact of urbanisation and the fragmentation of native habitat as particular concerns, causing the increasing lack of vegetation corridors for wildlife. Auckland urban environments, in particular, are currently dominated by exotic plant species; this is not particularly unexpected, as it is the same for the vast majority of urban environments across Aotearoa New Zealand (Sullivan et al. 2009). Restoring native vegetation has the potential of enhancing associated biodiversity benefits, including the potential population rise of native wildlife species. This is desirable for both cultural and ecological reasons (Sullivan et al. 2009), and it is therefore not particularly surprising to see this focus on restoration being identified by the survey participants as essential for the conservation of native wildlife.

6.1.2 Introduced Predators

There was consensus among interview participants that introduced predators are a major threat for native wildlife in the Auckland region, as well as Aotearoa New Zealand overall. The survey findings also identified predator control as a priority.

Interviewees stressed the damaging impacts that introduced mammalian predators have on native birdlife. This response reflects observations in the international literature that has identified introduced mammalian predators as being responsible for over half of bird extinctions worldwide (Doherty et al. 2016; Fea et al. 2020), with species living on islands

being particularly vulnerable (Szabo et al. 2012; Bellard et al. 2016; Doherty et al. 2016). The negative impacts that introduced predators have on the viability of native bird populations in Aotearoa New Zealand is also documented in the literature, (O'Donnell et al. 2015; Fea et al. 2021). Overall, however, the interviewees perceived the predators to be killing birds and eating eggs as the principal concern.

As introduced mammals represent such a significant threat, actions focused on their management are of central importance. Discussing the efforts currently in place in the Hunua Ranges area of the Auckland region, Interviewee 3 identified the recent success of conservation efforts for native bird species such as the kakapo, which had been on the brink of extinction in the last decade, as being primarily due to the focused management of predators, which saw the populations of rats and stoats vastly diminished. Efforts to safeguard and conserve the kakapo are one of the most recent examples in a series of predator management experiments, which have characterized the history of New Zealand conservation efforts in the past 50 years (Fea et al. 2020). Interviewee 3 also echoed ideas put forward by other interview participants, in stating that the successful outcomes in predator management and kakapo preservation in the Hunua Ranges were only possible thanks to the involvement of local communities, and volunteers in particular, as well as the commitment and funding for initiatives provided by Auckland Council. This indicates that the management of predators continues to be a social issue, as well as an economic one, in both rural and forestry areas.

Although strategies are already in place in the Auckland region, survey and interview results showed that predator control was still perceived to be an action that required focused efforts in the Auckland region. This action included proactively educating the public on 'what to do'. Survey data suggested that respondents were keen to learn more about pest and predator control tool and techniques, and that community groups, especially on social media, are an important source of information. This echoes findings in other studies within the international literature, where social media groups are identified as a key resource for sharing wildlife information learning about how to mitigate human impacts on wildlife, including the impact of introduced predators (Martin & Burton 2022; Fidino et al. 2018). Both the survey and interview data stressed the need to reach and educate community groups and private landowners, in order to proactively eliminate the threat of introduced predators, such as stoats, possums and cats.

One interviewee highlighted the difficulty of convincing private landowners to run predator removal activities, which entail setting traps for both wild and domesticated animals. The need to increase trap numbers indicates that, in spite of the pervasive recognition of the disastrous impact of introduced predators on native wildlife, not enough is being done to eradicate the threat in the Auckland region. This is similar to what has been found in existing literature, where invasive predators have been widely recognized as posing a serious threat to native biodiversity, with trapping being one of several methods developed to manage and monitor their populations (Vattiato et al. 2024). The interviewee stressed that the resistance is likely caused by the expense of buying the tools needed for catching predators and a general uncertainty about how to optimise traps. This echoes what has been found in other studies that have evaluated the difficulty of optimising community and private landowners' involvement in pest and predator management activities, both in Aotearoa New Zealand and internationally (Vattiato et al. 2024; King 2023).

Given their wider status as pets, the complete removal of cats from the Auckland region, and Aotearoa New Zealand overall, is not currently considered to be feasible. Appropriate management actions continue to be the most practicable choice, and these include a wide range of options, including the possibility of keeping cats inside. Other options suggested by Auckland Council for responsible cat ownership include compulsory registration and desexing, as well as limiting the number of cats per household (Auckland Council 2023b). The effectiveness of these actions generally depends on several factors, including land use (e.g. urban areas vs wilderness), cost-effectiveness, and especially, the social acceptability of any cat-related initiatives (Glen at al. 2023).

Interviewees also stressed that the management of domestic cats and the mitigation of their threat as a predator is generally a difficult task, as cat owners are often unwilling to address or recognize the issue. Studies have found that predation by domestic cats affects the native wildlife population, and birdlife in particular, in Aotearoa New Zealand significantly; this included habitat destruction and extensive eco-system transformation (Kosicki 2021; van Heesik et al. 2010; Bruce et. al 2019; Sveding 2022). While, as identified by the interviewees, people may generally be against drastic management actions for cats, widespread proactive initiatives are needed in other to both educate and convince private landowners, as well as the public, on the damages caused by feral cats to native wildlife. The suggestion here is that the public, and cat owners in particular, need to be made aware of not only of the damages

potentially caused by cats to native wildlife, but also of the benefits to the native populations that might derive from taking simple measures in controlling and managing feral cats. This finding is keeping with the exiting literature focused on the New Zealand context, which identifies cats as occupying a privileged position in predator control discussion, in virtue of the attitudes that the public holds towards this particular animal (Farnworth et al. 2010).

In addition, interviewees discussed the reluctance of private landowners to kill introduced predators, such as rats, stoats, and possums, once they are caught in traps. This appears to be a long-standing issue, as a similar difficulty was already identified by a report for the Department of Conservation, where the management of pest and predator control operations is identified as entangled with public opinion, and that the extermination of animals is a sensitive issue that is often related to social and cultural matters beyond pest control (Fraser 2006). This reluctance to kill introduced predators was identified by the interviewees as hindering broader community conservation management efforts. The participant mentioned the option of shooting predators such as possums, and the success that community-run shooting expeditions has garnered in the past in the Southern, more rural parts of the Auckland region, in particular, proactively reducing the possum population and the threat they posed to New Zealand wildlife. According to this interview participant, regular efforts to shoot possums and other predators were eventually hindered by public uproar from members of suburban communities who were not actively involved in conservation, after the possum-shooting events garnered public media attention, which deemed the activities as too violent and inhumane. This indicates that perceptions of not only the animals themselves, whether native or not, but also of what is considered 'socially acceptable' as a means of disposal will be central to guiding management strategies for pest and predator control. Attitudes to pest and predator management, therefore, appear to be influenced by people's knowledge of and stance on threats to native wildlife and conservation (Farnworth et al. 2013).

6.2 Motivations, Barriers, and Enablers

When considering the reasons for people's support of conservation in the Auckland region, it is important to address the factors that may be impacting their motivations to actually pursue conservation efforts, as well as the barriers and enablers for conservation management initiatives overall.

6.2.1 Motivations

The results of the survey and interviews show that the motivations for supporting the conservation of native New Zealand wildlife, and being involved in conservation efforts, were primarily intrinsic. In the survey, motivations were connected to the status of species in their environment, and the impact of humans.

A 'love' of nature was identified as a primary motivation across the interviews. This covered specifically the desire to see animals thrive, and the pleasure that individuals can derive from this. In particular, there was consensus among interview participants that motivations for supporting wildlife conservation was often inspired by a sense of 'feeling connected' with nature, and animals in particular. This focus on a 'connection' echoes the finding in the international literature, which place an emphasis on how humans form bonds with animals and are motivated to preserve and protect them as a result. Connection to nature (CNT) creates a "sense of belonging" to the natural world and is therefore "an appreciation and value for all life that transcends any objective use of nature for humanity's purposes" (Lumber et al.2017, p. 3). The findings in the interviews show that feeling a sense of connection with nature can be an important motivation for supporting native wildlife. Connection to nature is often discussed in different terms across the literature, ranging from notions of human-nature connectedness (which also include biological understandings) to less-specific and more-difficult to quantify definitions of 'love' (Dong et al. 2019; Ives et al. 2017; Nisbet et al. 2008; Pearce et al. 2022). While the notion of 'connection' here can seem a bit nebulous, clarity can be found in the fact that both survey and interviews results show frequent choice and use of the word 'happy' in relation to witnessing wildlife thriving. This indicates that the 'connection' in question is likely understood to be of an emotional nature. The relationship between emotional bonds and support for conservation is of course well-established within the literature, suggesting that empathetic responses towards wildlife and the environment commonly contribute to pro-environmental behaviour (Reddy et al. 2017; Schultz 2014; Boissat 2021). Public perceptions of wildlife, and individually species in particular will be influenced by several factors; here, emotions responses can play an important part in shaping behaviours (Berenguer 2007; Wright et al. 2015).

In similar terms, the idea of 'connection' was also discussed by interview participants in more metaphysical terms, as the idea of being 'spiritually connected' to the land, and therefore the

wildlife that inhabits it, was mentioned several times. This was specifically identified as a clear motivation for wanting to support the conservation of native of wildlife: both in terms of 'responsibility' and both in terms of 'shared future'. The idea of wanting to protect native wildlife for future generations as a motivational factor for conservation also emerged in the survey, as part of the specific additional information added by the respondents. In the New Zealand context, this focus on spirituality recalls aspects of Te Ao Māori, which emphasises humans' experience of the environment as one founded on relationship and guardianship; this is then reflected in the resource management concept of *kaitiakitanga* (Egan 2019; Kawharu 2000). The results of this research indicate that emphasising how humans and wildlife are part of a shared future could provide strong motivational foundations to grow the public's interest and support of conservation efforts.

Two interviewees also specifically mentioned that it was precisely the experience of feeling 'disconnected' from nature that hindered people's desire to be involved in conservation activities, or even see the value in supporting the conservation of native New Zealand wildlife at all. This was identified as a clear barrier for urban dwellers, where the experience of nature, and especially wildlife, is less likely to occur. The international literature has explored the negative impact of feeling 'disconnected' from nature can have on pro-environmental behaviour, as notions of 'caring' are reliant on that sense of closeness and belonging (Hatty et al. 2022; Hughes et al. 2018; Marras & Rapatahana 2023). In these terms, the results suggest that the overarching intrinsic motivation for supporting conservation could only be inspired in the public if that 'connection' with nature was (re-)established and maintained.

The perceived 'uniqueness' native New Zealand species was identified in the survey as being a possible motivational factor for conservation. Here. the association of native wildlife with ideas of uniqueness recalls narratives of identity construction that have been identified as salient within New Zealand political discourses within the existing literature. In particular, Skilling (2010) suggests that, in recent years, New Zealand political discourses has been characterised by a narrow set of 'identity markers' employed to build a picture of New Zealanders, and to inspire a sense of pride, such as creativity, flexibility, and innovation (Skilling 2010, 175). Notably, the idea of 'uniqueness' is central to this construction of national identity, placing an insistence on a common national vision, so that individuals' feel they hold a share in the future of the country (Skilling 2010, 175). Although Skilling does not discuss the place of native wildlife within discourses of identity formation for the New

Zealand context, the article's suggestion that ideas of uniqueness can instigate 'caring' about an issue for members of the public is highly valuable in relation to motivational factors for wildlife conservation and management. Indeed, following in Skilling's footsteps, other outcomes within the literature, specifically found that discourses of national identity can play a vital role in in mobilising environmental norms and pro-environmental tendencies (Van Lange et al. 2018; Milfont et al. 2020). The results of this research indicate that a perceived sense of uniqueness, as connected to national identity, has a clear impact on people's interest in supporting the conservation of native New Zealand wildlife.

Ideas connected to identity and a sense of belonging emerged in both the survey and interview results, especially as connected to ideas of community. Here, the desire to be with like-minded people, and the desire to be part of a group, emerged as a central motivation for being involved with conservation efforts and avenues, including following social media pages to feel motivated. Some of the interview participants, in particular, stressed the importance of making people feel involved through social gatherings that promote conservation activities. The results clearly indicate that there are perceived social aspects associated with being involved in conservation initiatives, especially as part of a community group, and that these have a clear impact on people's motivations to be involved. Therefore, notions connected to the tacit gaining of what can be regarded as a form of social value can be seen as an incentive for motivations and increasing the desire to be involved in conservation efforts, especially for volunteers. This echoes what has been found in the New Zealand and international literature, where a social desire to belong and feel included in groups is essential for pro-environmental behaviour and the tangible impact of conservation activities (MacDonald and Staats 2022; Gerolemou et al. 2022; Goedkoop et al. 2022). Here, social identification with community identification, and the interpersonal exchanges that go with it, might increase the likelihood of people become involved in a community initiative, and the likelihood to make this a continued commitment. In similar vein, the findings in this research appear to confirm that a direct link exists between the feeling of socially accepted and the ability to integrate into the community, and the motivation to pursue pro-conservation behaviour in the Auckland region.

6.2.2 Barriers

The results from this study showed that respondents from interviews unanimously identified 'time and money' as the primary barriers for the conservation of native New Zealand species in the Auckland. Time was particularly identified as a barrier to people's involvement in

hands-on conservation efforts, including habitat restoration, predator control and wildlife rescue and rehabilitation. These findings support the existing body of evidence in the literature that factors connected to 'time' consistently impact the ability for people to be involved in wildlife conservation efforts, especially within the context of urban living (Sextus, Hytten & Perry 2024; Innes et al. 2024; Ganzevoort & van den Born 2023).

Gender was also identified by one interviewee as having an impact on involvement in conservation efforts. This was perceived to be particularly true for women with children, who often also hold a job outside of the home. While it was found that women are often very keen to be involved, they struggle to find spare time to do so. The interview respondent discussed the clear difficulty for mothers to be involved as duties for familial care, including for children, often fall on women, leaving little additional time to pursue other activities outside of the bounds of work and family. This finding echoes the general conclusions in the existing literature, which discuss how spare time is an issue and a rare commodity for mothers, leaving little time for activities perceived to be part of leisure or simply 'personal interest' structures (Yerkes et. Al 2027; Shaw 2018; Mattingly & Bianchi 2003). This indicates that, although a personal motivation to support and be involved may be common in women and especially mothers, it is more difficult for them to be physically involved in volunteer conservation efforts. This finding suggests there might need to be a social and cultural re-think of how conservation managements activities are organised in the community, so that they can be suited to the family and lifestyle needs of all potential volunteers, including all women who are entrusted with the care of children.

Lack of funding was identified as a barrier both in terms of large-scale conservation efforts, organised by governmental, council-run, and volunteer entities, and in terms of the involvement of individuals with specific conservation activities. For organisations, including volunteer organisations such as native wildlife rescues, lack of capital represents a clear barrier in view of the costs involved in organising and completing efforts and activities. Receiving consistent funding, both via long-term national and corporate schemes, and via regular donations from the public, was clearly identified as essential for the undertaking of conservation activities, both small and large scale. Equally, money was found to be a barrier for individuals wanting to be involved in conservation efforts organised by known entities. This included the possible costs incurred in making their way to the identified location, and

any other materials that may be needed for completion, such as shovels, seeds, or traps, depending on the particular activity at hand.

Connected to factors related to both time and money, transport was also identified as a particular barrier to people's involvement. This relates to possessing or not possessing one's own vehicle, and the costs associated with using public transport to reach a specific location. This was found to be further hindered by the absence of public transport on occasions where the location identified for conservation activities was particularly remote. This is consistent with findings in the international literature, showing that lack of transport, or the costs involved in reaching a particular location via forms of transport, represent a clear barrier to some people's ability to be involved in conservation efforts and initiatives (Winch et al. 2021; Seymour & Haklay 2017; Sextus, Hytten & Perry 2024a). The issues associated with geographical access, and how these may impact the ability of people to volunteer as part conservation management actions, were a clear finding of this research. This suggests that providing transport for potential volunteers may increase the number of people becoming involved. This is, of course, contingent on other barriers such as funding being eliminated or mitigated, as one factor will likely influence the other in a noticeable increase in volunteer involvement.

A key barrier identified by interview participants was also related to factors connected to stakeholders 'not knowing' about conservation initiatives that were currently taking place This echoes existing empirical findings in the literature where 'not being involved' is often linked to a knowledge-action gap, drawing attention to importance of spreading awareness of conservation needs, tools, techniques and activities (Petrzelka et al. 2024; Roche et al. 2021); Sabo et al. 2024). The results in this research show that the 'not knowing' factor translates to both 'not knowing what to do or how to do it', or 'not knowing where planned conservation activities are taking place' in local areas. For the former, knowledge of how to tackle conservation efforts on private land was perceived to be particularly essential for the successful completion of native wildlife conservation, especially in terms of habitat presentation/restoration and predator control. It was also found that, in situations where knowledge of conservation threats and the management strategies needed is actually present, a barrier can also be found in the difficulty of translating information into action. Here, not knowing 'where to start' also generates feelings of isolation from the community and depression some private property and landowners, which eventually fuel apathy, creating

further barriers for involvement. This is reminiscent of similar findings reported by the international literature, especially in connection to large-scale farming communities such as those found in the United States and Canada (Buxton et al. 2021; Bosone et al. 2022). Literature focused on the New Zealand context has also presented insights into the factors that impact volunteering rates, and specifically the possible knowledge gap between awareness and action, both within and outside of the wildlife conservation context (Sextus, Hytten & Perry 2024a; Go et al. 2024; Kelly 2023).

Similarly, the lack of involvement could also be caused by individuals not being aware of conservation efforts and not receiving 'invitations' to take part. Here, the difficulties that organisations and conservation groups may encounter in communicating with the interested public may also hinder their involvement. The lack of engaging social media posts can be particularly noticeable in creating barriers for engagement, as social media is central to spreading awareness of conservation needs online and can therefore be central to conservation management activities (Winch et al 2021). This key finding shows there, although there might be a desire to support and engage in wildlife management activities, a lack of conservation knowledge and social connections for primary stakeholders within the community may be a significant barrier to engagement for members of the public. For both situations, the lack of an active community network for conservation creates barriers by fuelling disengagement, even when a desire to support conservation efforts already exists. Cooperation for conservation management from members of the public is therefore seen to be reliant on the maintenance of an active knowledge-sharing community network.

6.2.3 Enablers

The enabling role of the community in ensuring the success of wildlife management actions is well-established in the international literature (Brooks et al. 2013; Garaway et al. 2017; Fariss et al. 2022). In the New Zealand context, Sextus, Hytten & Perry (2024a) have shown how committed volunteers are the driving force of many successful conservation initiatives, whether community-based or instigated by official entities such as the Department of Conservation. There was a similar consensus among interviewees in this research that engagement from the community, and the continuous commitment of volunteers, were absolutely central for the ongoing pursuit of management actions such as habitat restoration and predator control. Members of the community, both as individuals and as part of active groups, have been encouraged to take action in tackling tasks that will support native wildlife.

These range from planting vegetation and weeding in areas that would support native species, or proactively pursuing predator control though the use of traps, especially on private land.

Public initiatives that involved community members were identified by interviewees as being particularly important aspects of carrying out essential tasks, while also gaining visibility. Motivational factors for this lie not only in clearly communicating the aims and goals of activities to the community, but also in establishing enabling frameworks for continued support. The role of the community in inspiring motivation for conservation efforts is also well-established in the literature which emphasises that management activities are generally more successful if the community is involved, both in Aotearoa New Zealand and internationally (Heimannn & Medvecky 2022; Email et al. 2023; Nillson et al. 2016). As the results for this research also indicate, the maintenance of knowledge-sharing and initiative-planning groups for the community is therefore a clear enabler in supporting native wildlife conservation and instilling a desire to be involved. Indeed, the effective management of community and knowledge-sharing groups, especially on platforms such as social media, plays an important role in recruiting participants for hands-on initiatives on site, encouraging donations, and educating members on the public on the "hows and whys" of what needs to be done to support the conservation of native species.

The results from this research suggest that factors connected to 'money, funding, and other financial incentives' are the biggest enablers for native wildlife conservation in the Auckland region. This is found to be particularly true for enabling involvements from members of the community, especially in a volunteer capacity. As a general concept, 'money' was consistently identified by interview participants as both a barrier as an enabler; as an enabler, money, either in the context of individuals or organisations, allows conservation efforts to take place. In the form of large-scale funding, from both governmental agencies and corporate entities, funding allows conservation entities to take place. In the context of smaller organisations and volunteer groups, including wildlife rescue and rehabilitation entities, funding is also an essential enabler as it allows for the purchase of needed tools, food, and the maintenance of facilities. One interview participant specifically mentioned that obtaining funding from a corporate entity allowed them to evolve their previously volunteer-run wildlife centre, which could only operate out of working hours and at weekends, to a full-scale facility with employed members of staff. A clear correlation was found here between receiving ongoing funding and being able to grow the reach and scale of native wildlife conservation

activities, ensuring a greater positive impact. The interviewee pointed out that there was a general certain unease among volunteer conservation groups about receiving funding from corporate entities, but that the benefits might outweigh the risks. It was therefore found here that corporate funding may indeed be a central enabler to conservation efforts and reach. This also reflects current conversations in the international media, where the 'future of conservation' has been connected to establishing links with corporate groups and receiving ongoing funding as a result (Larson et al. 2021; Anderson et al. 2008; Decker et al. 2019). While this may be a difficult agreement to secure, it might need to be part of ongoing investigations and consultations with stakeholders, in order to secure funding for native wildlife conservation in the Auckland region. A paradigmatic shift concerning the nature of stakeholders in conservation management may therefore be required.

In the context of smaller organisations and volunteer conservation, it was found funding generally takes the shape of private donations from the public, as public funding from entities such as Auckland Council is competitive and can be very difficult to secure. Public donations are generally the result of an interest in conservation that, as it was found, is the outcome of intrinsic motivations connected to an ongoing love and connection with nature. In this more contained context, it was found that funding and the love with nature are profoundly connected. In order to enable more conservation efforts to take place, via obtaining more donations of funds, it is therefore essential to foster responses to wildlife that will foster intrinsic motivations for supporting the conservation of native wildlife. It is discussed elsewhere in this research how social media can act as a central of conservation management by spreading knowledge, maintaining awareness, and educating the public, in an effort to maintain motivation for conservation and encourage participation in conservation initiatives. It is still important to note here, of course, that social media is not the only way of engaging the community, especially for members of older demographics. Therefore, an awareness must be maintained of additional and alternative ways of sharing knowledge and fostering motivations for conservation efforts in the community, which do not necessarily rely on the use of technology.

6.2.4 Social Media and Nature Documentaries as Enablers

It was found that another strategy for enabling wildlife conservation efforts in the Auckland region, and Aotearoa New Zealand overall, is the use of nature documentaries with specific

conservation content. The majority of survey respondents (87%) confirmed that they had watched documentaries about native New Zealand wildlife. The survey results also show that documentaries are able to elicit emotional responses about native wildlife, and that certain responses are found to be more prominent than others and they have specific outcomes. Becoming more 'aware' of animal welfare and conservation issue was the primary outcome of watching documentaries about native New Zealand wildlife. This was found not only by the frequency of choice of the pre-determined answers for the survey question, but also by the additional answers provided by the participants in the 'Other' section, where 'learning' and 'awareness' were identified as central responses and outcomes to watching wildlife documentaries. It is important to mention, however, that there was no clear indication in the results as to whether this 'awareness' actually leads to any changes in behaviour, and if it indeed specifically encourages any pro-environmental behaviour at all.

The value of nature documentaries as a source of information of wildlife information was also identified by Interviewee 2, and that documentaries about native New Zealand wildlife were especially important to share conservation information about less publicised, but often highly threatened species. The participant specifically identified documentaries as helping her to learn more about nature, and to feel more 'connected' to nature. This was seen as particularly important in the urban context of Auckland as a city, where the need to 'connect' with nature appears to be more of a priority. The fact that native wildlife documentaries were identified as not only helping to educate the public, but also to create a connection to nature here is significant. This suggests that documentaries might hold specific information-rich educational capacities for people in the Auckland region, fostering a motivational connection. This finding is not particularly surprising, as the international literature has amply shown documentaries are educational and can be used to teach about the environment (Downs et al. 2023). Some findings in the literature also suggest that watching documentaries can specifically lead to pro-environmental behaviour, including lifestyle choices such as recycling and catching public transport more often (Arendt & Matthes 2014; Boissat et al. 2021; Ibanez & Roussel 2022).

The literature has found that, historically, the connection with nature (or, CNT) has been cultivated in people through spending time in the outdoors and having hands-on experiences with nature (Downs et al. 2023). However, from the mid-20th century onwards, indirect nature experiences have also been afforded to people via the use of technology, including broadcast

television. One of the most popular and well-known methods of blending screen media with the outdoors has been found to be through nature documentaries (Koblin, 2020). Documentaries focused on wildlife have been found to be particularly efficient in fostering people's CNT, allowing a closer look into the lives of animals (Downs et al. 2023). Studies have explored the impact of viewing nature documentaries on establishing CTN and have found that this can foster intrinsic motivations and cultivate pro-environmental behaviour, including engaging in pro-conservation activities that preserve habitat for wildlife (Arendt & Matthes 2014; Bruni and Schultz 2010; Dunn et al. 2020; Hynes et al. 2020). Placed within this context, the results in this research indicate that there is a potential for documentaries to be used in enabling conservation efforts, with uses and aims ranging from fostering intrinsic motivations to be involved to specifically educating the public on how to support conservation in practice, in both private and public settings.

One of the aims of the survey was to explore if social media can be used effectively as a tool for enabling efforts focused on wildlife conservation and management. The majority of the respondents confirmed that they already followed social media pages and accounts focused on the conservation of native New Zealand wildlife. This was expected, given that the survey was primarily distributed via social media platforms. What is particularly of note is that the respondents identified learning about the specific species of animals, as well as any current animal welfare and conservation issues, as primary reasons for following these pages. There was also consensus in the interviews about the effective use of social media in capturing the public's imagination about the current status of native New Zealand wildlife, the threats that they are facing, and what is being done for their protection and conservation. The focus on learning and awareness here is in keeping with what the international literature has found in relation to the uses of social media to support wide conservation efforts. Particular studies conducted in different global geographical regions have found that social media is particularly useful in raising awareness of conservation issues and supporting efforts in the community by spreading knowledge about currents activities and needs (Shan et al. 2022; Riddle & McKay 2020; Bergman et al. 2022; Schellnack-Kelly 2024; Wu et al. 2018).

The international literature has also found that an active engagement with social media pages focused on native wildlife can encourage pro-environmental, and specifically pro-conservation, behaviour (Liao 2024; Shen et al. 2023; Zhang et al. 2022. This was also particularly identified in the findings from the interviews, as related to the New Zealand

context. The interviewees confirmed that seeing posts about specific native species not only generates interests but make people more open to the idea of conservation and to the need to prioritise actions to preserve native wildlife. Seven out of eight interviewees specifically discussed how social media posts can successfully function as 'calls for action' and are essentially for not only spreading news about conservation efforts, but also for inviting people to participate in initiatives. Interviewee 1 was particularly clear is stating that without social media, it would be extremely difficult to spread the news about conservation needs and efforts and invite members of the community to take part in initiatives as essential volunteers. This echoes the findings in the international literature, showing a connection between the success of social media pages on encouraging pro-environmental behaviour and the closeness of the community to the efforts required for the conservation of native wildlife (Song et al. 2021; Liao 2024; Meng et al. 2023).

Findings in the interviews also show that geographical proximity is particularly important in growing interests and involvement for communities, and that social media pages and posts focused on the activities pertaining to particular areas and neighbourhoods are essential for encouraging proactive environmental behaviour. This indicates that social media pages are important for not only spreading knowledge about native species, but also growing the interest of local communities in the Auckland region as an essential part of wildlife conservation and management.

Interviewee 1 suggested that while members of the community may care about wildlife conservation in general, they might struggle to see how specific environmental efforts will impact on the native species themselves. Here, specifically aimed social media posts can help members of the community to make connections between habitat preservation activities and the thriving of native wildlife, as this might not already be clear in people's minds. The suggestion was that if members of the community, including landowners, are not aware of conservation and environmental management needs, they might not be prepared to make efforts to support them. Social media posts, then, can function as one important way to spread knowledge with the aim of encouraging members of the community to not only support, but take part in initiatives that mitigate threats to wildlife. What is particularly of note here is the importance of social media in wildlife conservation management, in order to combat a spreading sense of apathy. This echoes the finding in the international literature, where the connection between social media posts and forms of activism for wildlife conservation has

been established (Smith 2024; Boulianne & Ohme 2021; Sanford et al. 2023). The findings in the interviews suggest that social media can be successfully used to generate engagement in wildlife conservation and management activities in the Auckland region, especially where the call for volunteer involvement is central to the success of initiatives to preserve and restore habitat.

Interviewee 4 also stated that that they could clearly see a connection between regular posts on their rescue organisation's social media pages and the influx of funding donations from the public. Indeed, the participant stated that if the frequency of social media posts decreased, so would the donations from the public. The participant confirmed that their social media posts about specific rescue and rehabilitation efforts would be not only accompanied by information about the specific species, but would also generally include public request for funds, inclusive of online donation links. The direct connection between social media posts and money donations from the public here is of note, and echoes the findings in international literature, where consistent sharing of social media posts on conservation page can result in a direct increase in funding Bergman et al. 2022; Takashina et al. 2022; There was a suggestion here that these posts gave people who were generally feeling disconnected from hands-on conservation efforts (for whatever reason) the opportunity to feel involved and to make a contribution to support native wildlife. Indeed, international literature has found that changing lifestyles and modern urban living have contributed to a disconnect between people and nature, and decreased knowledge of wildlife and conservation (Beery et al. 2023). This has been generally found to be particularly true for children and adolescents living in urban areas, as outlined in studies carried out in the US (Aaron & Witt 2021; Dickinson 2013; Capaldi et al. 2014; Dobrin & Kenneth 2004).

The success of social media posts in encouraging donations from the public was found to be particularly noticeable in relation to posts by a local wildlife rescue organisation about specific injured animals, and the efforts undertaken to support their journey to recovery. Here, there appears to be a direct correlation between the establishment of 'hope stories' and the desire for people to engage in pro-environmental behaviour as part of the conservation narrative for the Auckland region. This does not necessarily come as a surprise, as (generally speaking) the correlation between specific animal stories and the public interest in supporting wildlife conservation is clearly established in findings in the literature (Dean & Wilson 2022). The very notion of 'hope', and its connection to feelings of environmental optimism, emerges

here as having an important part to play in the future success of conservation (Park et al. 2020). While donating funds to a native wildlife organisation is an indirect form of conservation engagement, it is an essential part of supporting efforts and strategies for wildlife conservation management. There is a clear indication here for a clear need to consistently develop the use of social media to generate interests and engagement, both direct and indirect, in the Auckland region.

6.3 Limitations

One limitation of this research was that no data concerning behavioural aspects emerged clearly from the survey. This is because no direct behavioural questions, especially in relation to any current involvement in native wildlife conservation efforts, were included in the survey. These aspects, therefore, remained largely unaddressed by survey respondents. Only the broader motivations for supporting conservation were addressed in the survey, and the respondents were not asked to provide any information regarding specific barriers or enablers. Similarly, personal motivations for supporting conservation, or for possibly being directly involved in conservation efforts, were not clearly covered in the survey. This limitation was a result of the fact that the behavioural focus of this research, particularly in relation to motivations, barriers, and enablers for conservation in the Auckland region, was decided upon after the survey had already been conducted. The researcher recognises that asking clearer and more pointed questions about the respondents' current involvement in conservation efforts, as well as motivations, barriers, and enablers for native wildlife conservation, for both individuals and organisations, would have improved the quality and relevance of the survey data, and made them more attuned to the objectives and content of the interviews.

One additional limitation in the data for the survey is the fact that the perspectives recorded were primarily those of Pākehā women in the 36-64 age group. As a result, the discussion focused on key findings related primarily to this demographic group. Multiple attempts were made at attracting participants belonging to more ethnicities and more genders to the survey; this included circulating aimed invitations asking specifically for more diverse respondents. Unfortunately, this did not create a noticeable increment in survey uptake from men and other genders, or ethnicities other than Pākehā. While it would have been desirable to gain insights from more diverse participants, especially Māori, this does not negate the value of the

perspectives recorded in the survey. Although the sample, and the data and insights that resulted from analysis, are not representative of the whole conservation community in the Auckland region, all survey participants still met the criteria for the study and provided relevant perspectives.

6.4 Summary

This Chapter interpreted and discussed the results of this research, with a particular focus on new findings that emerged. The findings were discussed in relation to the existing literature, with both an international and New Zealand focus. The current threats to native wildlife identified in the Auckland region were discussed, together with associated management actions, and what prevents these from being successfully pursued. Relevant literature was used to contextualise current approaches to habitat restoration and predator control, as the two primary threats. Perspectives on the relationship between local conservation efforts and larger environmental issues, such as climate change, were also discussed.

Behavioural characteristics were then discussed in relation to the motivations, barriers, and enablers for native wildlife conservation in the Auckland region, for both individuals and organisations. This was done in order to understand more clearly what inspires people to be involved in wildlife conservation initiatives, and what stops them from doing so, especially in terms of practical hindrances, such as time, geographical distance, and a lack of knowledge of conservation initiatives. Overall, funding was identified as the primary barrier to conservation efforts, and the implications of this were discussed. Enablers for conservation were particularly discussed in terms of how to support and encourage recruitment and retention of volunteers for conservation groups in the Auckland region. Within this, the use of social media as an efficient tool was determined to be particularly useful in terms of enabling knowledge-sharing, awareness of conservation efforts, and building a strong community network for conservation. Nature documentaries were identified and discussed as being potentially very useful in encouraging pro-environmental behaviour, and inspiring support for conservation efforts, both local and large-scale. The interconnectedness of barriers and enablers was also discussed, drawing attention to possible strategies and implications for environmental managers moving forward.

Chapter 7: Conclusion

This research aimed to determine the perceived motivators, barriers, and enablers of native wildlife and conservation in the Auckland region of Aotearoa New Zealand, as identified by people already interested and involved in wildlife conservation efforts, in both paid and volunteer capacities. To achieve this aim, two objectives were set. Firstly, exploring the primary threats to native wildlife, and the most important management actions needed for conservation, as perceived by the participants. Secondly, exploring the participants views on perceived motivations, barriers, and enablers of conservation efforts in the Auckland region, for both organisations and individual stakeholders. This research was guided by a conceptual framework which was sited in Conservation Social Science as a disciplinary framework, and employed existing literature focused on the emotional, social, and cultural factors that might impact motivations, barriers, and enablers for support of and involvement in conservation activities. This Chapter summarises the key findings, outlines the implications of the findings for conservation management, and provides suggestions for future research to further the understanding of motivations, barriers, and enablers of conservation efforts in the Auckland region.

7.1 Key Findings

This research has shown that the motivations of people supportive of and involved in conservation efforts are primarily intrinsic, and fuelled by a love for nature and a desire to see native wildlife thrive. The feeling of 'happiness' derived from seeing wildlife thrive was identified as a central motivating factor for involvement in conservation efforts. This supports the findings of the international literature, where emotions are seen to influence people's views over conservation management (Castillo-Huitrón et al. 2020; Coghland & Prideaux 2008; Prinz 2004). A desire for inclusion were also found to be motivating factors for people's involvement in conservation efforts, especially in a volunteer capacity. Here, the impact of a socially active and welcoming conservation community was seen to be a central behaviour for the success of initiatives. This reflected the majority of the findings in the existing literature, both in Aotearoa New Zealand and internationally, where 'social capital' plays a central role in creating motivations for being involved in conservation activities (Gerolemou et al. 2022; Pretty & Smith 2004; Auer et al. 2020). Overall, the social aspects of conservation initiatives, and the conservation community that supports such efforts, emerged as strong

motivators and enablers for people involved in conservation, in both paid and volunteer capacities.

This research found that participants from the Auckland region perceived barriers and enablers to conservation to often be interconnected, and that removing or mitigating particular barriers were crucial to enable more efficient conservation efforts, especially for potential volunteers. This was found to be particularly relevant for general barriers such as funding, and more practical barriers such as lack of transport. This was in keeping with the empirical evidence already put forward by the international literature, in relation to both wildlife conservation and sustainable practices (Soanes et al. 2023; Sánchez-Arcilla et al. 2022; Heat et al. 2021). A lack of time was recognised as a central barrier to people's involvement in conservation efforts. Unfortunately, no related enablers were directly identified as an outcome of this research, except perhaps the possibility of making conservation efforts (such as planting initiatives) easy to access and brief, so that they are easy to complete for volunteers. A lack of knowledge and awareness about conservation initiatives, and the management actions required to support the conservation of native wildlife, was also found to be as a barrier to people's involvement in conservation efforts. Here, the use of social media and documentaries was clearly identified as an effective enabler in generating interest and building an effective conservation community in the Auckland region.

This research illuminated the need to maintain an active network of communication for the sharing of information and education, in order to expand the reach and effectiveness of the conservation community. While the findings support intrinsic factors as primary motivators, they also pinpoint highly practical factors such as lack of knowledge and not knowing what to do as central barriers to conservation efforts, especially for private landowners. This research identified the need for a continuous upkeep of information-sharing practices as essential for the management and success of conservation initiatives, including securing funding in the form of private donations. Similarly, the focus on information-sharing, awareness, and education was identified as essential for reaching segments of the population who are not already involved in conservation efforts, but whose involvement and support might be essential in the future, such as children and young adults. Visibility and awareness of issues was also identified by participants as essential for fostering motivations to support conservation.

This research supports an increasing body of empirical evidence that explores the conservation behaviours of members of the public and confirms that participants in the Auckland region share similar motivations and perceptions of barriers and enablers for conservation as others do in other areas of the world (Sextus, Hytten & Perry 2024; Gerolemou et al. 2022). Overall, the views reported by the participants are also generally in keeping with the findings of existing research focused on the New Zealand context, including the identification of primary threats to wildlife being habitat loss and the impact of introduced predators (O'Donnell et al. 2017; Peltzer et al. 2019; Clarkson 2022).

7.2 Implications for Management

Several implications for management have emerged as a result of the findings in this research. These are primarily connected to possible strategies to maintain an effective communication, awareness, and education network for the conservation community. The implications for management are connected here to the identified motivations, barriers, and enablers, and are focused on how to make the best of existing avenues in order to mitigate challengers and encourage involvement in conservation efforts.

7.2.1 More Opportunities for the Public to be Involved

In order to encourage a greater uptake in conservation efforts, it might be useful for managers to create more opportunities for the public to be involved. Encouraging interactions with native species in need of conservation management might encourage more support and involvement. Opening up spaces and locations that people can come and visit regularly might be an effective strategy, so that the public can create more of a connection with animals and the environment overall. Regular open days at conservation facilities, including rescues, might be a way to spread awareness, knowledge, and a sense of 'caring', by creating a closeness to native species (McLeod et al. 2024). Seeing species up close, and becoming familiar with the work that is being done to conserve them, might inspire a greater desire to support conservation efforts in multiple ways. Events targeted at families with children may be particularly successful in generating interest and support, both philosophical and financial. Mobilising social media to raise awareness of these events would be a possible enabling action for success.

7.2.2 Leveraging Social Media for Conservation Support

As social media was also identified as a clear enabler in facilitating interest in conservation efforts, then the use of different social media platforms can also be mobilised to reach members of the community across demographics. While participants mentioned the regular use of Facebook as a platform, there was also a worry about reaching younger demographics, fostering a love for nature, and facilitating pro-environmental (and specifically, pro-conservation) behaviour in the Auckland region, especially in more urban areas. The more wide-reaching use of platforms such as TikTok, which are known to be commonly preferred by younger demographics, may increase the uptake of involvement in conservation efforts for those groups (Dubey et. al 2025).

As habitat loss was identified by the participants as a primary threat to native wildlife in the Auckland region, and habitat restoration is the primary management action needed, social media channels can also be effectively used to spread awareness of initiatives taking place and invite members of the community to take part. As the love for nature and happiness in seeing biodiversity restored were identified as motivating factors, growing an interest in conservation efforts focused on areas that members of the community see regularly may decrease some barriers and increase the uptake in conservation activities (Winch et al. 2021). The use of social media can also be leveraged more effectively to encourage a greater influx of donations from the public, by creating posts that by encouraging a motivational connection with and 'love' for nature, and which show the impact that additional funding can have on the thriving of specific species.

Social media can also help in addressing the environmental and conservation issues of less-discussed areas in the Auckland region, and the threats that native wildlife are facing. Awareness of issues was identified as a potential barrier to people's support of conservation; similarly, social media emerged as a clear channel for spreading and growing that awareness, together with bringing together like-minded people within the community. Therefore, social media might effectively be mobilised to run information-sharing and education campaigns about conservation issues (Xie et al. 2024). This may be particularly useful for information and specific areas of knowledge not commonly covered in traditional news media, such as television, in relation to lesser-known threated species of native wildlife, and the need to create and maintain reserves and other protected areas in the Auckland region.

Documentaries can also be used in this fashion to spread awareness of the threats posed to native wildlife in less published areas within the region. Sharing documentary snippets on social media may also help in reaching greater segments of the population.

Nonetheless, it is important to recognise that a greater social media presence for conservation groups, especially if community-run, will necessitate a greater commitment in terms of time, and possibly money. The ability to operate various social media platforms may also create a barrier, especially if managers and leaders of conservation groups are not familiar with the use of specific technologies. Considerations about costs may also need to be explored, as a greater engagement with social media across platforms may entail an engagement that goes beyond volunteer hours, and may require a coordinator working consistent hours on a weekly basis. Therefore, funding may also still be a barrier to greater social media mobilisation.

7.2.3 Addressing Practical Barriers such as Time and Geographical Distance

As time and geographical distance were perceived as clear barriers for volunteer involvement, a need has emerged to organise conservation efforts that are not too time-consuming and that are within easy reach of the local community. It will then be important to plan initiatives that target local individuals that live in specific geographical areas, so to encourage familiarity and reduce the time involved in conservation tasks by eliminating long-distance travel. This might be an effective way of reducing some of the practical barriers that hinder volunteer involvement. Here, social media posts and the circulation of posters in shared spaces can be used as effective enabling tools to target specific communities, so to encourage a greater uptake for volunteers who reside in the area where conservation initiatives are taking place.

7.2.4 Fostering Larger Conservation Networks

Although social media can be an effective tool for spreading awareness and encouraging involvement in conservation efforts, they are clearly not the only one. It remains essential to engage with the public in ways that resonate with different demographic segments within the Auckland population. Social media might fail to reach members of the community from older demographics, especially retirees in the over 65 group (Savage et al. 2022). Opportunities to diversify the volunteer pool should be pursued widely. It is therefore important for conservation managers to still maintain knowledge networks outside of social media,

facilitating exchanges via more traditional avenues, such as community centre notice boards and newspapers, as well as email chains.

7.2.5 Increasing Funding for Community Conservation Groups

The findings in this research show that volunteer organisations make invaluable contributions to the conservation of native wildlife in the Auckland region. And yet, it is also clear that not enough funding is available from Auckland Council to aid efforts and initiatives. While financial implications can be difficult to manage, it is a clear outcome of this research that funding is a central enabler for conservation, and more is needed to aid volunteer organisations and community groups. Therefore, a clear suggestion here is for Auckland Council, as well as central government, to re-think their budgets and financial planning, including the ways in which funding grants are allocated, in order to make financial aid for conservation more accessible. Even a modest increase in funding for conservation groups within Auckland Council's budgets could make a significant difference to the effectiveness of community conservation initiatives in the long run.

7.2.6 Further Investment in Conservation Strategies

Clear pride in the uniqueness of native wildlife species was clearly detected across the research, as well as the love for a thriving natural environment, which is often synonymous with Aotearoa New Zealand as country, both domestically and internationally. There appears to be, however, a disconnect between the image of the country that people hold, and the status of our environment in practice. Therefore, it is a suggestion of this research that there needs to be an investment in conservation strategies that match the image of a "100% pure" New Zealand with environmental practice. This includes the possibility of developing more encompassing and multi-species conservation strategies, in an attempt to decrease the number of threatened wildlife, as a possible way forward with conservation planning already identified by previous research (Towns and Williams 1993; Runge et al. 2019; Bardey 2020; Byers et al. 2022). Maintaining habitat areas for native wildlife will be of central importance; in the Auckland region, more mindful urban development planning will be of central importance. Here, support from the public in developing effective conservation policies will be an essential part of successful environmental strategies moving forward.

7.3 Future Research

This research intended to understand the perceived motivations, barriers, and enablers of native conservation in the Auckland Region of Aotearoa New Zealand, as identified by people already involved in wildlife conservation efforts, in both paid and volunteer capacities. At the same time, the research aimed to explore the primary perceived threats to native wildlife and reasons for supporting conservation, together with associated management actions. While the research was successful in doing so, it was also mainly exploratory and was conducted over a short period of time. As a result, it was not fully possible to explore all the factors that influenced motivations, barriers, and enablers for native wildlife conservation in the Auckland region, for different segments of the population. Therefore, further research is recommended. One of the areas that might warrant further investigation is the possible motivations and barriers for members of the public who are not already involved in conservation efforts, and what enablers might allow actual physical involvement to take place.

Specifically, future research might benefit from a survey that includes explicit behavioural questions connected to wildlife conservation, and specific factors that may impact motivations, as well as perceived barriers and enablers. Having greater and more focused understanding of the views of the general public, and not just of people who already support conservation efforts, might assist environmental managers (especially those affiliated with district and regional councils) to determine if a correlation exists between specific behavioural factors and the success of conservation initiatives. Further investigation into social media platforms and documentaries as catalysts for environmental change may also foreground evaluations of conservation behaviour that might shape future interventions. This might also assist environmental mangers in in devising and implementing specific conservation policies in the Auckland region, which might include greater expansion of enablers such as further financial incentives and social media networks in support of the conservation community.

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Appendices

Appendix 1: Survey Information Sheet (as viewed in Qualtrics)

Hello, my name is Lorna Piatti-Farnell, and I am a student at Massey University. I am currently undertaking a Master's degree in Environmental Management. This survey is part of my thesis' research project, entitled 'Wildlife Matters: Exploring how perceptions of native wildlife influence people's attitudes towards conservation in Aotearoa New Zealand'. The project is supervised by Professor Diane Pearson.

The primary aim of the study is to investigate how people's perceptions of native wildlife – shaped by emotional responses, relational values, and previous experiences, often impacted by factors such as gender, ethnicity, provenance, spiritual belief, and encounters – might influence their attitudes towards conservation in Aotearoa New Zealand.

The submission deadline for my thesis is January 2025. The thesis will be completed as partial fulfilment of the requirements for the Master of Environmental Management degree.

Student's email address: lorna.piatti-farnell.1@uni.massey.ac.nz
Supervisor's email address: d.pearson@massey.ac.nz

Human Ethics:

Massey University takes human ethics very seriously and carefully considers the implications of the work undertaken. The researcher has developed this study following the Massey University Code of Ethical Conduct for Research, Teaching, and Evaluations involving Human Participants 2017. The ethical principles identified in the document have been applied to this project.

This project has been evaluated by peer review and judged to be Low Risk. Consequently it has

not been reviewed by the University's Human Ethics Committees. The researcher is responsible for the ethical conduct of this research. If you have any concerns about the ethical conduct of this research that you want to raise with someone other than the researcher or supervisor, please contact Massey University Human Ethics by email: humanethics@massey.ac.nz.

How this benefits you:

By participating in the survey, you will be able to make a difference by sharing your voice and ideas about wildlife and conservation matters as part of University-run research.

The survey:

This survey is completely anonymous, and does not include any requests for identifying information. The questions are not of a sensitive nature.

The survey should take approximately 3-4

minutes to complete, depending on the participant's answers.

Anonymous participants will be referred to in the thesis as follows: Participant 1, Participant 2 etc., according to the order in which survey responses were received.

The data in this survey is only to be used for this study and it will be stored securely with access restricted only to the researcher and the supervisor.

Participants:

In order to take part in the anonymous survey, participants must be:

- 18+ years of age
- New Zealand residents, living in the broader Auckland, Christchurch, Dunedin, Tauranga, and Wellington areas
- Able to read and write in English (as the survey will be conducted in English only)

Participants' Consent:

A consent question will be asked before you undertake the survey. By granting your consent, you acknowledge your understanding that the results from your answers will be used as data to be analysed as part of my thesis project.

If you do not grant consent for your answers to be used, you will not be able to progress with the survey.

No judgment or expectation is imparted by the researcher on any participants and their answers, so please answer truthfully.

Participants have the right to decline any question, and withdraw at any time. However, once your answers are submitted, you understand that it will not be possible to recall your responses. Participants have the right to ask questions about the study, and request a summary of project findings.

Appendix 2: Survey Questions (as viewed in Qualtrics)

Do you consent to your answers in this anonymous survey being used in the research project described above?

- ○ Yes
- ○ No

What gender do you identify with?

- ○ Male
- ○ Female
- ○ Non-binary
- ○ Prefer not to say
- ○ Other (please specify)

What is your age?

- ◯ 18-25
- ◯ 26-35
- ◯ 36-45
- ◯ 46-55
- ◯ 56-64
- ◯ 65+

What is your ethnicity?

- ◯ New Zealand European (Pākehā)
- ◯ Māori
- ◯ Samoan
- ◯ Cook Islands Māori
- ◯ Tongan
- ◯ Chinese
- ◯ Indian
- ◯ Other

TE KUNENGA KI PŪREHUROA | MASSEY UNIVERSITY
UNIVERSITY OF NEW ZEALAND

Do you think it's important to support the conservation of native New Zealand wildlife?

- ○ Yes
- ○ No

Please select the reasons why you think we should focus on the conservation of native New Zealand wildlife.

- ☐ Because they are often endangered
- ☐ Because they are cute
- ☐ Because they are important to ecosystems
- ☐ Because they are vulnerable
- ☐ Because they are beautiful
- ☐ Because they are taonga
- ☐ Because they are important for tourism
- ☐ Because it is their right to live
- ☐ Because they make me feel happy
- ☐ All of the above
- ☐ Other (please specify)

Are any specific species of native New Zealand wildlife 'your favourite'? Please provide details, including why.

Are there any specific species of native New Zealand wildlife that you dislike? Please provide details, including why.

Do you follow any accounts/pages on social media focused on native New Zealand wildlife?

- ◯ Yes
- ◯ No

Why do you follow social media pages/accounts focused on native New Zealand wildlife?

- ☐ The animals are cute and adorable
- ☐ I feel that I learn new things about animals
- ☐ The pictures and videos of the animals make me feel happy
- ☐ The pages/accounts make me aware of animal welfare issues
- ☐ The pictures and videos of the animals are funny
- ☐ Other (please specify)

Have you ever watched nature documentaries about native New Zealand wildlife?

- ◯ Yes
- ◯ No

How do documentaries about native New Zealand wildlife make you feel?

- ☐ Happy
- ☐ Relaxed
- ☐ Thoughtful
- ☐ Involved
- ☐ Entertained
- ☐ Curious
- ☐ Sad (when animals are shown hurt, in danger, or dying)
- ☐ Aware (of animal welfare and conservation issues)
- ☐ Other (please specify)

Have you ever encountered/seen species of native New Zealand wildlife?

- (●) Yes
- ( ) No

Where have you primarily encountered/seen native New Zealand wildlife?

- [ ] In the wild (in the bush, on the beach, in an open reserve, in a park, etc.)
- [ ] In a zoo
- [ ] In a wildlife conservation centre
- [ ] In a sanctuary
- [ ] Other (please specify)

Have you ever rescued an injured native animal?

- ( ) Yes
- ( ) No

In your opinion, are there any activities/plans that should take priority over the conservation of native wildlife?

- [ ] Economic ventures/business plans
- [ ] Building houses/accommodation
- [ ] Building roads
- [ ] Agriculture
- [ ] Mining for resources
- [ ] Water sourcing and distribution
- [ ] Tourism
- [ ] All of the above
- [ ] Other (please specify)

- [ ] No activities should take priority over the conservation of native wildlife

We thank you for your time spent taking this survey.
Your response has been recorded.

Appendix 3: Interview Participant Information Sheet

Wildlife Matters: Motivators, Barriers and Enablers of Native Wildlife Conservation in the Auckland Region of Aotearoa New Zealand

PARTICIPANT INFORMATION SHEET

You are invited to take part in this research project, which I am undertaking in partial fulfilment of the requirements for my Masters of Environmental Management at Massey University. The aim of the study is to investigate the motivators, barriers, and enablers of wildlife conservation in the Auckland region of Aotearoa New Zealand.

Voluntary Participation, Consent, and Anonymity

You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- decline to answer any specific questions.
- ask any questions about the study at any time prior and during participation.
- ask for the recorder to be turned off at any time during the interview.
- withdraw from the study within one week from the date of the interview.
- be given access to a summary of the project findings when it is concluded, if desired.

In order to take part in the study, participants will be asked to sign a consent form prior to the interview taking place. By granting your consent, you acknowledge your understanding that the results from your answers will be used as data to be analysed as part of this thesis project. The data in the interviews will only be used for this study, and will be stored securely with access restricted only to the researcher and the supervisor.

The Interviews

The interviews will take approximately 45 minutes - 1 hour. They will be conducted online via Zoom, and will be video and audio recorded. The interview questions are not of a sensitive nature, and are focused on people's experiences as connected to the conservation of native New Zealand in the Auckland region. No compensation will be available to participants for taking part in this study.

If you have any questions please do not hesitate to contact me or my research supervisor:

Researcher: Lorna Piatti-Farnell (lorna.piatti-farnell.1@uni.massey.ac.nz)
Supervisor: Professor Diane Pearson (d.pearson@massey.ac.nz)

Ethics:

This project has been evaluated by peer review and judged to be low risk. Consequently, it has not been reviewed by one of the University's Human Ethics Committees. The researcher(s) named above are responsible for the ethical conduct of this research. If you have any concerns about the conduct of this research that you wish to raise with someone other than the researcher(s), please contact the Director, Research Ethics, email humanethics@massey.ac.nz

Appendix 4: Interview Participant Consent Form

Wildlife Matters: Motivators, Barriers and Enablers of Native Wildlife Conservation in the Auckland Region of Aotearoa New Zealand

CONSENT FORM

I confirm that that:

- I have read and understood the Participant Information Sheet.
- I have been given sufficient time to consider whether or not to participate in this study.
- I am satisfied with the information I have been given regarding the study and understand that I can ask questions at any time.
- I understand that taking part in this study is voluntary (my choice) and that I may withdraw from the study within one week after the date of the interview.
- I understand that, while my identity and my participation in this study will be known to the researcher and the supervisor, any data pertaining to my answers will be anonymised in the final thesis.

Declaration by participant:

☐ I consent to take part in this study.
☐ I consent to the interview being recorded.

Participant's name (printed): _____

Signature: _____ Date: _____

Appendix 5: Indicative Interview Questions

- What do you think are the biggest threats to native wildlife in Auckland?
- What do you think needs to be done to conserve wildlife in Auckland?

- Tell me about how you came to be interested in wildlife
- Are you currently involved in any conservation efforts?
    - If yes, tell me about your involvement? What encouraged you to get actively involved? For how long have you been involved?
    - What are your personal motivations for being involved?

    - If not involved in any physical activities…why are not involved in any physical conservation activities? What stops you from being involved in that way?
    - What stops you from being involved more?
    - Have ever encountered specific barriers that at first made things difficult for you to be involved, but that you did overcome?

- What has helped you so far to get to where you are? [as either an individual or an organization, or both, depending on who the person is]
- What would help you to be involved more or do more?

- From your experience - What do you think makes people more or less likely to be interested in wildlife conservation?
- From you experience - What do you think prevents people participating or even supporting wildlife conservation?
- From your experience - What can we do to get more people interested in/involved with wildlife conservation in Aotearoa New Zealand? Especially for sections of the public who are not already interested or supportive?

- Is there anything else you'd like to add, perhaps focused specifically on your experience in conservation, that we haven't covered, and what is needed.