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**Exhibiting Care in Captivity:  
Charisma, Design and Animal Welfare in Visitor Experience and Education at  
Hamilton Zoo**

A thesis  
submitted partial fulfilment  
of the requirements for the degree  
of  
***Masters of Environment and Society***  
at  
**The University of Waikato**  
by  
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2025

## Abstract

As urban spaces grow, New Zealanders have become increasingly separated from nature. Zoos are locations where the public can interact with exotic animals, sometimes for the first time. Employing ethnographic research methods, this study investigates how conservation education opportunities are created by the Hamilton Zoo staff, and how the visitors to Hamilton Zoo engage with this education and messaging during their visits. This research found that the charisma of animals in zoos is one mediating factor in how visitors may become invested in conservation education. This research also found that the design of the enclosure, and other zoo spaces may also limit or enhance a visitor's educational experience in the zoo. This is both in terms of how accessible the animal is for viewing, and how visitors may understand welfare conditions at a zoo, potentially impacting their support for zoos and their conservation goals. These factors drive how zoo visitors perceive the zookeepers, and Hamilton Zoo more generally, in their position as experts. The education of visitors to Hamilton Zoo on local and global conservation issues is most effective in circumstances when these visitors are able to connect with the animals. This might be through behind-the-scenes encounters, conversations with keepers or when the animals in the enclosures are easily visible and active.

## Acknowledgements

I would like to first acknowledge and thank my supervisors, Dr Bronwyn Isaacs and Dr Kate Stevens, for their time, patience and support during the process of my research. Without the insights, guidance and encouragement from you both, countless revisions on my drafts and the never-ending job of figuring out appropriate deadlines and goals, I would most certainly not have completed this.

Secondly, I extend my appreciation to all of the staff at Hamilton Zoo and Waiwhakareke who provided me with the opportunity to complete this research, from access, interviews and general information. Without your engagement, I would have nothing to write about.

Finally, I would like to thank everyone else who supported me throughout the process of my research and writing. Words cannot express what a vital role you have all played in keeping me on track, motivated and enthusiastic.

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## Introduction

With an estimated eighty percent of people in New Zealand living in urban areas, New Zealand society is becoming increasingly disconnected from the natural world (Seah 2025). This is part of a global trend, with fewer people belonging to ‘environmental organisations’ (Nisbet, Zelenski and Murphy 2008). With urban expansion, zoos are increasingly becoming incorporated into cityscapes, while simultaneously becoming locations of connection and education between people and the environment. The primary focus of most zoos globally is visitor experience (Montgomery 1995). Surveys at zoos have shown that members of the public develop increased feelings of care towards the environment after zoo visits (Grajal et al. 2016).

At 45 hectares, Hamilton Zoo is the largest zoo by land area in New Zealand and houses over 450 species of animal (Hamilton Zoo 2025a). Hamilton Zoo is managed by Hamilton City Council as part of Te Kaaroro Nature Precinct, a combination of the efforts of Hamilton Zoo, Waiwhakareke Natural Heritage Park and Hamilton Observatory (Te Kaaroro Nature Precinct 2025). Te Kaaroro Nature Precinct is described as a place where “there is something at Te Kaaroro for anyone who wants to connect with nature,” (Waikato Herald 2023, para. 7).

This research has two objectives. The first is to examine the community values, priorities and perspectives on issues of conservation at Hamilton Zoo, in New Zealand, through the

uptake and engagement with conservation messaging and education. I explore the information that Hamilton Zoo provides for its visitors, from signage and maps to animal welfare. The second objective is to analyse the role that culture and environment have in conservation education and action, focusing on the physical design of the zoo exhibits and surrounding areas.

I aim to answer three main research questions: What role does the cultural values of Hamilton Zoo play in how conservation messaging is communicated to visitors? How do cultural priorities inform conservation education practices in Aotearoa? And what is the effect of zoo visitors' attitudes and expectations of entertainment at the zoo on the approach to conservation messaging at Hamilton Zoo? To answer these research questions, I approached my research in a multidisciplinary way, balancing scientific knowledge and contexts with social scientific analysis and research methodologies. I also engaged with perspectives from both zoo visitors and staff.

Understanding how zoo visitors respond to conservation messaging can help zoos shape signage, exhibits, and visitor experiences to better educate and connect visitors to their mission. At the same time this research can provide zoo visitors, and those who are not involved directly in conservation work, with a deeper understanding of how zoos operate and the multiple roles that zoos must balance.

## Methods

This project used ethnographic research methodologies to investigate the ways that visitors engaged with conservation education at Hamilton Zoo and the way that Hamilton Zoo presented conservation messaging to its visitors. In the interpretation of the research data I use a multi-disciplinary approach, combining theories of affective responses, phenomenology and multispecies ethnography with scientific literature to better understand visitor experiences at Hamilton Zoo, and how this is related to the educational and conservation-based aims of the zoo. I used participant observation, informal interviews with visitors, semi-structured interviews with members of staff from throughout Hamilton Zoo, and media, including Facebook posts, maps, and photographs. This research methodology is in line with other anthropological research studies conducted at zoos using participant observation, interviews and analysis of zoo spaces, such as Gerstlauer and Mahler (2023), Palmer, Malone and Park (2015) and Madden and Kearns (2022).

The research proposal and ethics application were presented to, and approved by, the University of Waikato ALPSS ethics board<sup>1</sup>, and the ethics board of Hamilton Zoo<sup>2</sup>. Data collection for this project was undertaken every Friday and Saturday during zoo opening hours between November 2024 to January 2025. Visits lasted at a minimum of two hours to a maximum of seven hours. All research was carried out onsite at Hamilton Zoo. As

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<sup>1</sup> Approval number: FS2024-51

<sup>2</sup> CRC#: 24-01

part of the analysis of data, interviews were transcribed, and both interviews and notes from my visits had codes applied to identify core themes within the data. Data was analysed through phenomenological, multispecies, and affective response theories.

## Visitors

I approached visitors around the zoo and where possible, struck up casual conversation, usually about the animals in the enclosure. I would then introduce the idea of the research and explain the project, offering the visitors an information sheet to read. Those who agreed to talk were given the option between a recorded, sit-down interview or a casual, unrecorded conversation. All visitor participants took the second option. One visitor agreed to provide me with their map, which they marked with the route they had taken around the zoo during their visit.

## Volunteers

I was only able to include one person who volunteered at the zoo, currently or historically. This was because volunteers are not consistently scheduled for shifts at the zoo. My conversation with my volunteer contact was through the volunteer coordinator asking a staff member who had previously volunteered to participate. He was provided a consent form and information sheet, and his participation was confirmed as voluntary and unpressured.

## Staff

Staff interviews were organised with the assistance of Hamilton Zoo management. I provided them with an information sheet to provide to interested staff members, and staff were recruited at an open call for volunteers at an all-staff meeting. At the time of interviewing, the project was re-explained, with an information sheet and consent form. These interviews took place in a conference room at the zoo, and were recorded on a secure, password-protected device by the researcher. Interviews were semi-structured. Recorded interviewees could opt to receive a transcript of their interview. Interviews ranged from twenty-five minutes to fifty minutes in length. At the time of interviewing, consent to participate was gathered again, I also offered to spend the time allotted to the interview discussing other subjects, if the participant had felt pressured to participate by management at any other point in the recruitment procedure. Eight zoo-affiliated individuals participated in formal interviews, including one ranger at Waiwhakareke, the education lead and volunteer organiser, and one previous volunteer. One staff member participated in a casual, unrecorded conversation after hearing about the project as part of a discussion at a zoo exhibit. They were provided with a consent form and an information sheet to ensure consent at the time of the conversation, in line with how visitor participation was recruited. Among the staff who volunteered to participate, the final participants were selected so that one staff member from each department of the zoo keeping team were represented: Carnivore, Ungulate, Primate and Ectotherm (Birds and Reptiles), as well as a ranger from Waiwhakareke, a member of the education team, the

volunteer coordinator, and a volunteer at the zoo to ensure representation from across all aspects of the zoo's staff.

Some reception staff provided unrecorded, informal conversations which provided important and helpful information throughout the time of research. They also were provided with information sheets and consent forms to allow the usage of these conversations that provided insight into the zoo's inner workings. All participants were given the opportunity to choose for their personal information to be made anonymous. Two staff members, and some visitors, chose to be anonymous, so pseudonyms have been attributed, and all descriptive details have been omitted. For staff participants, it was not always possible to omit job titles as it is a key aspect of their expertise. The involvement of the reception staff occurred naturally over the course of the research time frame when entering and exiting the zoo. They were not recruited to participate, instead volunteering their contributions throughout the research process.

## Changes to research

Over the course of research, the research questions and theoretical framework developed and changed. I originally anticipated looking at conservation messaging through a symbolic lens, but this has since developed to be a multi-theory approach, including affective responses (Luebke 2018) and phenomenology (Gerstlauer and Mahler 2023), as well as multispecies ethnography (Bulbeck 2005). My original research

questions were aimed at investigating the role of cultural values and priorities in informing conservation practices. Based on the data, the research questions shifted to focus on how visitors engage with the conservation messaging presented to them, investigating the conflicting goals and responsibilities of Hamilton Zoo as an institution and the tensions between visitor interests, knowledge and ways of caring with the priorities, knowledge and care exhibited by staff at Hamilton Zoo.

## Positionality

My personal experience with zoos is limited, but my experience with environmental issues and conservation is not. My experiences with nature have been day hikes, school tramping trips and visits to eco-sanctuaries, estuaries and gullies along the Otago Coastline throughout my time at high school and university. One of my undergraduate degrees is in Zoology, which affords me some prior knowledge and experience with zoos in New Zealand. A Zoology degree provides focused knowledge about animal behaviour, ecology and species management, similar to someone who may be studying to become a zookeeper. I have also spent a great deal of time at Orokonui ecosanctuary in Dunedin. While I feel generally positive towards Zoos and the work they support, I have no particularly strong connection to Hamilton Zoo, nor was I a frequent visitor prior to undertaking research, and had not visited any zoo or ecosanctuary for a year prior to beginning my master's degree.

My academic background predisposes me to accepting western scientific approaches to conservation as “right” and “normal”. This means that, even though I have not spent much time in zoos, I am comfortable with the concept of containing animals for a perceived greater benefit to their species. Simultaneously, my position as someone with a zoology degree, which is one pathway to becoming a zookeeper, means that I have a good understanding of scientific language, conservation issues, and some understanding of animal handling standards. This means my conversations with keepers, and the questions that I might be able to ask would be different than a zoo visitor or researcher who does not have this academic background. This may also mean that I am prone to taking certain aspects of the research process for granted, such as academic jargon. On that same point, because of my degree I occasionally felt that zoo signage was “bare bones” or as though the signs over-simplified some complex conservation issues. I am a white, twenty-four-year-old Canadian woman who immigrated to New Zealand and have lived in three white dominated nations (Canada, New Zealand, and England). Subsequently, this will have influenced how comfortable I feel introducing myself to strangers, due to perceptions of politeness. I am not typically perceived as threatening, which means that I was able to approach other women without fear of being intrusive. However, there were also conversations that I cut short because some potential participants felt comfortable expressing racist and sexist opinions to me, about other visitors who were passing by.

## Limitations

The original plan for this thesis was for a comparison of attitudes towards conservation between visitors and staff at Hamilton Zoo with visitors and staff at Maungatautari Sanctuary Mountain Ecosanctuary (Maugatautari). Due to several factors, including funding and the Kiwi breeding season, conducting research at Maungatautari was unachievable.

I operated independently while at the zoo, rather than as part of a team, so conversations with visitors were limited to people whom I could communicate with during my visits. Large groups of visitors were difficult to begin speaking to, as their conversations offered little opportunity to naturally begin a conversation; many of my attempts to start a conversation were ignored or brushed off. I am only able to confidently speak English, therefore, conversations were limited to people who felt confident speaking in English, as no translator could be arranged. Similarly, due to ethical constraints, and the priorities of parents visiting a zoo with children, groups with children were not interviewed, nor were teachers with school groups, though observation of behaviours of these groups was noted. Most zoo visitors who opted to participate were middle aged, white-passing, women, though these were not the only people who were approached. Many visitors listened to the pitch, and took an information sheet, but immediately excused themselves without further participation. Most discussions occurred near or at an animal enclosure. Not all visitors to the cafe at the zoo were visitors to the zoo itself, and most cafe visitors were groups with children. The cafe is directly adjacent to a playground within the zoo, and I did not approach any visitors who were at any of the play areas within the zoo.

## Literature Review

The literature discussed below falls into three main scholarly conversations. Firstly, zoos as spaces of education; second, the physical environment of zoos and the concept of closeness; and third, the political aspects of zoos, including discussions of welfare. Studies in Scotland and New Zealand found that visitors to zoos tend to be family groups, people who have positive perceptions of zoos and believe that zoos are environments which encourage viewing animals as entertainment but that zoos still require a level of maintained wildness to remain attractive as a tourist site (Reade and Waran 1996; Ryan and Saward 2004).

Current scientific literature published in life science-based journals agrees that zoos should be both educational and informational (Fernandez et al. 2009; Milstein 2009; Moss and Esson, 2010). Major associations that most zoos around the world belong to have educational goals (Moss and Esson 2013), which increase the awareness of zoo visitors to climate and conservation issues (Packer and Ballantyne 2010). The type of information presented to visitors as 'education' tells a specific story about what conservation is and what it means to care for animals and to be involved in their conservation. However, social scientific literature from zoos around the world critiques the information provided to visitors by zoos identifying misrepresentations of animals as "wild" (Peng, Yeh and Broom 2025), failure to contextualise cultural issues surrounding the animal trade leading to stereotypes of "the wild" (Gippoliti and Battisti 2023) and how portrayals of conventional conservation in zoo spaces are equal parts exploitative and idealistic (Milstein 2009).

Zoos have also been critiqued as a method of domesticating nature, with terminology like “in situ” and “ex situ” said to essentialise nature, while also relying on the existence of a reclaimable “pristine nature” for successful conservation projects (Braverman 2012; Anderson 1995). These critiques speak to the type of education that zoos provide visitors, which leads visitors to zoos to gain a perspective of conservation that is based on exploitation and thus naturalises, and is naturalised by, other forms of animal exploitation.

There is both social scientific and life sciences literature emerging which focuses on developments in zoos’ interactions with their visitors, including using technology (Rice et al. 2021), the use of symbols and presentation of maps (Mary, Benbow and Hallman 2007) and reimagining how zoo enclosures are designed (Fernandez, Brereton and Coe 2023). Mellish et al. (2021) found that the success of zoo-based conservation-education programmes increases when the organization is prepared to innovate and have strong implementation and routinization processes. Spooner et al. (2023) found that the historic models that modern zoos were founded on are unrepresentative of the role zoos play in conservation and that zoos are undervalued and left out of conservation networks, despite their plentiful resources and depth of knowledge.

The way that zoo exhibits are designed dictates how close to and connected with visitors can be to zoo animals. This alters the way zoo animals are viewed by those visitors. Visitors at zoos prefer to see “charismatic” species which are active, “cute” or “dangerous”, and are easily viewed (Carr 2016; Moss and Esson 2010; Tofield et al. 2003; Mullan and

Marvin 1999). Hosey (2005), found that visitors felt they had greater connections with animals when they were more visible and in closer proximity to visitors. Close proximity to visitors has been shown to be harmful to animals in zoos, as the interactions may be more likely to be disruptive actions like hitting the viewing windows, which causes stress to the animals in the enclosures (Collins, McKeown and O’Riordan 2023; Sha Chih Mun et al. 2013; Hosey 2005; Hosey 2000). Another mediating factor of human-animal connections in zoo spaces is how realistic the enclosure appears to be. The attitudes of zoo visitors towards zoo animals are mediated by gender and age more so than the visual context of the animals, while “connection” to animals is correlated with “care” and empathy as well as the animal’s charisma, and how naturalistic the designs of the enclosures are (Alba et al. 2023; Howell, McLeod and Coleman 2019; Sha Chih Mun et al. 2013).

Academic literature on zoos focuses on the perception of animal welfare by zoo visitors (Packer, Ballantyne and Luebke 2018; Melfi, McCormick and Gibbs 2015; Lukas and Ross 2014; Nakamichi 2007; Tofield et al. 2003). Naturalistic exhibits make it harder to observe animals in zoos (Davey 2006); however, the degree to which an exhibit appears to reflect the natural habitat of an animal is important to zoo visitors (Rhodes and Goldsworthy 1978; Reade and Waran 1996; Tofield et al. 2003). Yilmaz, Mumcu and Özbilen (2010) and Coe (1985) both investigated how enclosure design affects how visitors view animals, including the level of respect given to the animals and how the zoo experience may feel “real” compared to a “representation” of nature. The relative position of the animal to the viewer, in a captive setting, was a key aspect of whether the viewer

felt the animal was a “worthy subject” of observation, while zoos have also been critiqued for animal welfare decisions regarding lifespan (Wickins-Dražilová 2006; Coe 1985). Both of these studies suggest that human feelings are prioritised over the needs and conditions of zoo animals.

The subjective experience of the zoo visitor is mediated by the environment of the zoo, boundaries such as fences and opening hours, and the behaviours of the animals in the zoos. Gerstelauer and Mahler (2023) indicate in their study of Wilhelm Zoo in Germany that the design of a zoo impacts the level of immersion that a zoo visitor experiences, reducing perceptions of separation between visitors and animals. Madden and Kearns (2022) analyse the role of spatial and temporal boundaries in zoo spaces in New Zealand, thinking about “wild” animal behaviours also as performances. Lestel, Bussonlini and Chrulaw (2014), on the other hand, break down how phenomenological interpretations of animal behaviour may reveal the impacts of close human-nonhuman relationships on animals in captive spaces. In both studies, phenomenology is a tool which allows a reimagined interpretation of both space and behaviour and how these are understood by humans in the context of animal captivity and entertainment.

Zoos are political not only in how they represent knowledge and nature, but also in the role that zoos have in creating and sharing that knowledge. Anderson (1995) understands zoos as “cultural institutions” where the broad concept of what it means to be “human” and “nonhuman” can be explored and understood by zoo visitors. Some zoos

can be seen as institutions which use the animals in their care as commodities to benefit global conservation efforts, while simultaneously naturalizing the ideas of animals as resources, and may contribute very little in the way of education opportunities for visitors or zoological research (Milstein 2009; Sorenson 2008). By contrast Tribe and Booth (2003) identified that zoos throughout Australia and the UK participate in multiple forms of research, both in and ex situ. In a study of aquariums, Almiron (2017) suggested that the contributions to science resulting from research conducted at zoos and aquariums were limited, due to the limitations to an animal's ability to express and display natural behaviours, including migration and hunting.

Very little academic literature in either the social sciences or life sciences focuses on the New Zealand zoological context. There are a few anthropological studies which focus on zoos in New Zealand, though the topics vary. Bulbeck (2005) and Tofield et al. (2003) discuss the motivations for zoo visitors' interactions with zoo animals and zoos as learning spaces. While Bulbeck (2005) investigated both Australian and New Zealand zoo's, Tofield et al. (2003) conducted their research only at Hamilton Zoo. Two studies conducted at Auckland Zoo investigate the relationship between animals and humans: Palmer, Malone and Park (2015) discussed the agency of primates at Auckland Zoo in their relationships with each other and their keepers, while Madden and Kearns (2022) discuss border issues, such as fences and the audience, at Auckland Zoo.

Due to this limited existing research, it is valuable to conduct an ethnographic study of Hamilton Zoo to understand how attitudes of New Zealand zoo visitors towards conservation, and approaches to education from New Zealand zoos, fit within the wider context of zoo communication. In the studies discussed in my literature review, there is a trend for many studies to focus on one component of a visitor experience, such as a preference for charismatic species or a visitor's understanding of animal welfare. Very rarely do these studies bring multiple aspects of zoo practices into contact with each other. In this thesis, I imagine animal welfare, species charisma, and the environment of the zoo as the three legs of the stool that is conservation education and investigate how they are experienced, created and balanced against each other in a New Zealand zoo.

## Chapter Outlines

My thesis is split into three chapters. The first chapter explores the impact of the signage, layout and enclosure design at Hamilton Zoo on how visitors interpret and engage with the animals and conservation messaging. I investigate how the zoo environment impacts visitors' reception to conservation messaging, where the individual experience is informed by both the minute daily changes and the way the zoo is designed. By creating an association between Waiwhakareke and Hamilton Zoo, through shared management, Waiwhakareke has become legitimised as a place of conservation. As part of this, I unpack the role of fences in two different zoo spaces, and the role of closeness, immersion, and accessibility in how visitors understand and engage with conservation education.

The second chapter of my thesis explores how the charisma of an animal affects the way zoo visitors connect to the animals. I look at how the behaviour of the animals at Hamilton Zoo affects how much zoo visitors care. Care is expressed by whether visitors show up to view the animals, as well as the language visitors use to discuss the animals and the exhibits. My research considers charismatic species, non-charismatic species, and pest species. I investigate how Hamilton Zoo presents each category of animal, and how visitors to the zoo respond. This chapter also touches on the commodification of some species, using animals in close encounters with visitors. I investigate this from both the logistical perspective of the zoo, as well as visitor attitudes towards closeness to the animals at Hamilton Zoo and how this impacts reception to conservation messaging.

The third and final chapter explores how visitors to Hamilton Zoo understand and think about animal welfare. This chapter teases apart the complex relationship between zoo visitors and the zoo staff, including types of knowledge, scientific and observation, and different expressions of caring. This chapter also seeks to explain some of the logistical difficulties that zoos, such as Hamilton Zoo, manage to improve welfare standards, including the difficulties of creating naturalistic habitats. Furthermore, the renovations which are carried out in the name of improving animal welfare may not align with the perception, by visitors to the zoo, of what an enclosure that provides “good welfare” looks like.

# Chapter One: Impacts of the Zoo Environment

## Introduction

Our association of what an animal is like may be linked with the environment in which we meet them (Sommer 2008). Zoos are not only the first place that people may meet many animal species, but also the first time they may become aware of some species. The ability to recognise between a capybara, which Hamilton Zoo does not have, and the agouti, which it does, first requires the moment when you become aware that the agouti is an animal that exists. Exhibit designs can impact the ways visitors relate to and perceive zoo animals, and animal welfare in zoos (Fernandez et al. 2009; Rhoads and Goldsworthy 1979; Finlay, James and Maple 1988).

This chapter examines the phenomenological experience of visitors in the zoo, the role of maps and other signage, as well as the individual experiences of being in the zoo. I discuss how zoo enclosures designs are not the only aspect of the zoo environment which dictates the type of experience a visitor may have at Hamilton Zoo. The decisions that visitors make during their visit, including which pathways to take and which animals to see, are informed by the signage, maps, and weather at the zoo. This leads them to experience different parts of the zoo, see different animals and attend different talks, consequently changing the zoo experience for each visitor and each day. Finally, out of the ordinary “zoo events”, like tiger birthday parties, may happen without warning and

change the priorities of the zoo and the visitors at the same time. The experience of visiting a zoo is informed not only by the general environment of the zoo, its pathways and shelters, but also by the day-to-day occurrences like keeper talks and animal feedings.

There are gaps identified in the social scientific literature on the impacts of zoo visits on zoo visitors (Learmonth et al. 2021), even while there has been shown to be abundant scientific literature on the effects of zoo visitors on the animals in zoos (Collins, McKeown and O’Riordan 2023). Learmonth et al. (2021) understand that a visitor experience is made up of individual visitors' biases, enclosures and displays, signage, and encounters with animals and keepers. The interactions between visitors and animals at a zoo can play a role in the positive associations and behaviours, relating to environmental care, that visitors to zoos develop (Grajal et al. 2016). The design of the zoo landscape, the viewing platforms, and enclosures for the animals are key to how visitors engage with and understand the purpose of the zoo.

## Maps, Enclosures and Phenomenology

During my first visit to Hamilton Zoo, I was presented with a map, and a zoo which was nearly entirely empty. On a later visit, I asked another zoo visitor to mark their zoo visit on the map they had, which they allowed me to take away with me (Figure 1). Our versions of the map varied: his version of the map was newer than mine, and had the

savannah marked as accessible, whereas on the map I received during my initial visit to Hamilton Zoo, this region was redacted (Figure 2). While his map has the savannah, at the time of his visit it was still inaccessible due to construction. There were areas of the map that were accessible which he still missed, including the giraffes, Aviary, and Wetlands. When asked why, he identified the giraffes as being “too out of the way” saying “they’re cool, but not that exciting.” This visitor followed the main path without deviating, looking at the animals as he passed, meaning he missed a number of zoo enclosures, including the ferrets, Wetlands region and the brolga. These are enclosures which are near the main path, but not directly on it.

A phenomenological walkthrough of Wilhema Zoo by Gerstlauer and Mahler (2023) included following the pathway suggested by the zoo’s website. Phenomenology is an approach to research which focuses on “how humans perceive, experience and comprehend the sociable, materially assembled world [...] in which they dwell” (Ram and Houston 2015 p. 1). Gerstlauer and Mahler (2023) identify phenomenology as a theory and research method allowing researchers to focus on individuals’ experiences while in a given space, such as a zoo. Without knowing about the study by Gerstlauer and Mahler, my first experience at my field site was similar to theirs, in that I followed the path suggested by the zoo through the map provided (Figure 2). However, the visitor I spoke to walked in the opposite direction (Figure 1).

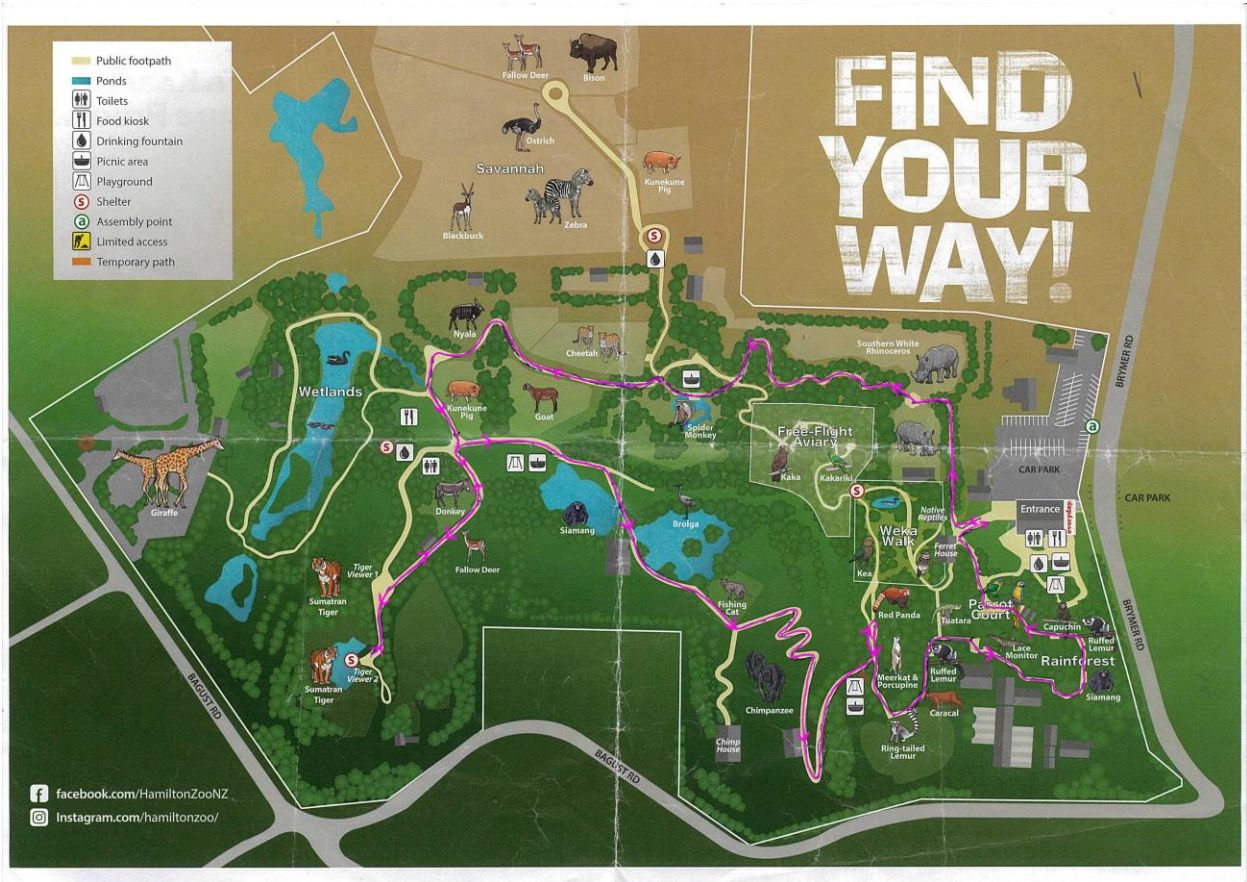


Figure 1. Map of Hamilton Zoo with guest route marked in pen by visitor participant and digitally traced (pink) by author

for better visibility. Arrows marked indicate visitors direction. This map version has the savannah marked as accessible, with all animals visible. Photo scanned by the author.

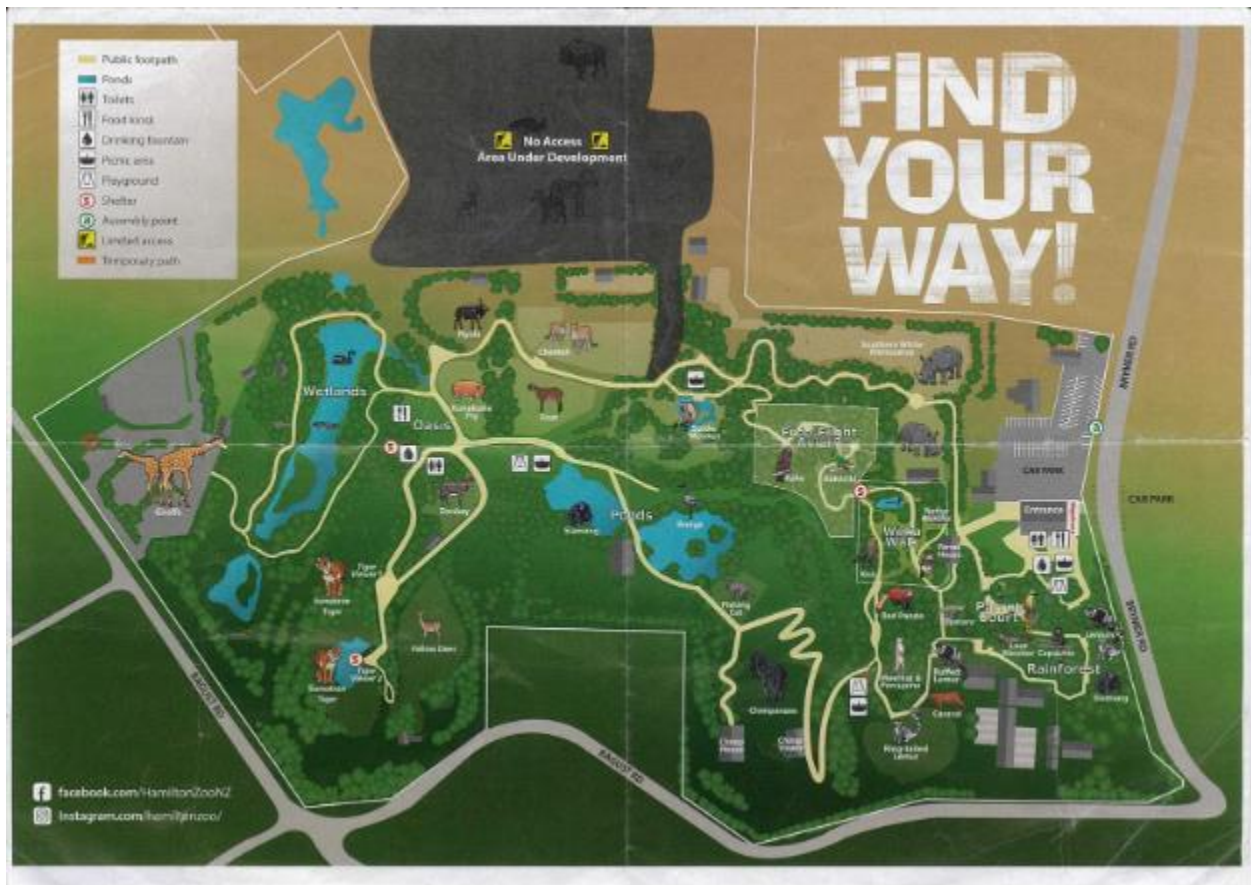


Figure 2. Map of Hamilton Zoo with the Savannah marked as inaccessible. Scanned photo by the author.

Every visitor receives a map, with the intended purpose of helping them navigate the zoo. The map has icons of the animals, and labels to help visitors identify species in areas where visibility and signage are less than ideal, such as the enclosures for the brolga, fishing cat and nyala. Not every animal is represented on the map, such as the aguti in the rainforest, and many bird species from the Parrot Court, Aviary, and Weka Walk. Aside from the redaction of the Savannah area on the map I received (Figure 2), there are only minor changes including the position of the fallow deer, and which lemur icons

are present in the Rainforest (Figure 1; Figure 2). The map that guests are provided with is intended to be up to date with the current configuration of Hamilton Zoo, allowing visitors to become familiar with a new space by themselves.

Maps facilitate communication between the zoo and their visitors. Mary, Benbow and Hallman (2007) analysed twenty different versions of maps from two zoos: one in Chicago and one in Philadelphia, throughout their operational history. The study found that colours, stylistic choices and inclusion of symbols (for example, depictions of guards or zoo visitors) tell stories about the zoo and convey information about the zoos, and the state of zoos. Many key cartography features, like compass roses and scales, are often missing from zoo maps. Instead, zoo maps use colours, symbols, and levels of detail to convey messages to visitors about the zoo. For example, maps may be distorted to provide emphasis to one section of the zoo, or another, and symbols on the zoo maps communicate the species of the animal on display (Mary, Benbow and Hallman 2007).

The map at Hamilton Zoo employs symbols of trees to indicate areas with high density of bushes, and areas which are less planted (Figure 1; Figure 2). Similarly, the use of green and brown (Figure 1) creates a visual separation between the savannah and the rest of the zoo. The grey background of the giraffes' enclosure creates an impression, in my mind, that this enclosure is less naturalistic than other spaces in the zoos, which aligns with this being an adapted off-display enclosure. Finally, the size of the symbols of the animals on display are not equal in size, and not all animals are represented, for example,

the eels, frogs and the Parrot Court (Figure 1; Figure 2). This could be a spacing concern, as some areas of the zoo map are quite crowded with lots of animals held near each other and it would be unfeasible to represent every animal. These icons may also represent species which garner high interest from visitors.

Maps are instructional, in that they direct visitors. There is some infrequent directional signage on the main pathway at Hamilton Zoo, including maps, but these are not regularly updated. In the case of the giraffe, any visitor which has visited the zoo in previous years, or relies on posted signage at the zoo, would likely expect to find them in the Savannah. Without the use of the handheld map, these visitors would be unable to find the giraffe easily. Handheld maps ensure also that no part of the zoo is missed unnecessarily. The layout of Hamilton Zoo is not intuitive: some enclosures are down dead-end pathways or require guests to double back through some sections. This includes the Weka Walk and Free Flight Aviary, which visitors could miss entirely if they follow only the main path, and which going through requires visitors to miss at least one section of the main pathway, and to repeat sections of the zoo to ensure they don't miss any animal (Figure 2). Having a map for reference ensures that visitors don't assume they have seen everything and can make informed decisions on which enclosures and animals in the zoo they prioritise in their visit if they don't care to repeat sections of the zoo.

My first day at the zoo was very wet. I began my journey through Hamilton Zoo heading through the Parrot Court and following the pathway that way. Here I found two peafowls

taking shelter from the rain under the awning. Unlike the Wilhelma Zoo that Gerstlauer and Mahler (2023) walked through, Hamilton Zoo does not have separate enclosed buildings for its animal enclosures, except for the Chimp Whare. Rather, visitors experience Hamilton Zoo nearly entirely outdoors, with only some visitor observation decks having awnings. This means that visitors are always exposed to the elements. My visit the following day saw substantially warmer weather and the zoo was busier. Some viewing spaces which had previously been comfortable in the rain with an umbrella, became the cause of many sunburned shoulders. On warm days, the Rainforest section is shaded by trees and comfortable to spend extended periods of time, but while raining, the glass panes become difficult to see through, and the rain becomes unavoidable.

Throughout my time in the field, I experienced many cloudless and breezeless days with mid to high temperatures. Perched on the bench opposite the red pandas, I was often approached by middle aged and older women, armed with sunscreen and unsolicited complaining. The red pandas at Hamilton Zoo have a matrix of trees and bridges which are covered in brush material. This enclosure is highly enriching for the red pandas, but it also makes them difficult to observe. Their proclivity for sleeping on the tops of trees further increases the difficulty of visitors seeing these charismatic mammals. The trees in the red panda enclosure do not extend shade over the visitors who peer up towards the sky, hopeful to catch a glimpse of red fur.

Often, another visitor would sit beside me, and we would discuss how difficult the panda is to find, and how uncomfortable it is in the heat. Therefore, I posit that the experience of zoo tourism is not just in how the enclosure appears to the visitor, as existing literature suggests (Fernandez et al. 2009; Luebke and Matiasek 2013; Rhoads and Goldsworthy 1979; Finlay, James and Maple 1988), but also in how the observation spaces are changed by weather. Visitor comfort contributes to the experience of viewing an animal, as much as the appearance of the enclosure space that the animal occupies. Even at the most attractive enclosures, a visitor's experience, as expressed through comments made to other visitors, may be made unenjoyable by unfavorable weather conditions. While it may be a common thought that the zoo is more enjoyable on days that are warm and clear overhead, reflected in zoo visitor numbers which are tracked daily, many of the zoo animals are less active in high heat conditions, and the viewing areas place visitors in direct exposure to the sun.

One of my supervisors also noted that many animals are crepuscular; meaning they are active during the dawn and dusk periods, which are times when Hamilton Zoo is not open to visitors. During my interview with Jos, a bird and ectotherm keeper, I was told the best time to see active birds was when Hamilton Zoo first opened and that during the middle of the day most of the birds exhibited very low activity levels. This minimises the amount of interaction visitors have with many of the zoo species and may give visitors the impression that these enclosures are empty. Many visitors would stop in front of the ruru (morepork) enclosure and make comments such as "I guess they don't have one

anymore”, even when it was at the front of his enclosure, because the bird blends in with the wood framing of his exhibit, and is asleep during the day.

Another part of the zoo experience is the pathways on which you walk. Not only is the layout not the most intuitive, but the pathways can also be narrow and winding. Near the tigers the ground is uneven, and although not especially steep, it was a deterrent enough for some visitors to turn around. Similar issues were encountered near the Savannah, with plenty of visitors abandoning their descent when the ground turned from a paved surface to gravel footing. Wooden walkways are equally as common as brick and pavement, specifically the Rainforest, the area around the spider monkeys and rhinoceros, the Free Flight Aviary, and the whole of the Wetlands area. This is partially an issue of accessibility: what footing can be utilised by all visitors in all conditions? It also affects a visitor’s immersion into the exhibit they are viewing with the ground near the Savannah feeling less man-made and structured, there feels like less of a separation between yourself and the animals, despite the multiple fences. With the built-up walkways and wooden fences, paired with the fully enclosed nature of the rainforest, visitors feel like observers. The pathways in the Free Flight Aviary are boardwalks, the same kind of footing present in many of the Department of Conservation (DOC) walking tracks and some ecosanctuaries, such as Maungatautari. Compared to Auckland Zoo, which has wide, paved paths through most of the space, Hamilton Zoo’s narrow, multi-material pathways were understandably described to me by visitors as having a ‘backyard feel’ where you are ‘in nature’.

The species in the Savannah, where the giraffes are intended to be on display, range from guinea fowl to zebra. The species are not all from Africa; blackbuck are typically found in India, Pakistan or Nepal (Hamilton Zoo 2025b). This is further made interesting if we consider the zoo in its broader organization. Hancocks' (1971) explanation of the ways zoos may organise themselves encompass five styles: Systematic, Zoogeographic, by habitat, popularity or behaviour (Table 1) (quoted in Mullen and Marvin 1999). The layout of Hamilton Zoo does not neatly fit any one of these patterns of displaying its species, rather some areas fit within one description, while others fit elsewhere. For example, the Rainforest and Savannah exemplify species being displayed by Habitat, though there are two pairs of siamang gibbons, and three enclosures for lemurs spread throughout the zoo, which conflicts with this grouping style. Furthermore, the caracal is situated between two lemur species, and most certainly is not found in the rainforests or scrubland of Madagascar, but rather Savannah plains in and around India (Hamilton Zoo 2025c). The cape porcupine and meerkat are between these lemurs, the chimpanzees and the red panda, yet again a deviation from any of the styles of zoo design defined by Hancocks (1971). The lack of distinct organizational structure at Hamilton Zoo is likely due to the zoo's age, and the way that the zoo has reused enclosures as species come and go from its collection. It also suggests that Hamilton Zoo intended to present and focus on species and individual animals, which may allow connection between visitors and species or individual animals, rather than creating connections between whole habitats, or continents, with zoo visitors. This may create more personal and close connections between visitors and animals compared to the zoo design styles laid out by Hancocks (1971).

<b>Zoo design style</b>	<b>Systemic</b>	<b>Zoogeographic</b>	<b>Habitat</b>	<b>Popularity</b>	<b>Behaviour</b>
<b>Description</b>	Groups of related species are presented together, and taxonomy is prioritised	Species from the same continent are presented together	All species in the zoo are presented by habitat	More popular species are presented near the center of the zoo.	Species are presented based on behaviour.
<b>Example</b>	"Ungulate" or "Primate" exhibits	The zoo is organised into "Africa", "Asia" and "Australia" exhibits	"Savannah animals" and "Polar animals" exhibits	Lions are kept central to the zoo for easy access	All flying animals, or burrowing animals are exhibited together

*Table 1. An explanation of variation in zoo design styles, based on descriptions from Mullan and Marvin (1999). Examples by the author.*

Phenomenology is a framework that, when applied to zoos, helps to understand visitor experiences during their visit. The layout of a zoo changes how visitors perceive the animals on display, animals ordered by habitat tell one story, while animals displayed by taxa tell a different one. Weather and the design of the enclosures affect how visitors experience the zoo, with warm weather enhancing some smells, and increasing activity levels in some species. On the other hand, excess warmth can drive some animals into the shade, and out of view. Wet and cold weather may bring more visible, but less active animals, and even allow visitors to stay watching for longer compared to when standing under direct sunlight. Navigating Hamilton Zoo, despite its large footprint, is accessible to visitors through the map provided to them at the beginning of their visit. Updated regularly to reflect animal locations and accessible enclosures; the map is one tool for visitors to

prioritise their time. The layout of Hamilton Zoo is not always the most intuitive; dead end pathways and the need to double back to see everything means that the map is vital if zoo visitors don't want to miss anything. The pathway design, which is often shaded by a tree canopy, is less developed than other zoos in New Zealand, giving zoo visitors a feeling that they are closer to nature than at other zoos they may have visited. However, the uneven terrain also can hinder accessibility for some visitors, which creates tension between the sense of immersion with the animals and who is able to enjoy this experience.

## Immersion, Waiwhakareke and Boundaries

Animals which are exotic, or not from the country in which they are displayed, act as ambassadors for, or representations of, the wilderness of the place from which they originally hail. Globally, exhibiting the endemic species of the country they're located in is one of the lowest priorities for zoos (Roe, McConney and Mansfield 2014). These endemic and native animals nevertheless act as ambassadors for that country's wilderness for overseas visitors. Through meeting these species, watching their behaviour and creating connections, visitors may come to understand more about not only the animals, but also their natural habitats, and the dangers they face. Many of the signs at enclosures around the zoo identify and inform visitors of the challenges experienced by the native animals on display experience, such as poaching, habitat destruction and predation by introduced species. Alongside expected signage, the tuatara enclosure at Hamilton Zoo features a sign with a Māori myth 'Tuatara versus Shark', which explains why one species lives on land and the other in the ocean (Figure 3). This

exposes Hamilton Zoo visitors to Māori knowledge, as well as scientific knowledge about tuatara. Both types of signage being equal in size and visibility places both the Māori mythology and scientific knowledge in equal significance and focus. Cultural knowledge may also be imparted to visitors through the enclosure set up. For example, Taronga Zoo in Sydney, Australia describe its Sumatran tiger enclosures as an “immersive experience”, including a hallway themed after an airplane and viewing spaces which replicate villages in Indonesia, from where the Sumatran tiger hails (Taronga Zoo 2025). This immersive experience contextualises the plight of tigers while, presumably, connecting the Sumatran tigers’ experience with the culture of rural Indonesia at the same time. Having never been to this zoo, I cannot say more about the authenticity of this exchange. However, the Free Flight Aviary and Waiwhakareke may serve a similar purpose for Hamilton Zoo, by using immersive techniques to communicate New Zealand cultural knowledge to visitors.



Figure 3. Photos of two signs at Hamilton Zoo's tuatara enclosure. L: Sign tells the story of the Māori myth of Ngaarara and Mangoo. R: Sign with ecological and scientific knowledge of the tuatara. Photos taken by the author.

At Hamilton Zoo, the Free Flight Aviary and Weka Walk display endemic birds, reptiles, amphibians, and eels. These areas represent knowledge of New Zealand gully systems, native birds and understandings of interactions between animal and person. For international tourists, this space is exotic. These birds are “the other”. The Aviary is also one area within Hamilton Zoo which does not have clearly demarcated “people” and “animal” spaces. Here, visitors follow a pathway that winds down through the aviary, surrounded by thick native shrubbery and brush. The path is lined with educational signage identifying the plants and birds found within the aviary. This information includes

not only the scientific name, but the Māori name, a fun fact and an image as well. The Free Flight Aviary is designed similarly to gullies, common throughout New Zealand and especially Hamilton, with a pond, waterfall and river flowing beneath and beside the boardwalk. While the movement of visitors is restricted, the movement of the birds is not, and they are often willing to come quite close. It is encouraged for visitors to walk slowly and quietly, and the signage outside and within the aviary is the same style as signage in other DOC reserves and tracks. Interaction between people and animals is still discouraged in this area, and it is quieter than other areas of the zoo, with fewer visitors. These areas feel more connected to nature in the way it has been developed: dense lush brush and undergrowth cut through by wooden walkways rather than concrete and gravel used elsewhere in the zoo. There is no glass separating visitors from the flora or fauna in the Aviary, bringing you closer to the animals than anywhere else in the zoo. Therefore, even without direct interaction between visitors and animals, it is possible that greater positive connections will be made between these animals and visitors to the enclosure.

The Free Flight Aviary is an example of a highly naturalistic zoo enclosure, replicating New Zealand ecosystems. This is especially beneficial to those guests who may be unable to hike, as trails and gully walks can be steep, rocky and take hours or days, therefore becoming inaccessible to many people due to disability, age or time. One couple I spoke to said in their youth they were avid hikers, but now at nearly sixty, their “knees are no longer up to it,” so instead they visit zoos when they travel. Several people with strollers, mobility scooters and other mobility aids picked their way down the boardwalk and took long breaks on the benches provided. The majority of those whom I saw visit

the aviary were tourists and hobby photographers. Speaking to a photographer within the aviary, he spoke about using the aviary to “relax and unwind”, saying he visits several times a month, and has been taking photographs at Hamilton Zoo since he was a child. The conversation was short, as he was unwilling to be disturbed for long, but our interaction began because he was photographing two North Island kaka which had landed on the boardwalk’s banister. The birds locked their beaks and shook their heads, while flapping their wings. He showed me the photos: striking close ups of preening behaviours, immediately followed by the moment the birds locked their beaks. He said in all his visits he had never seen the behaviour before, and theorised several possible reasons, finally concluding “every time I come here, I see something different.”

Hamilton Zoo is connected to Waiwhakareke, Hamilton’s “flagship ecological restoration project” (Hamilton Zoo 2025d, para. 3). The project has been described as “in its infancy” by rangers, and there are hopes to install a predator proof fence around the perimeter and house native bird species within Waiwhakareke. The area is ecologically important, providing a snapshot into what Hamilton’s ecosystems would have looked like pre-colonization, representing five ecosystem types: a peat lake, broadleaf-podocarp forest, conifer-broadleaf forest, semi-swamp forest and swamp wetland (New Zealand Plant Conservation Network 2025). Ken, the education lead at Hamilton Zoo, incorporates Waiwhakareke into his talks with school groups when relevant, however most of the education within the context of Waiwhakareke happens by the rangers, or in direct relation to Arbour Day (June 5<sup>th</sup>). This is when schools, individual volunteers and corporate volunteers come together to plant trees in Waiwhakareke. Because the land in

Waiwhakareke represents ecosystems which were once plentiful in the Hamilton region, the restoration of this land facilitates relationships with visitors in a way that cannot be done within the boundaries of Hamilton Zoo's Aviary, thus fulfilling a new purpose and expanding the reach of Hamilton Zoo. Ken noted that other zoos could be "jealous" of Waiwhakareke and its proximity to the zoo, because of the "massive educational opportunities" that it provides. The planned installation of a predator proof fence could mean bolstering Hamilton Zoo's breed and release programme, further solidifying its role in New Zealand conservation and the restoration of Māori knowledge within Hamilton.

When speaking with Fern<sup>3</sup>, one of the rangers at Waiwhakareke, we spoke about the zoo and ecosanctuary spaces having different but complementary goals, pairing advocacy with preservation and reintegration. Waiwhakareke was not always associated with Hamilton Zoo, but this association has legitimised Waiwhakareke in the minds of visitors. Fern said: "We're [rangers] always on the ground, so they're noticing us a lot more now. But before I think they [visitors] were like 'ohh this is just a park'. And now they're like, 'oh it's connected somehow to the zoo' and I think people hold the zoo to a different standard than the Council." Noting that visitors attribute greater ecological value to Waiwhakareke, since developing its connection with Hamilton Zoo. This may come from how established Hamilton Zoo is in the community, having been operating since 1969 and being a council operated zoo since 1976 (Hamilton Zoo 2025a). It may also come from the process of entering the zoo compared to Waiwhakareke, as Hamilton Zoo is fenced. Fern said:

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<sup>3</sup> Not their real name

“Once we start putting back in those species that people can’t see outside of the fence, they’ll [the Hamilton public] want to come into the fence”. A fence separates visitors from the zoo, or the park, marking it as a specific place for conservation purposes, rather than a space which happens to conserve ecosystems and animals.

Fences within Hamilton Zoo space generally separate visitors from the animals. There are multiple styles of fences, from chain link fences of twisted wire to tall permanent structured fences, covered in foliage, with large windows as access into the enclosure space. The Free Flight Aviary has a mesh covering with multiple doors to access the inside. There are fences inside the Aviary, alongside parts of the walkway but not the whole length. These fences mostly line elevated pathways, such as the section raised above the pond. Sometimes fences alone are not enough. At the rhinoceros viewing deck, which bridges across the rhinoceros enclosure, the fences in this section have small spikes, likely to stop visitors from sitting or leaning too far over the fence and falling into the enclosure with the rhinoceroses. Although the zoo would like visitors to feel close to and connected with the rhinoceroses, there is still a required element of separation, which is likely for the safety of the visitors. There is a fence around the entirety of Hamilton Zoo, designed “to keep animals in” (personal communication with keepers, 2025). The fence around Waiwhakareke would be designed to keep predatory animals out. Existing literature focuses on scientific effects of fencing ecosanctuaries (Burge et al. 2021; Innes et al. 2019; Burns, Innes and Day 2012) with no social scientific research conducted yet on how visitors respond to fenced versus unfenced spaces of conservation in New Zealand. Fences define a space, which may be communicated through their design,

which provides a sense of purpose to that location (Jakes et al. 2018). This may include either purposefully or inadvertently separating types of landscapes, diseased animals from non, or neonates from parents (Jakes et al. 2018) or protected animals from people, as is the case at Hamilton Zoo. The fences inside of the zoo define the animal space and the visitor space but also define the staff space and the visitor space. Staff buildings are behind fences, and staff walkways are gated off either with swinging gates or a single chain, though it is as common to see spaces without fences marked with simple “staff only” signs on posts. Generally, the approach to fencing at Hamilton Zoo feels casual, with fences only being as tall as they need to be to serve their purpose. This gives me the impression that the zoo’s upper management generally trust their visitors to stay on paths, and there is respect for space and boundaries from visitors in return. From discussions with staff, it is rare for visitors to impeach these boundaries, with myself observing no visitors going off paths, even in the Free Flight Aviary, and only hearing one story of a person attempting to touch or feed an animal during my time conducting research.

The ranger from Waiwhakareke that I spoke to also notes that there are different conservation messages being put forward in a zoo space than in an ecosanctuary context, both holding value. Many visitors during my time at the zoo put forward their belief that zoos play a significant role in educating about conservation, and funding conservation, while the ecosanctuaries “do it”, meaning that when working together, conservation efforts would be doubled. I noticed that many of the visitors I spoke to at Hamilton Zoo seemed to struggle with conceptualizing breeding programmes without release, as well as

considering research and captive populations as forms of conservation. New Zealand has a strong emphasis on in situ conservation, with regional council priorities on protecting indigenous habitats (Varshney et al. 2024). This emphasis likely drives the average New Zealand resident's knowledge of environmental issues. Furthermore New Zealand has over eighty-four 'ecosanctuaries'<sup>4</sup> (Innes et al. 2019), compared to four large scale zoological facilities (Auckland Zoo, Hamilton Zoo, Wellington Zoo and Orana Wildlife Park in Christchurch) also contributing to this perception.

The legitimacy of Waiwhakareke could be increased if Hamilton Zoo's captive breeding programme for North Island Kaka, which are currently released into Maungatautari, a local ecosanctuary located outside of Hamilton, begin to be released inside of Waiwhakareke. Breed for Release programmes are well advertised zoo conservation projects (Hamilton Zoo 2025e; Auckland Zoo 2025) and may add to the perceived legitimacy of zoo sites as conservation spaces, and their associated release areas. Ecosanctuaries in urban regions around New Zealand have demonstrated a "halo effect", where populations of bird species have been seen in suburbs throughout the attached city, such as Wellington (Wilsher 2019). Waiwhakareke began its journey as a space of community conservation. Continuing down this path, through community trapping of pest species, Fern believes it wouldn't be hard for this project to gain traction, "I think it'd be pretty easy to get people on board with even having, like wētā and stuff that pop up in their backyard, because they'd be just excited to see the effects of their own effort." Fern

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<sup>4</sup> Defined by the authors as multispecies, pest mammal control projects with the object of ecosystem recovery over 25ha which also have substantial community involvement

then noted that corporate groups that come through Waiwhakareke to volunteer are enthusiastic to become involved with other conservation projects after their time volunteering, demonstrating that the ecosanctuary environment is highly effective for increasing attitudes towards conservation.

## Connecting People and Animals, or People and People?

There are two pairs of siamang gibbons at Hamilton Zoo: one pair is in the rainforest, and the other is at the lower end of the zoo, between the fishing cat and the farm area. Rowena, a primate keeper, told me the pairs of siamangs are kept separate because pairs are monogamous, and have large territories. The pair at the lower end of the zoo have a spacious enclosure which is open-air and populated by large trees where they may perch. Visitors get a front-on view of the enclosure by way of an observation pier, which has a slight shaded covering, and is separated from the siamangs not by fence or glass, but by moat. One day, around 10:30 am, I was sitting on the benches on this observational deck watching the siamangs sing in their trees. One of the groups which joined me struck my interest. Four twenty-something year old men jostled each other as they trooped around the zoo. They gathered at the wooden fence, first taken in by an interactive sign which demonstrated morphological variation in the hands of siamangs and chimpanzees (Figure 4). This sparked a debate among them about what was a chimp and what was a monkey.



*Figure 4. Picture of an interactive sign displaying the morphological differences between siamangs and chimpanzees. Photo taken by the author.*

While we were gathered on the observational pier, the siamangs began to sing. Each pair of siamangs has a specific song, which they use for pair-bonding (Geissmann and Orgeldiner 2000). Despite the cacophony not fifty meters away, it took a minute to locate the siamangs in the upper branches of the trees in their enclosure. “No way such a big noise came from those little guys,” one of the men said. The gibbons, once finished with their chorus, descended from the trees and ran across the enclosure to a wooden platform, where they perched. When they run, they extend their arms from their bodies, which

reveals how disproportionate these monkeys are. The gibbon's descent from the tree spurred another lively discussion on what would happen if the gibbons fell from the trees, and a secondary discussion around whether the gibbons can swim, and whether their proportions would be beneficial. "I think I could take him in a fight," one of the men announced. His proclamation, despite its absurdity in my mind, did not come with any opposition from his friends, and their conversation turned to a discussion of the enclosures. One of the men asked his friends "If you were a monkey at Hamilton Zoo, would you rather be a spider monkey or a siamang gibbon, based off their enclosures only?". This sparked a debate: "I'd rather be a spider monkey," one decided while his friend countered: "Yeah, but these guys have better trees," before the first man defended his choice saying, "The spider monkeys [enclosure] is bigger,". This debate, while lighthearted and fun, reflected how the men perceived the environments and their suitability. There was also an aspect of the men using the monkeys as a mirror of themselves and their preferences, rather than determining which enclosure was better by how well it suited the needs of the monkeys.

The way these men interacted with the zoo was not unusual for most visitors at the zoo based on my observations. Conversation topics ranging from what visitors thought of the enclosures, to the spaces in the zoo where humans inhabit, such as the playgrounds, pathways and even the adjacent cafe. It was common to come across a group of people staring down at the chimpanzees, or peering through to the macaws, cawing and hooting. At times this felt like the visitor coaxing the animal into making their classic calls, but at others, it felt like it was an instinctive reaction from the visitors. The "ooh, ooh, aaah, aahh"

calls at the capuchins, and the “caw-caw” aimed towards doves suggested that the visitors not only didn’t know what noises the animal in front of them make but also didn’t necessarily care. They weren’t looking to bond with the galah, but with each other, with the noises and environment of the zoo a mirror to their own beliefs of what a zoo, and its animals, sound and look like. These actions caused group members to make approving noises, to join in on the noise making, or to ask others in their group questions like: “What noise do you think the monkey makes?”. The behaviours that visitors displayed facilitated conversation within groups and between groups. The disinterest in the specifics, such as if the correct noises were being made, or the exact behaviours being mimicked suggests that education and perfect replication is not the goal in these interactions.

The behaviours displayed by visitors may be driven from wanting to demonstrate existing knowledge and interest, and that the intention of the visitors is exposure to, and interaction with, animals. For example, even though the monkeys in the enclosure would groom each other, rather than themselves, kids would still pretend to be monkeys by scratching under their armpits. This type of behaviour from visitors has not been the subject of currently published research in any discipline but is consistent with observations that visitors to a zoo come just to do something, or for entertainment (Montgomery 1995; Burris 2017). The ability to name an animal correctly is not a vital aspect to caring about animals (Dove and Byrne 2014). The current literature that is interested in zoo animal-human interactions focuses on the possible effects of zoo noises on the animals and the soundscapes of zoos, but does not explain why these behaviours are exhibited, or the effects of making the sounds on the individuals who make them (Steinbrecher et al. 2023; Rose et al. 2022).

Other similar times when this misidentification occurs is in instances of pattern recognition, where cheetah and leopard print are used interchangeably, which the signage at Hamilton Zoo has attempted to rectify by including pattern differentiation in their cheetah signage (Figure 5). Similarly, zoo visitors would refer to wanting to see “the lions”, in direct reference to the tigers. However, I do not believe this was a true case of visitors not caring about the difference but rather being confused about which zoo in New Zealand has which animal, as visitors would rapidly correct themselves.



Figure 5. A photo of damaged signage which would ordinarily demonstrate the different patterns between jaguars, cheetahs and leopards. Taken by the author.

## Proximity and Interaction

The design of zoo enclosures mediates the kind of physical encounters that may occur between visitor and animal, and visitor and staff. Throughout my informal conversational interviews with visitors, comparisons between Hamilton Zoo to Auckland Zoo, in terms of access to the animals through the design of the enclosures, were frequent. Auckland Zoo's orangutan, siamang and tiger enclosures are perceived to allow greater interaction between animal and visitor, in that the space between animal and visitor is less well defined. Visitors described high-rise rope pathways for the orangutans and siamangs, housed together, to cross the human-designed pathways, with nothing except the height of the ropes, and the apes will and want, keeping them from dropping to the ground outside of their enclosure. This arrangement alters the perception of a physical border between well defined "human" and "animal" spaces, with visitors feeling closer to the animals than had the pillars of the rope pathway, and the rope themselves, not extended out further than the enclosure fences.

The tiger enclosure at the Auckland Zoo has enclosed bridges allowing the tigers to walk above visitors into different areas of their enclosure, though this bridge is only open for short periods of time and appears to be a way of moving tigers between enclosures, rather than movement between one large enclosure through which the visitor moves (personal observation). Hamilton Zoo's enclosures typically do not overlap the visitor space and animal spaces in this way. Visitors still praised the enclosures, often commenting that they preferred Hamilton Zoo for its "access" to viewing animals, or that Auckland Zoo was

“too dense”, especially compared to those in the rainforest area at Hamilton Zoo, such as the capuchin, ring-tailed lemurs and siamangs.

Even for larger animals such as the tiger enclosures, the smaller, less densely planted areas at Hamilton Zoo allow for clearer and sometimes closer interactions. There were times when the tiger cubs would stand against the glass of the enclosures, while the dense bushing of a more ‘natural’ appearing enclosure would prevent such physical closeness. However, the density of the fishing cat enclosure, or the cotton-top tamarin, means the small, well camouflaged species go undetected, even when on display. Furthermore Rowena, a primate keeper, spoke about how the tamarins are afforded a choice of whether they are locked out of their off-display area, as they are highly stressed individuals. There also comes the point of “off display” areas, such as injured and old giraffes who cannot make the walk to their usual enclosure of the savannah meant they were kept “off display.” The zoo renovated this area, making it accessible to visitors and comfortable for visitors’ observing pleasure. The desire of the public to observe and participate in close ways with the animals is thus in tension with the right to privacy and time without disturbance (Mullan and Marvin 1999).

One of the only animals at Hamilton Zoo that leave their enclosure are the leopard tortoises. This is facilitated by zookeepers carrying the tortoises to a grassy patch near the zoo entrance and main playground and then allowed to roam free for twenty to thirty minutes. This excursion may happen a few times a week, although throughout my

fieldwork I heard an announcement about the tortoises leaving their enclosure less frequently than other animal enrichment announcements. Each tortoise has his own keeper to manage visitor behaviour and answer questions. I observed the tortoise walk during my second visit to Hamilton Zoo. A semi-circle of children and parents formed around the zookeepers, which moved to follow the tortoises as they meandered over the grass. Parents encouraged children to ask their questions to the keepers, who patiently answered repeated questions while warding off children's want to touch the tortoises.

Speaking later with Hamish, a man who started his career volunteering at Hamilton Zoo and is now nearing the end of his animal management course, about animal interactions he said "It's better when they're asking the questions, because they want to know the information rather than [us] pushing it on them." The talks are for 'everyone', without specifically targeting either the kids or the parents. During our conversation Hamish recalled a time where a group of young men who seemed to be visiting the zoo on a Sunday after a night on the town becoming quite engaged and asking lots of questions during a giraffe talk. Hamish went on to say that any information is good, but that information can also be overwhelming. The tortoise walk is a good example of this, because not only is there no separation between visitor and animal, but there is also no separation between visitor and staff.

When animals remain in their enclosures, the opportunity for visitors to engage with and ask questions of the keepers is more limited compared to the tortoise experience. While

placing enrichment or food for other species' keepers are in the enclosure and visitors observe from a distance. To ask questions, visitors need to grab the attention of the keeper as they are walking past, or when they leave the enclosure, if the staff exit is even near the visitor's location. For many enclosures there is a pathway that means keepers do not leave the enclosure near the visitors' observation spaces, making communication between visitors and staff difficult. In these instances, visitors have to rely on signage to answer their questions.

The need for an animal's privacy and naturalistic enclosures and the want of the visitor to observe creates tension between the purposes of the zoo: as a facility of conservation, and as a space of entertainment and education. Visitors and zoos have different, and sometimes conflicting, priorities (Roe, McConney and Mansfield 2014). Another example of how the zoo environment and enclosure design impact the connections visitors make with the animals became clear at the meerkat and red panda enclosures. A school for kids with disabilities and special needs visited the zoo, and two young boys, one with low-vision and the other in a reclined wheelchair. The height of the fence at the red panda enclosure prohibited the boy in the wheelchair from being able to see anything. While there are windows present at both enclosures, the red panda's position within the treetops of the enclosure made it impossible for him to see from his reclined position, while at the meerkat exhibit, where the ground that the animals are on is more level with the window, he was able to view the meerkats directly. The other boy wanted to see the porcupines,

which were behind a tinted window. Due to his vision impairment<sup>5</sup>, he appeared unable to see in the dim lighting, even when pressed against the glass, leading to his peers and caregivers having to describe the porcupines to him, ending with “they aren’t that interesting anyway, they’re all just asleep.” The zoo wasn’t designed to be intentionally inhospitable to these children, but the nature of the design doesn’t account for alternative needs, nor how the architecture of the zoo might inhibit the ability to form connections with the animals. Rather, it emphasises a tension between animal welfare providing porcupines with a darkened den for resting with the conflicting role of the zoo as a place of entertainment and education, through this inaccessibility.

The moment that a person can begin to care about the difference between two animals first requires the knowledge that both animals exist. Zoos facilitate the creation of this knowledge, being the first, and sometimes only time a person encounters many exotic species. When we think about creating connections in the context of a zoo, the ability to observe the animals is a key element of this. Zookeeper Jos spoke about how educating visitors about animals would not be effective, or even possible, without the animal physically in the zoo. When the ability to see the animals is impeded by the environment, it disproportionately limits disabled people’s ability to engage with and connect to animals in these spaces.

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<sup>5</sup> I did not speak to the children, but it was apparent from observations the child had limited visual capabilities, but exact diagnosis is unavailable

Zoos allow people to experience environments they may not be able to access otherwise. While gully walking tracks in New Zealand may ordinarily be unsuitable for wheelchairs, the visually impaired and other disabled people, the wide, even and gentle sloped pathway of the Free Flight Aviary at Hamilton Zoo removes many hazards which restrict who can participate in traditional gully walks. Whether it is the layout of the viewing platform relative to the animal's enclosure, the density of planting in the enclosure, or if the animal is kept in its off-display area, the ability of a visitor to see the animal is tied to the ability of the visitor to connect with the animal. Pressures applied by visitors to the zoo to make animals in their care visible are clearly immense. However, on the flip side, a zoo's priority is with the animals, their safety, in being maintained within a safe enclosure, and their wellbeing, in not being forced to be on display, and being in a naturalistic enclosure.

## Signage

Throughout my interviews and conversations with zoo staff, there were frequent references to how little time visitors spend reading signage. Some quoted a statistic that the average zoo visitor spends ninety seconds reading signage, others saying: "it's rare someone stops and reads everything." Staff spoke about the bigger, flashier and interactive signage gaining the most traction. Zoos are not the only space that navigates education and entertainment, with museums facing the same troubles of capturing visitors' attention through signage (Booth 1998).

Ken, who manages education at the zoo alone, spoke at length about the use of signage in his job, using it as a cue to engage school groups on their topics, most often about habitat. Ken noted that a recent change in signage meant that, while the geographic location of the animal is indicated, the actual word 'habitat' is missing. Because the priority of the people who create the signage, which is not a job that involves either Ken or the zookeeper's, is to communicate key information, signs are designed to be bright, have few words, and be interactive when possible. This is because most zoo visitors do not read signs (communication with zoo staff). At a zoo in England, only ten percent of zoo visitors read signage, and the signs which were read more frequently had some interactive element (Edney et al. 2023). This being said, many of the signs at Hamilton Zoo, which were once interactive, have had those elements removed, or rather, never repaired. The signage around the cheetah enclosure was originally designed to be interactive. Because of weather and wear and tear, the interactive elements of flaps and rope pulls have been damaged or removed. Some signage has become wrinkled or torn under plastic protectors (Figure 6). The priorities of zookeepers at Hamilton Zoo are not maintaining signage that is regularly damaged.



Figure 6. Photos of damaged signage. L: Flaps previously secured by rope have been removed. R: Paper sign damaged by weather is crumpled and stained between plastic sheeting. Photo taken by the author.

There is interactive signage around the Chimpanzee House, with profiles of the chimps that can be swapped out as the troop changes (Figure 7). A similar sign exists at the bottom of the path by the Savannah, introducing the giraffes at Hamilton Zoo (Figure 7). Alongside which is a measurement tool at the bottom of the Savannah, guests can compare their height to the height of a giraffe. This sign was so popular I was unable to take a photo without other visitors in view, but another, similar height comparison sign is at one viewing space by the chimpanzees, where visitors can compare their height to many primate species (Figure 8). While the chimpanzees and the giraffes have signage which introduces the animals by name to visitors, no other species have this same information, despite all being named. This type of signage is not at every viewing point

for the animals either. Interactive signage for the chimpanzees is only in the Chimp Whare, not at outdoor viewing point, where signage focuses on habitat loss and variation between primate species.

Which viewing point you observe the animals from may have an impact on what information zoo visitors learn, and how close visitors feel to the animals. Keepers from throughout the zoo will often refer to the animals that they work with by name when you speak to them. This happened both during my interviews with staff, and while speaking to keepers throughout the zoo during my regular visits. Keepers from across the zoo are as likely as each other to use the name of the animals when speaking to guests, and I observed many keepers using the animals' first name when speaking to guests who were not myself. Because of this, many zoo staff also spoke about how signage was a less effective mode of education when compared with opportunities to speak with keepers. This is because keepers have personal information on the animals, going beyond names and ages into food preferences to in-depth knowledge about habitat destruction and conservation projects. Animal encounters, or times when animals leave their enclosures, such as with the leopard tortoises, are key times for visitors to learn directly from the keepers.



Figure 7. Images of signs introducing animals at Hamilton Zoo to visitors. L: Introducing giraffes. R: Introducing chimpanzees. Photos taken by the author.



Figure 8. Photo depicting an interactive sign where visitors can compare their height to the height of other primate species. Photo taken by the author.

The signage may have benefits beyond educating visitors. Hamish, the volunteer I spoke with, mentioned that the signage within the aviary is beneficial when collecting browse (food) for the giraffes. He has, in the past, used information on the signage, such as photos of the plants and notes on which are edible, to collect the correct plants to feed the giraffes. He further explained that signage is helpful when answering visitor questions in areas he isn't familiar with, such as the Parrot Court, saying "Sometimes you can stand in front of the sign and pretend like you're looking at the animal, but you're reading the facts." This speaks to a perceived need for staff and volunteers to be experts, even in

parts of the zoo where they are not an expert. The role of the keeper and the volunteer is to make education accessible to the inquiring visitor. Some keepers I interviewed discussed prior places of employment, discussing how other zoos operated. Keepers at Hamilton Zoo work in teams based off the type of animal: Carnivores, Ungulates, Birds and Ectotherms and Primates. Elsewhere, keepers may work in a region of the zoo, where they care for all of the animals, regardless of how related or similar these animals are, lending themselves to a greater breadth of knowledge, rather than depth. Due to the zoo layout, keepers may have to walk quite a distance between the animals they care for, and may be very close to exhibits containing animals they do not personally focus on, and therefore have a shallower depth of knowledge around, meaning that for some questions they may not know more than the signage around the enclosure. In the absence of zookeepers, signage must be able to sufficiently answer visitors' questions.

Due to the construction of the zoo space, between enclosures and staff pathways, visitors could find themselves journeying through the zoo without encountering keepers to whom they could ask questions at all. It is at these times that the signage becomes especially relevant, as it may be the only way for visitors to gain knowledge, or to find information relevant to their questions. For this reason, many of the signs around the zoo have QR codes leading visitors to information about habitat destruction, the problems of palm oil and the role of recycling as “at home” actions.

The language utilised on signs sets the tone of the message being portrayed, from warm and playful messages to detached and cold messaging (Fogelberg 2014). Signage may lack context due to its brevity. Other signage aims to police visitor behaviour, such as warning that pigs or parrots would bite any fingers put through fences. I have observed these warnings being as frequently ignored as they are respected. Signs need to capture the attention of an audience. Parker et al (2018), in a study which looked at how visitors engaged with multiple version of the same sign in an English Zoo, found that the use of images on signs may not significantly increase engagement by any population, and that children are more likely to engage with signs than adults. As well as measuring engagement, Parker et al (2018) noted that signage which curbs one type of negative behaviour, like unwanted feeding, might increase other unwanted behaviour, like attempted petting of the animals. Other studies have found that unwanted behaviours were less common within the presence of staff than signage (Tay et al. 2023). My own observations at Hamilton Zoo could not cover this, as many of the enclosures were set back from the pathway, thus entirely inhibiting visitors from displaying these behaviours. However, the most common, and least encouraged, direct interaction between an animal and visitor at Hamilton Zoo is when visitors bang on the glass of the capuchin enclosures. One monkey has trained visitors to hit the glass when he does, to the point that the zoo has placed a sign and built a fence to block visitors from this interaction, as well as implementing training with the capuchins to curb this behaviour. The fence is intended to create distance between visitor and animal; visitors will still lean on, climb over and sit on the fence, and engage in this back-and-forth exchange with the monkey. It is only staff intervention that prevents the behaviour, which aligns with the results of Tay et al.'s (2023)

study. It is possible that issues such as language barriers may contribute to lower effectiveness of signage on curbing unwanted visitor behaviour. Translation apps on cellphones have likely made signs written in English more accessible to foreign zoo visitor. While this topic was outside of the scope of this study, the effect of translation apps and visual cues on visitor reception signage could be a relevant and interesting focus for future studies.

## Conclusion

The environment at Hamilton Zoo changed for the birthday party of the two tiger cubs born at the zoo, in celebration of them turning one year old. Visitors were told when they entered the zoo that the party was occurring, and then an announcement was made 20 minutes prior to the keepers setting everything up. I watched the keepers enter the enclosure and sweep the perimeter, checking the enclosure for something unknown. Before pulling boxes, balls of ice and toys for the tiger cubs from an offroad golf buggy, one keeper hooked herself up to the speaker system with a microphone and spoke to the crowd about the tigers at the zoo, and Sumatran tigers more generally. She spoke about threats to their habitat, and why they chose to put out enrichment rather than food: tigers run and hide to eat their food, which is less interesting to watch than toys, scents and ice blocks. As the keeper spoke about the tigers at the zoo, the crowd in the tiger viewing space grew. The crowd was quiet and still as the talk happened, and the keepers set up the environment. Despite not being able to see it myself, I knew exactly when the cubs and Kirana began their descent through the enclosure because the whole crowd around

me turned, gasped and surged forward towards the glass. As the cubs came around to the front of the viewing platform, so did the crowd. The cubs held the interest of the crowd for fifteen to thirty minutes, before the groups began to peel away, and I was able to see through the crowd. Multiple zookeepers had joined and were engaging with visitors, answering questions and telling stories about the tigers.

When the zoo environment changes significantly, the way that visitors occupy the space in the zoo is also changed by the conditions of the zoo at the time of their visit. The multiplicity of roles that zoo staff manage means that exceptional, out-of-the-ordinary events are not quite commonplace, but certainly semi-expected. They also demonstrate a particular style of communication with visitors, directing flow of foot traffic for example, or the presence and absence of announcements over the P.A. system, which facilitates moments of engagement between visitors and animals by advertising enrichment and feeding demonstrations. The maps provided to visitors at the zoo promote a completionist approach to the zoo, ensuring that no visitor misses the opportunity to observe an animal enclosure but is at odds with the complex pathway system. The pathways at Hamilton Zoo may also affect individuals' abilities to engage with conservation education, both allowing the elderly and disabled to access nature in new ways. At the same time, the uneven pathways and gravel may potentially inhibit others from accessing areas of the zoo.

Visitors may be prevented from connecting with nature experiences and conservation education in zoos due to the design of the enclosures, which may be unintentionally inaccessible. While the fencing at Hamilton Zoo is naturalistic; largely wooden and chain link fences, the marked “animal”, “visitor” and “staff” spaces direct visitors through their interactions, ensuring both safety, and separation of belonging. There is an unspoken trust and respect in the visitors of Hamilton Zoo which is communicated through the fencing style. Varying types of signage throughout the zoo paired with the multiple ways to experience the zoo, from pathways chosen to weather impacts, means that no two zoo visitors have the same experience, or learn the same information. Some enclosures have multiple viewing points, like the chimpanzees, but signage may be more plentiful at one viewing area. The signage varies between locations, both in style and in content. Thus, zoo visitors who do not enter the Chimp Whare receive less information than visitors who do. As a result, they may not recognise chimpanzee behavioural displays for what they are and could misinterpret an aggressive display smile as a friendly encounter.

The animals in an enclosure, designs of enclosures, including theming and accessibility, and the role of signage alters the experience of the visitor, and the capacity of connection between animal and visitor. The lived, phenomenological experience of the visitor in the zoo may also be to the benefit or detriment of communicating the messages of conservation, in the continual balancing act conducted by zoos between their multiple, and conflicting, roles. Visitors to Hamilton Zoo experiences may shape their engagement with conservation ideas, by changing how they interact with the enclosures, and animals in them. The priorities of the zoo may not align with the priorities and values of the visitors,

but the responsibility of bridging this gap continually falls onto the zoo, leaving the visitors minimal leg work in terms of critical engagement with the problem of conservation.

## Chapter 2: Charisma and Connection

### Introduction

Disconnection from nature and the presumption of pristine nature existing “elsewhere” is a contributing factor for zoo visitors not engaging in pro-environmental behaviours, such as purchasing organic food and belonging to an ‘environmental organisation’ (Nisbet, Zelenski and Murphy 2008). Zoos perform a service of connecting people with nature, especially nature they would be otherwise unable to interact with, such as exotic species. Existing literature suggests that the primary function of zoos is visitor experience; visitors come “[...]to see the sights, to take in animals with regard to their capability for spectacle and performance” (Montgomery 1995, p. 574).

An animal’s capability for spectacle and performance, through how active, “cute” or “dangerous” it is perceived to be, contributes to an animal’s charisma. Charismatic species are those that are more positively received than others, which is to say they hold “exhibition value”, and that the set of animals which have charisma are “the necessary basis for any general collection” (Mullan and Marvin 1999, p. 73). There are animals which we feel should be protected and therefore expect to see in zoo spaces (Sommer 2008), such as *charismatic megafauna*. Bears, great apes, big cats and elephants have been identified as the “cornerstone of the wildlife tourism industry” (Skibins, Powell and Hallo 2013, p. 960), with tigers, chimpanzees and giraffes being considered the most charismatic species in a zoo (Albert, Luque and Courchamp 2018) and therefore expected species to be present in zoo spaces.

There are more media stories about charismatic species than comparable non-charismatic species, with visitors also showing more interest in mammal species in zoos

than other taxa (Hosey, Melfi and Ward 2020). However, visitors wanting to observe these animals in captivity is separate from them wanting to protect these species in the wild (Albert, Luque and Courchamp 2018, Sommer 2008; Mullan and Marvin 1999). It is understood that zoo visitors have preferences between taxa, they also have preferences within taxa too (Powell et al. 2024), and species considered charismatic tend to share certain traits including rarity, strength, beauty or perceived level of danger (Sommer 2008; Albert, Luque and Courchamp 2018). Many studies have shown that how long visitors stay at an exhibit is linked to animal activity level, and the emotional response of the visitor towards the animals on display (Altman 1989; Ridgeway, Livingston and Smith 2005; Moss and Esson 2010; Luebke et al. 2016). However, some animals are unable to capture attention from visitors for several reasons, including lack of recognition, low activity level, and those which lack the ability to be anthropomorphised (Mullan and Marvin 1999). This sense of charisma may be conferred through the perceived traits or through the activities of the animal being observed: active animals are interesting animals (Altman 1989; Ridgeway, Livingston and Smith 2005; Moss and Esson 2010). Other species, like ferrets, may have their charisma removed and their actions understood solely within the context of ecological damage.

## Charismatic Species

Visitor feelings about zoo animals, and the length of time visitors watch animals is dependent on the animals' behaviour and activity levels (Altman 1989; Ryan, Hughes and Chirgwin 2000; Ridgeway, Livingston and Smith 2005; Moss and Esson 2010; Luebke et al. 2016). My observations at Hamilton Zoo align with this. Visitors will stay for longer

when animals are active and may assume that an enclosure is empty if the animal is not easily seen. One of the best examples of this are the reptiles at Hamilton Zoo.

On one occasion, a crowd of people and I watched as a keeper attempted to feed and weigh the lace monitors. She placed down both the scale and a fake log and prepped herself with a thick arm-covering glove and a pair of long tweezers. One lizard went smoothly; while rapid, she was compliant. The second lizard, once introduced to the equation, was more aggressive. The keeper tipped the plastic pottle container of meat to pour the meat juice onto the floor for the lizards, only to drop it when the male lizard charged at her. He escaped with the container as his loot and stayed with it, on his log, crushing it slowly. The keeper radioed a passing co-worker, who retrieved a second container of meat, and the lace monitor was bribed into releasing the non-food containing pottle. The lizard's escapades had drawn a crowd, captured by the antics, and the perceived danger of the keeper's predicament, emphasised by the crushed container. As the interaction drew on, and the lace monitor sat proudly holding his plastic prey, the crowd dispersed. It appears to me that while active, or "performing", the lace monitor became charismatic. In this interaction, the perceived level of danger captured visitor attention and interest. When the strength and speed were no longer at the forefront of its behaviour, the lace monitor was no longer captivating and no longer anything more than "a lizard".

For an animal to be considered charismatic by the zoo visitor, it requires the animal, and the zoo presenting it, to maintain a perception of 'the wild' in a socially accepted fashion.

This allows visitors to engage with the ‘nicer’ parts of the wild nature, without whittling down the authenticity of ‘the wild’ by appearing too domestic or tamed in nature (Mullan and Marvin 1999). While there is sometimes agreement between visitors and zoo staff on which animals should be maintained in zoo environments (Powell et al. 2024), the concept of charisma may be understood differently between visitors, and those working within the zoo spaces (Sommer 2008).

I observed many visitors being reluctant to spend time in the sections of the zoo which focus on the native New Zealand birds, which requests visitors be quiet. One example of visitors of this reluctance is when a man and his daughter spent a considerable amount of time seeking out the red panda; they debated where to go next, and the daughter called out the Aviary as an option. It was nearby, shaded and “right there!” Her father gave her a sideways glance, gently pressing her “You do know it’s just birds, right?” before giving in and following her through the gates. This demonstrates that this visitor attributes a low value to birds as an exhibition. The alternative paths would have taken them past either the chimpanzees, or the meerkats and lemurs. This may have influenced this visitor’s diminished view of birds, as he may have viewed these mammalian species as holding greater charisma and therefore being more interesting to observe.

On a global scale, zoo visitors find bird species less relatable than other species in a zoo with interest only being held for the period of time when the birds are engaged in a free-flight performances, or enclosure (Mullan and Marvin 1999), suggesting then that birds which are not exceptionally notable are not ordinarily charismatic. They become

charismatic, and they hold exhibition value when performing, or where exceptional closeness may be achieved, such as in a Free-Flight Aviary. During these times, the charisma of the bird has the potential to increase. Charisma can also be conferred through the presence of traits such as impressiveness, beauty, danger and rarity (Albert, Luque and Courchamp 2018). I expect that birds of prey may be perceived as dangerous and impressive, the colour of macaws may be equal to beauty, and penguins are notably rare. However, many common urban dwelling bird species are small and dull in colour, so I would not expect these charismatic traits to be attributed to them. The indifference to bird species displayed by visitors to Hamilton Zoo, both in and outside of enclosures, suggests that native New Zealand bird species, even when performing and accessible, are considered less charismatic, less attractive and less supportable to the average zoo-goer than other bird species. This may be because of their prevalence within the zoo grounds that there is little to no reaction from visitors when seeing the birds, even when they come extremely close. It is possible that because these animals are not in an enclosure, they are not within the mind of most zoo visitors and are therefore “invisible”, especially when visitors are locked onto larger mammalian species. Another possible reason for the apparent lack of interest in these birds is that local visitors expect to see these species in bushy settings and are normalised to their presence.

Charismatic species are usually the most visited exhibits in a zoo (Collins et al., 2023). The indifference towards the New Zealand native birds suggests that they are not considered highly charismatic by visitors to Hamilton Zoo. A study looking at what species of animals' zoo-goers seek out during their visits identified that birds were not popular,

apart from penguins (Carr 2016). Another study found that visitors to a zoo spent the least time at bird exhibits than other taxa, although penguins too were the most interesting of the birds in the study (Moss and Esson 2010). Charismatic species are routinely anthropomorphised by zoo visitors (Albert, Luque and Courchamp 2018), which is easiest to do with animals that are phylogenetically similar to humans, like chimpanzees and gorillas. Collins et al. (2023) found that the animals which most visitors feel the most positive towards are primates. This suggests that relatability and connection are key to the charisma of an animal, which aligns with observations made by Chris during his time working at Hamilton Zoo.

Connections between animals and zoo visitors have been associated with meaningful and positive engagement with the environment. Zoos are commonly thought of as a location which combats disconnection between people and nature (Grajal et al. 2016). Positive interactions with animals increase care and concern beyond conservation, promoting engagement with climate issues (Grajal et al. 2016). Signage and humanization of animals through displays may be one way to facilitate positive associations when a face-to-face encounter isn't possible (Grajal et al. 2016). The Chimp Whare, at Hamilton Zoo, is an indoor housing accessible to visitors. Here there is signage specifically relating to the facial expressions of the chimpanzees, which encourages visitors to try and make their own "chimp faces". Furthermore, this area is one of the only parts of the zoo where the display incorporates the names, traits and identifying features of the animals on display. The primate keeper I spoke to, Rowena, told me these signs

are removable so they can be kept up to date as the troop changes. This signage portrays primates as emotionally intelligent animals with interpersonal communication skills.

Another way Hamilton Zoo has facilitated connection between visitors and animals occurred shortly after the birth of two tiger cubs. Zoo visitors I spoke to frequently brought up the times when the cubs were not on display. However, during this time Hamilton Zoo had a television above the glass window of one of the enclosures which played a video feed to the off-display area where the tiger cubs were housed, so that visitors were still able to 'observe' the cubs. Visitors spoke about Karina (the tiger cubs' mother) being a "good mom" during this time and spoke positively about being able to feel "included", rather than knowing about the cubs abstractly, but not being able to view them. This type of interesting signage increases the charisma of an animal, in the mind of the visitor, by making the interactions more engaging, possibly because the animals appear more "humanlike", and therefore easier for visitors to relate to, even when the signage is not about primates (Davis et al. 2023).

## Non-Charismatic Species

On any given day, the quietest place in the zoo is next to the lizards, as in all my observations at the zoo, visitors rarely stopped. If you have a migraine I suggest turning off next to the ruffed lemurs and sitting under the canopy at the tuatara, where once I sat for an hour, midday on a Saturday and was only passed by six groups, while at other enclosures which are equally out of the way had twenty or more visitors in the same

period of time. Visitors who do stop near the lizards make comments on the length of the lizard's nails, contemplate their jaw strength or go so far as to make unsavoury comments: "Eugh", "creepy" and "it's Godzilla, he's coming for you". School kids goad each other into getting closer to the lizards, and with each bantering prod, the chosen tribute screams, flapping their arms and pushing back.

At the same time as being considered non-charismatic, reptiles are considered exceptionally uninteresting. Preferring to basking under lights, and requiring a certain warmth to become active, both the lace monitors, and the native lizards, may be overlooked, literally. Complaints of: "Come on, it's not *doing anything*," and "Is there anything in here?" are common among visitors to Hamilton Zoo. It seems especially pertinent to visitors that animals fulfil three requirements to captivate an audience: First, to be attractive, or cute; fluffier animals, or those snuggled in a group, hold court for longer. The second requirement is to be a baby: the tiger cubs draw crowds and attention, even when asleep and half hidden. The third requirement is for the animal to be doing something: Unless you're a tiger cub, or a puddle of lemurs with tails and tired eyes peering back at visitors, lack of action is equal to lack of attention. I overheard a visitor complain: "You should get a refund for every animal you don't see". While another group had the following conversation: "I swear they had a red panda last time I was here", "It's in the tree", "Oh, where we can't see? Why'd they do that?".

Charisma may therefore be conferred as a willingness for the animal to perform. An animal's charisma may then be renegotiated based on how well the visitor feels the animal

has completed its obligations to the visitor. There appears to be a perception by some visitors to Hamilton Zoo that because the visitor has purchased a ticket, they are obligated to view animals which are sufficiently interesting. Complaints about being unable to see an animal, or that the animal is boring, echo sentiments expressed by concertgoers who are provided a seat with an obstructed view. This is to say they appear to feel “ripped off”. Animals which are usually non-charismatic, such as reptiles, may become charismatic through their performances.

Visitors also expressed sentiments that it is unenjoyable to see animals behaving “poorly”. Pacing, hiding, pulling at one's own fur, and snatching a bird from the sky and de-feathering it are all animal behaviours which visitors to Hamilton Zoo expressed discomfort at seeing. Parents rapidly redirected their children's attention to the next enclosure, muttering about how “sad” the animal, and sometimes the display, was. Visitors perceive the acceptability of an animal's behaviour to be consistent with its expected charisma. Visitors do not express welfare concerns about lizards and other species considered unsavoury by many and all behaviours are regarded as equally off putting. Monkeys, lemurs, tigers, caracals and giraffes appeared to have an expected level of decorum placed upon their behaviour. Performing was good, provided they performed “correctly”. It is likely that this is connected in some manner with how much a visitor thinks they know about the animal they are viewing, though I did not discuss this with visitors.

There seems to be a prevalent idea within the general public's psyche that animals "should" display a set of characteristics or behaviours, and become concerned or frustrated when these are not what they are seeing. The tigers, for example, have a shallow concrete pool in one enclosure and a large pool in the other. These are full of water and readily available to whichever cats are in the enclosure at the time. However, it was uncommon to see the cats near the water, or swimming. In the time I visited the zoo I saw one cat drink from the pond once, and one tiger cub entered the shallow pool twice, although I did see the cubs wet on other occasions, so they had previously entered the pool, prior to my arrival. In conversation with one guest, at the zoo specifically to photograph the tigers, she spoke at length about wanting to photograph the tigers eating. She became disgruntled when this never occurred, and later when the tiger in the enclosure approached the water, and walked along its edge, but never entered she said, "I wonder why they aren't swimming?" later stating "who doesn't want to see a tiger swimming below them?"

Hobby photographers were more common in the Free Flight Aviary than other kinds of visitors and made up a large portion of the zoo visitor demographic at other enclosures too. They stood armed with cameras with long-zoom lenses, stood silently for several minutes in the middle of pathways and while leaning against the fences, seemingly staring into the middle-distance of branch, leaf and bird. The behaviours being sought here were mostly preening and flying, though many seemed happy to just see the birds at all. Hobby photographers were common at other enclosures, and on one occasion two middle aged women took up residence along the side of the wetlands pathway where they began

sketching the Muscovy ducks. They told me that they had specifically requested, upon entering the zoo, to be directed towards the “least appreciated” animals. When the farm proved too busy with children, due to its proximity to ice cream, bathrooms and a playground, they found the ducks tucked off the beaten track, literally. These ducks were rarely acknowledged, tucked away behind shrubbery and rarely on the lake in the Wetlands area, and here they seemed especially pleased with their new admirers; quacking loudly and waddling along the fence line. In previous visits, I had never noticed these ducks. The idea of seeking out animals which are rarely observed and therefore “left out” aligns the experience of the animal with the empathy expressed by the visitors, even if the animal itself does not actually care, or notice that it is being asked to perform.

There comes a time to mention what Hamilton Zoo does not have. With over 450 species (Hamilton Zoo 2025a), Hamilton Zoo is impressive. However, it has no dedicated space to house any insect species, and the amphibian collection is limited to the Hochstetter’s frog in an enclosure with poor access for viewing. The page for the Hochstetter’s frog on Hamilton Zoo’s website indicates that this frog is “off display” (Hamilton Zoo 2025f), though there is no reason to believe it being “on display” would change how the zoo enclosure is set up. It is unlikely that these species are often considered charismatic and therefore receive low visitor support. Hochstetter’s frogs, a New Zealand endemic frog, is also nocturnal (Hamilton Zoo 2025f) which further affects the ability for visitors to engage with frogs in meaningful ways. There are frogs in the front window of the zoo reception desk, though there is no obvious information visible to passers-by. Frogs are an antithesis

of charisma, in the traditional sense. They are neither cute, nor fluffy, although they are small, and they are hard pressed to “perform”.

Hamilton Zoo is a member of the World Aquarium and Zoo Association (WAZA) (World Association of Zoos and Aquariums 2025). They have a “One Plan Action” conservation strategy (World Association of Zoos and Aquariums 2015), to which Hamilton Zoo complies with, as a member, states: “We have a duty to develop and adapt intensive wildlife-management techniques for use in protecting and preserving species in nature” (World Association of Zoos and Aquariums 2015 p. 17) and “The One Plan Approach also mandates that animals maintained in zoological facilities play a conservation role that benefits wild counterparts” (World Association of Zoos and Aquariums 2015 p.18). Local initiatives of conservation such as preservation, research, and breeding of endangered native and endemic species fulfil this requirement. This is not to say that conservation of exotic species does not also fulfil this obligation. Rather, all species in Hamilton Zoo operate with the intention of aiding conservation projects in some capacity, and the interest from visitors is an additional bonus support, rather than the intended reason for holding such species. Compared to the value of New Zealand native birds, the amphibious species within our borders have not caught public attention, though a zoo could be the location for these animals to be considered charismatic. Even without their own charisma, native reptiles, birds and amphibians benefit from the charisma of other species, whose attraction funds their protection.

## Animal Encounters, Flagship Species and Fundraising

Support for conservation projects within the zoo spaces is not mediated by how endangered a species is, but rather by an animal's charisma (Colléony et al. 2017; Martin et al. 2014). There is a taxonomic preference for large mammalian species to be conserved (Tisdell, Wilson and Nantha 2006), however, studies have found that zoogoers are more fiscally supportive of endangered and non-charismatic species than charismatic species (Colléony et al. 2017; Tisdell and Nantha 2007). This suggests that the species people care about conserving are not necessarily the same animals that people find entertaining at a zoo. Closing the gap between people and nature through activities, including those where participants can see and touch animals, reduces the perception that some participants of animal encounters have that they are separate from nature (Schultz 2000). Hamilton Zoo offers a range of species for “close encounters” including tigers, rhinoceroses, macaws and agouti (“magouti”), tuatara, cape porcupine, lemurs and siamang gibbons (Hamilton Zoo 2025g). The prices of these experiences at Hamilton Zoo vary between species, and do not reflect the level of interaction you may have with those species, but rather the popularity of the encounter. Tiger encounters are the most expensive at \$99 (Hamilton Zoo 2025g). This encounter expects visitors to maintain a distance from the tigers, versus the lemur or porcupine encounters (\$59.99 and \$39.99 respectively), both of which allow you to enter the animals’ enclosure but not touch the animals (Hamilton Zoo 2025g). Price also does not reflect how often these encounters are run; encounters vary throughout the week but happen multiple times each. For example, the encounters on Friday are not the same as the encounters available on

Saturday. Encounters available on Saturday of one week are not necessarily running the following week; zoo staff explained to me that rotating encounters help lower the risk of the animals developing anticipatory behaviours.

The encounters also vary in which individual animals are involved, when possible, to avoid anticipatory behaviours developing. Because there are multiple tigers which may be used in encounters, this is easy. However, this is harder for macaws and siamangs, because the encounter either happens inside their enclosure, or because there is a limited number of individuals available. Regardless of which individual animal is used for an encounter, keepers remind participants of the encounter that an animal's participation is entirely voluntary. This means that some encounters may be shorter than others, or more interactive, depending on the behaviour of the animal. In a conversation with a zoo visitor, Karen, she made a point to mention that she felt Hamilton Zoo *undercharges* for its animal encounters, stating she felt for the experience you get meeting a tiger, it is worth paying nearly \$120NZD. When visitors purchase tickets for an animal encounter they are advised that “80% of the purchase price for an encounter goes towards supporting the species within the zoo and the wild” (Hamilton Zoo 2025g, para. 2). If the goal for the zoo is to make the most money, it would benefit them to prioritise close encounters with charismatic species, as this would result in the highest level of engagement and support (Tisdell and Nantha 2007; Colléony et al. 2017).

Experiencing an animal interaction, such as an animal encounter at a captive-animal facility, rather than limiting interactions to observation and sign-reading, increases support

of conservation policies by visitors (Swanagan 2010; Massingham, Fuller and Dean 2019). Hamilton Zoo is not a facility that encourages visitors to physically interact with any of its species, including farm animals like kunekune pigs, so engagement from visitors comes through the form of animal encounters. These are occasions when the boundary between habitat and observation space may be blurred.

Compared to other zoological facilities which may participate in visitor-animal interactions such as holding lion cubs for photos, or hand-feeding birds, all encounters are mostly equal in interaction between visitors and animals. This means that less charismatic species may create meaningful interactions and therefore lasting connections between themselves and the visitors in the same way as charismatic species in encounters might. This is because zookeepers facilitate the interaction and may create excitement around the animal that the animal would not ordinarily create.

Given the interest, care and support offered by visitors towards projects involving charismatic species, why would Hamilton Zoo not be stocked with more species that draw attention and high levels of investment from visitors? Firstly, larger species cost more to keep; Auckland Zoo spent over 3 million on its Asian elephants, but only 120 thousand on its wētā programme in 2017 (Lawton 2017). Flagship species are recognised within conservation literature as species that are symbolic, which raise public awareness, and which are perceived as charismatic or popular (Simberloff 1998; Skibins 2015; Braverman 2012). Some species are obvious choices as flagships, such as the “big five” (Rhinoceros, Lion, Leopard, Elephant and Buffalo) or other megafauna like Pandas. However, the

obvious choice for many white, European audiences may not align with the perspectives of indigenous communities (Entwistle and Bowen-Jones 2002). Species which are not traditionally thought of as charismatic may still be effective flagship species for local conservation projects because flagship species, and their perceived charisma, may be influenced by geographical and cultural contexts (Entwistle and Bowen Jones 2002).

I argue that attempts to educate visitors to zoos should be made in a way which makes sense for the environment. This is because zoogoers, like other ecotourists, may restrict zoos to a few categories which homogenise the experience of nature-based tourist spaces (West and Carrier 2004). When a tourist space is perceived as a “natural” area, and the intent of the visit to that area is observation and entertainment, attempts for education may feel invasive (Ryan, Hughes and Chirgwin 2000). The appeal of such places is “affective rather than cognitive” (Ryan, Hughes and Chirgwin 2000, p. 157) which aligns with observations of Hamilton Zoo as a place of entertainment and socialization. This can be best demonstrated by the expectation of certain animals within the zoo borders, or some combination of the usual selection (Sommer 2008; Skibins, Powell and Hallo 2013), with flagship species being among the most attention-catching species (Moss and Esson 2010). Flagship species make sense within in situ (“in place”) conservation, where the value of biodiversity may be dependent on the conservation of flagship species (Kontoleon and Swanson 2003). But they have also been used effectively in ex situ conservation contexts (Dietz, Dietz and Nagagata 1994). It is important then that zoos wishing to utilise flagship species should consider wider

education ambitions and the local geographic and social contexts when selecting their iconic species.

Charity work and fundraisers may be an effective way to combine education opportunities with entertainment, and make conservation feel accessible for visitors to Hamilton Zoo. At a charity event on chimpanzee day last year, Hamilton Zoo hosted a charity auction, organised by one of the keepers, Rowena, for the Jane Goodall Institution (JGI) which raised four thousand dollars for the Burindian Chimps. This included selling paintings created by the chimpanzee troop in Hamilton Zoo, which were signed by Jane Goodall herself. This event was open to the public, and Rowena estimated one thousand dollars was made through the purchases of raffle tickets alone. The Burundi is a troop of six chimpanzees which were rescued from situations such as being kept as illegal pets, and which are housed at Musée Vivant in Burundi (Jane Goodall Institute Australia 2023). The Jane Goodall Institute and Taronga Zoo support Musée Vivant, and both fundraisers supported the development of the chimpanzee care and the development of the facility (Jane Goodall Institute Australia 2023). Past fundraisers for JGI Australia, which Rowena has attended, raised over \$50 000 AUD for the same troop of chimpanzees. Chimpanzees are not at the forefront of Hamilton Zoo's marketing, though the only other zoo with a troop is Wellington Zoo (Wellington Zoo 2025), but the Hamilton troop being at the forefront of a conservation campaign such as JGI Australia's interlinks their value with the fate of the Burundi troop in a similar way to how flagship species have been defined within in situ conservation projects.

## Pests and Problem Species

Ferrets should be considered some of the most charismatic species in the zoo. They are cute, fluffy animals that, despite sleeping 18 hours a day (Hamilton Zoo 2025h), are active and engaging animals. I have seen the ferrets at Hamilton Zoo chase each other around the whole enclosure, scrambling up shelves and wriggling through tubes in such an erratic manner it is impossible not to be enraptured. The two male ferrets that Hamilton Zoo has on display, were caught onsite, and the zoo is permitted to hold a maximum of three. Their enclosure is deliberately modelled after a DOC tramping hut, complete with a gutted fireplace, shelves decorated with pots and pans, and an outdoor space with red-band gumboots. Their position adjacent to the tuatara and Weka Walk contextualises the plight of New Zealand species against invasive mammalian predators.

The signage surrounding these animals and their enclosure paints a dire picture of pests decimating ecosystems. Chris, whose job includes ferret care, believes that the signage at Hamilton Zoo portrays one story of the ferret, as a pest in the New Zealand context. He would rather the ferret be given signage with neutral language: “they have their own predators, they have their own prey, they are seasonally adapted to those areas. Sure, educate people on the effect they have on our wildlife, but educate people on what that ferret's own history and natural history is, and how they are where they belong, not just what they do here.” With the current language and framing in the ferret signage, they are portrayed as ecological terrorists.

Possums, kiore, ship rats and ferrets play a role in New Zealand as the flagships of predator eradication projects. They are widely known by the New Zealand public, and the subject of conservation projects, aimed at their eradication rather than protection. The positioning of the ferrets among the native species whose ecosystems they decimate contextualises this conservation messaging for visitors. It maps a story. The ferret, within the zoo and New Zealand more broadly, cannot be separated from the native animals and ecosystems. These ferrets were caught within the boundaries of Hamilton Zoo, where the fences are designed to keep animals in rather than out. Although there are benefits to this, there are no other animals which are politicised in this fashion within the zoo. Even rhinoceros and tigers, whose signage calls out both the ivory and palm oil industries, are allowed to exist as animals, represented within their home contexts, rather than as political entities within the zoo sphere.

The first of the ferret's interesting facts on their signage reads "Mainly nocturnal, ferrets have had a major impact on our native wildlife, they can also carry Bovine TB." (Figure 9). There is value in presenting ferrets neutrally, rather than in the context of being a pest, because outside of New Zealand, ferrets are critical to many ecosystems. Keeper Chris brought up that the Black Footed Ferret, native to North America and considered "endangered" by the IUCN (Belant et al. 2015), was once fully extinct in the wild, saying black footed ferrets are "[...] one of the few conservation success stories about reintroducing an extinct wild animal to the wild." While not the species we have here in New Zealand, ferrets more generally have a role to play in conservation history, and ecosystem change and preservation projects. They are beneficial in the ecosystems they

evolved within and to portray them exclusively as predators is to decontextualise the species and miss an educational opportunity.



Figure 9. Photo of part of the informational sign for Ferrets, cropped to show only the interesting fact. Photo taken by the author.

No other animal in the zoo is displayed outside of its natural habitat in the way the ferret is. Hamilton Zoo appears to have gone to great lengths to achieve natural appearances within many enclosures, including the ponds within the tiger, lemur and lower-zoo siamang enclosures and dense planting for the cotton-top tamarin. People who work in ecotourism spaces face pressure to cultivate “concern for environmental conservation and respect for local communities,” (West and Carrier 2004, p. 491); the ferret is a tool to achieve greater respect for community conservation projects, such as backyard trapping and 1080 baiting of mustelid and rodent populations, within New Zealand.

As interpreted in the conservation movement, respect for local communities and concern for the New Zealand environment means removing the ferrets' charisma. The theme of the ferret enclosure means that anyone who visits Hamilton Zoo and then does a multiday hike, will recognise these huts as a location that ferrets inhabit, rather than forest and shrublands. "I personally would have tried to put them in a natural habitat, where they would have been found in the wild, so people could learn about ferrets as ferrets, not as pests. Incorporate a little bit of that pest into how it affects New Zealand, not the other way around," Chris said. In contrast to the ferret, the kunekune pigs, fallow deer and goats, other animals that cause damage to New Zealand ecosystems, do not have pest-based messaging, though the enclosures for these species do replicate a farm paddock environment rather than wild habitats. I spoke with Todd<sup>6</sup> an ungulate keeper, who noted that in his experience, many visitors speak about eating and hunting farm species, and do not necessarily believe that they should be conserved.

## Conclusion

In zoos, charismatic species and non-charismatic species are both there owing to efforts to conserve, educate, and entertain. In a zoo setting, some animals are more effective ambassadors than others, and popularity is one key factor. Charisma is negotiated through visitor perceptions of the animal; beauty, rarity and impressiveness are all valid and competing explanations of an animal's perceived charisma. Charisma, combined with how interactive that animal is, or how well it lives up to its reputation for

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<sup>6</sup> Not their real name

performing a set of characteristics and behaviours, mediates the satisfaction that visitors to the zoo feel. This then affects how much support and attention visitors are willing to provide for that animal, both during and after their visits. Close interactions with animals are the best places for zoos to foster connections between animals and visitors, therefore extending the time that that species might be considered worth caring about.

The future of endangered animals in situ may rely on their relatives in zoos to advocate for their rights to existence. Therefore, it is the job of those who work at zoos not only to educate, but to connect people and animals, and bridge the division of nature as “there” and us as “here”, including navigating complex relationships between an animal as a pest in one context, and an endangered animal in another. Animals which do not hold the ability to be charismatic to humans, in that they do not fulfill the requirements to hold attention, may become temporarily charismatic through behaviours such as fast movements, feeding and perceived danger to keepers. Animals which are unable to do even this, such as native and endemic reptiles and amphibians, benefit from the megafauna species which act as flagship species for the zoo. These species draw in advocacy, fundraising and awareness while the smaller species reap the benefits indirectly. The visitors that I spoke to, often compared their experiences at Hamilton Zoo to other zoos in New Zealand and globally, often expressing greater positive sentiments towards Hamilton Zoo than other zoos visited, due to their ability to connect with key charismatic species during their visits, suggesting this is highly valued within the community.

## Chapter 3: The Zoo Cares More Than You Do

### Introduction

Animal welfare, and visitor perceptions of it, has long been a topic that plagues zoos (Wickins-Dražilová 2006; Packer, Ballantyne and Luebke 2018). Throughout my interviews and conversations with zoo staff, volunteers and keepers, the animal's welfare was always emphasised as paramount, with the animals having agency in almost all aspects of their life, from animal encounters to whether they go on display. I also observed

several visitors in how they engaged with animal welfare and the concept of care, and knowing. The size and design of the enclosures, activity levels of animals, and visitors' perception of what they know about animal welfare contribute to attitudes and concerns expressed by zoo visitors. Hamilton Zoo and its keepers care deeply about the animals in their care. At the same time, cost and space limitations constrict what the zoo can achieve and in what time frame. Animal welfare research in regard to welfare assessments and strategies is constantly developing (Partoon et al. 2025; Tallo-Para 2023) and perceptions of what animal welfare looks like, for example how acceptable live feeding is perceived to be, varies between countries (Yamanashi et al. 2025), making management of welfare complex and variable for zoos globally, and hard to communicate to and conceptualise for visitors. This is not necessarily because the zoo visitors do not want to know, or do not care to know, but rather because of a number of factors: the amount of trust that visitors have in the zoo and its staff in their roles as experts, and the troubles that many people have when engaging with scientific education, both in and out of formal education spaces.

This chapter examines these issues, with a focus on how visitors to Hamilton Zoo conceptualise animal welfare and how staff at Hamilton Zoo understand and work towards animal welfare. I argue that these two conceptions of animal welfare do not always align, and that zoo visitors do not understand all the factors that go into maintaining welfare standards, while actions taken by Hamilton Zoo may not be intuitively understood by visitors to be for welfare purposes.

## Welfare and “Naturalism”

Zoo visitors tend to prefer naturalistic looking enclosures when viewing zoo animals (Packer, Ballantyne and Luebke 2018; Lukas and Ross 2014; Melfi, McCormick and Gibbs 2004; Rhoads and Goldsworthy 1979), with many people believing that enclosures which are more accurate representations of the animals natural habitat offer the animals a higher quality of life (Melfi, McCormick and Gibbs 2004; Tofield et al 2003; Sha Chih Mun et al. 2013; Packer, Ballantyne and Luebke 2018; Rhoads and Goldsworthy 1979). There is a wide variety of definitions of a “naturalistic enclosure” across many studies (Tofield et al 2003; Packer, Ballantyne and Luebke 2018; Nakamichi 2007; Melfi, McCormick and Gibbs 2004; Lukas and Ross 2014; Rhoads and Goldsworthy 1979). Zoo visitors in Japan have also been demonstrated preferring newer enclosures (Nakamichi 2007) though this preference didn’t apply to some species, such as apes. Furthermore, this preference may not be for the naturalistic aspect of the enclosures, but for the increased visibility through glass walls (Nakamichi 2007). Visitors across several zoos spent more time viewing zoo animals in enclosures which are considered naturalistic, compared to artificial enclosures, and exhibits which the visitor understands to be large and allow for free-ranging movement (Wilson et al. 2003; Davey 2006; Sha Chih Mun et al. 2013), suggesting a preference for these designs, at least in some places. It is my belief that these issues are relevant to zoos in Hamilton, and New Zealand more generally.

The way that visitors perceive enclosure suitability may be connected to how well the enclosure emulates the natural habitat of the species on display, or how “naturalistic” the

enclosure is. Lukas and Ross (2014) documented the change in visitor attitude towards primate species before and after a renovation to the primate enclosures in Lincoln Park Zoo in Chicago, Illinois. After renovations of zoo enclosures from less to more naturalistic, visitor attitudes towards the primates improved (Lukas and Ross 2014). "Visitor attitudes" were documented through a survey to determine whether zoo visitors felt "naturalistic", "ecoscientistic", "moralistic,", "negativistic", "dominionistic" or "utilitarian" towards the animals. After the renovation, visitors felt more "naturalistic" or "ecoscientistic", meaning more interested in nature and wildlife, or more concerned about the environment and wildlife (Lukas and Ross 2014, pp. 441-442). This association between the attitude of the visitor towards the animal on display was small, so it wasn't the change in the enclosure appearance alone, but one of multiple contributing factors to a visitor's changed perspectives on zoo-captive species (Lukas and Ross 2014). Realism, space for activities and optimised observation were cited as reasons why zoo visitors preferred some animal exhibits over others, with the least popular exhibits being described as small, dark, and wet (Tofield et al. 2003). After a study of the perspectives of university students in Arizona, Rhoads and Goldsworthy (1979) made the general recommendation for all zoos to use natural or semi natural enclosures over caged enclosures, when possible. This was to elicit "an accurate perception of the animal" and because "natural settings will enhance the public's full appreciation of our fast-disappearing wildlife" (Rhoads and Goldsworthy 1979, p. 286).

I only found one study which investigated the quality of naturalistic enclosures across a series of zoos and several species. Fàbregas, Guillén-Salazar and Garcés-Narro (2012)

judged the quality of naturalistic enclosures across a series of Spanish zoos, and several species, by how well both naturalistic and non-naturalistic enclosures meet welfare criteria. They found that naturalistic enclosures tended to provide more suitable welfare conditions for the animals than non-naturalistic enclosures, but that naturalistic designs were not a determinant for animal welfare. Melfi, McCormick and Gibbs (2004) similarly pointed out that visitors evaluate welfare based on aesthetics and personal preference, which is not an accurate reflection of the actual condition of welfare at a zoo. It has been made clear from many studies across multiple countries that realism, or the perception of a real-appearing enclosure, is important for zoo visitors' interest, and perception of welfare for the animal within the enclosure. Zoos may also prioritise creating naturalistic enclosures for the benefit of the welfare of the animals in their care. In contrast to this, my observations of visitors to Hamilton Zoo indicate that behaviour, rather than enclosure appearance, is more important as a welfare indicator.

Some of the enclosures at Hamilton Zoo present as "naturalistic" while others appear more man-made. For example, the enclosures in the Rainforest section are tall, round enclosures with clear fencing. These enclosures house three primate species: capuchin monkeys, ring-tailed lemurs and siamang gibbons, and are designed with wood and rope jungle gyms (Figure 10). Recently, Hamilton Zoo updated its spider monkey enclosure. Rather than increasing the number of trees, the staff instead installed a new rope system (Figure 11). When Hamilton Zoo presented the changes on its Facebook page, the comments showed a positive response with comments like: "Best News", "Fantastic improvement! The spider monkeys will be so happy with all those ropes to play on! Great

job!” and “They were loving the upgrades when we visited, so many out and about compared to previous visits”<sup>7</sup>.

These responses demonstrate that visitors clearly have affective, and/or emotional, responses to the animals' increased activity levels. Terms like “improvement” and “best” communicate this positive response. Phrases that anthropomorphise the response of the monkeys, such as “the spider monkeys will be so happy” and “they were loving” communicate that the visitors perceive this change as positive because of the impact of the changes on the monkeys, and their behaviour. The changed environment is described in the Facebook post: “These enhancements provide our spider monkeys with more opportunities for climbing and exploration, ensuring they have a stimulating and enjoyable home. At Hamilton Zoo, we always strive to enhance the living conditions of our animals.” (Hamilton Zoo 2025i, para. 3), and the visitors are responding to this messaging and language, as well as adding their own observed changes in the behaviour of the monkeys. However, these kinds of changes to the animal’s environment do not necessarily make the environment more natural appearing, as they are clearly man-made structures. Therefore, the strong positive response to the perception of the spider monkeys having more opportunities to be active and display play behaviours, indicates that behaviour rather than design is more important as an indicator of animal welfare, to visitors of Hamilton Zoo.

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<sup>7</sup> Hamilton Zoo 2025i. Facebook post.



*Figure 10. Two photos of the enclosures in the Rainforest section of Hamilton Zoo. L: a faraway photo showing the outside structure. R: A photo through the viewing window of the wood jungle gym in the capuchin monkey enclosure. Photos taken by the author.*



*Figure 11. Two photos of the rope additions to the spider monkey enclosure at Hamilton Zoo. Photos from Hamilton Zoo Facebook post (Hamilton Zoo 2025i)*

## Issues With Achieving “Naturalism”

Although naturalistic enclosures may be perceived as better for the welfare of the animals in the enclosures, zoos may not be able to achieve the levels of realism that zoo visitors would like to see. Examples from zoos around the world, such as the snow leopard exhibit in Wellington Zoo which cost six million dollars (Campbell 2023), demonstrate how expensive constructing a zoo exhibit is. Naylor Love, the company that constructed the snow leopard exhibit, described it as a “highly technical project” (Naylor Love 2023, para.

2). The London Zoo's lion exhibit, built to resemble a village in India which is home to the last wild population of Asiatic lions, cost over five million dollars (Reynolds 2016a) and increased the lion's enclosure by five times the size (Reynolds 2016b). The project design included a trip to the Gir Forest that the lion exhibit is based on (Zoological Society of London 2016). Hamilton Zoo is undergoing renovations on its Savannah enclosure, which will house giraffes, zebras and other species, with renovations for their rhinoceros enclosure also planned (Lines-MacKenzie 2024). The planned renovations aim to improve welfare conditions either for safety, or increased space, and the off-display renovations for the giraffes will allow the zoo to house more giraffes (Lines-MacKenzie 2024). All renovations are part of an infrastructure update that has received an estimated \$2.5 million NZD in funding from the city council (Lines-MacKenzie 2024).

Some researchers believe that zoos could be doing more to incorporate scientific knowledge into their exhibit designs (Coe, Brereton and Fernandez 2025) and identify that many zoos will copy exhibit designs from other institutions. This study did not identify whether such copying was because the exhibit was well designed for visitor experience, or the animal's welfare. Other studies recommend implementing temporary exhibits to trial and innovate exhibit designs before permanent construction (Fernandez, Brereton and Coe 2023), a suggestion that would add additional time and cost to exhibit development projects. Hamilton City Council anticipates development projects for the zoo occurring over a timeline of ten years (Hamilton City Council 2021), and measures progress annually (Hamilton City Council 2021; 2024). The time frame for zoo operations, from breeding programmes to renovation projects, means that the zoo landscape may

not change significantly for several years. A new building for the giraffes at Hamilton Zoo is projected to take only nine months to build, but the building that is being replaced is over twenty years old (Lines-MacKenzie 2024). Plans for a larger renovation to Hamilton Zoo have been in development since 2014 (Preston 2017), all funded through Hamilton City Councils 2018-2028 Long Term Plan (Hamilton City Council 2021).

Upkeep of zoos is also hugely expensive. The gross expenditure for Hamilton Zoo in the 2022-2023 fiscal year was 6.9 million dollars, but the revenue for that same time was only two-point-seven million, leaving 4 million to be covered by Hamilton City Council (Hamilton City Council 2023). The cost of the refurbishing the space between the zoo and Waiwhakareke was 7.5 million dollar project, with an additional 1.3 million dollars for a viewing tower (Leaman 2021) and the refencing of the chimpanzee enclosure cost, among other upgrades to the enclosure, cost 2.2 million dollars (Leaman 2021). This upgrade is not just cosmetic but is said to allow the chimpanzees to stay outside overnight (Leaman 2021). This was likely a welfare consideration, to allow the chimpanzees a more “natural” life experience. Realism is expensive, and it also requires incredible amounts of space, relative to city urban environments. For example, the Auckland Zoo’s ‘Te Wao Nui’ exhibit covers six New Zealand habitats, costing sixteen million dollars (Tapaleao 2011). Auckland Zoo covers forty acres of land, and Te Wao Nui is a quarter of this (Auckland City Council 2025; NZ Strong 2024). Hamilton Zoo covers twenty-five hectares (Hamilton Zoo 2025a) and Waiwhakareke is another sixty-five hectares (Te Kaararo Nature Precinct 2025).

I found that Zoo visitors may believe that a realistic appearance of enclosures has some benefits for zoo animals, while zookeepers focus on how enclosures fulfill all the needs of the animal that it houses. One difficulty with creating a naturalistic enclosure is that a good replica of an ecosystem cannot happen without the inclusion of predators. However, it would be distressing for the average zoo visitor to place lions in with zebras and giraffes and would cause stress for the animals to be in such proximity to a predator, even one which is supplementarily fed and so doesn't 'need' to hunt. This would also need a replenishing population, which is an unrealistic expectation and incomprehensively expensive. Live prey feeding is banned in New Zealand with few exceptions (Ministry of Primary Industries 2018; National Animal Welfare Advisory Committee 2004). One such exception is the feeding of crickets to lace monitors, native geckos and skink species, which I observed multiple times. Most of my time spent near the lizards, whether they were being fed or not, and even when those feedings and weightings were announced over the zoo PA system, I was the only visitor in the vicinity. On multiple days I stood for a half an hour to forty-five minutes, an exercise I completed multiple times at multiple exhibits around the zoo throughout my visits, near the lizard's before, during and after their feeding. There was only one occasion when I was joined by another group of visitors. It seems that live feedings of species do not hold more value or interest for visitors than feedings of species. This may be due to charisma, but live feedings have been considered a feature of animal welfare and is one that varies around the globe. For examples, Britain discourages the practice, while it is deemed necessary in Japan (Yamanashi et al. 2025).

The apparent lack of interest in live feeding events in New Zealand may reflect the legal restrictions around live feeding in New Zealand. Because live feeding is strictly controlled, the lizards are the only live fed animals in Hamilton Zoo. Low interest in lizard feeding events is unlikely to be a welfare concern as visitors who did observe the lizard feeds never expressed concerns about the lives of either the lizard or the cricket. This is interesting because the hunting behaviours the lace monitors and native geckos display when presented with crickets could be considered the “wildest” behaviour displayed by an animal at Hamilton Zoo. The lizards are able to hunt their prey like they would in the wild, while other animals in Hamilton Zoo have their food suspended in trees or provided to the animals in puzzles or baskets. While stimulating for the animals, this does not require them to stalk, hunt, or forage as they would in the wild. If visitors to Hamilton Zoo were as interested in the zoo as an opportunity to observe “wild” animals, then from a zoology perspective you would expect interest in reptile live feeding events would be higher, because of it being the only animal to display true hunting behaviours while feeding. Interest in feeding demonstrations may be reflective, not of visitors' ambition to view wild behaviours, but instead of their desire to see charismatic animals being active. As such, feeding events for species with greater perceived charisma may draw greater interest from visitors to Hamilton Zoo.

The staff at Hamilton Zoo value animals displaying natural behaviours: they do not interfere with the animals eating to create more of a “show” for visitors. Feeding is constructed in ways that replicate natural foraging behaviours, with food items scattered across the enclosure or placed on a tray with balls, or in a bucket or other package that

the animal must rummage through to find their food. Carnivores like the tiger and caracal were fed with the food item hidden, usually in a tree, which encouraged the animals to climb, claw and seek through their habitat. These examples are both visually engaging for visitors, and stimulating for the animals, even though it is not a perfect replication of hunting as there are no stalking behaviours being stimulated. Research suggests that animals maintained in captivity should be fed more complex food items, for example, giraffes should be provided with “browse” (food made of branches and leaves) instead of being fed hay or alfalfa, to curb “abnormal” behaviours (Koene 1999, pp. 16-18). This is suggested to reduce empty spaces in the “time budget” of a zoo animal, which may lead to abnormal and undesired stereotypical behaviours like “tongue playing” (Koene 1999, p. 18). This study does not take into account the feeding needs and metabolisms of all zoo kept species. For example, Hamilton Zoo feeds its giraffes multiple times a day, while other species, like cheetahs, are instead fed a large meal once a week in line with the species’ usual feeding patterns in the wild. This feeding pattern is indicative of the desire of Hamilton Zoo’s staff to maintain wild behaviours in the animals they house, and is a demonstration of the zookeepers' knowledge, as it pertains to the welfare of the zoo animals. The frequency of feeding demonstrations may provide visitors with an opportunity to learn about the typical feeding patterns of zoo kept species, though this requires visitors to be present at the demonstration.

## More Than One Way to Care

Concerns from zoo visitors that I interacted with were uneven in terms of the strength of their concerns for some species compared to others. For example, the caracal is one species whom I have heard many concerns about. The caracal at Hamilton Zoo has a habit of pacing in a figure of eight around the bottom of his enclosure, near the walkway for zoo visitors, which means he is seen pacing by many visitors. The carnivore keepers who take care of him are aware of this behaviour and monitor it (personal communication with keepers 2024; 2025). The caracal's behaviour is not new, and he has only been at Hamilton Zoo since March 2024 (Kumar 2024). He does not pace for a considerable amount of time, usually only minutes at a time (personal observation 2024; 2025). The rest of the day he dedicates himself to impersonating a rock, curled up somewhere in the grass of his enclosure, or perched near his off-display area, on a covered deck structure. Still, visitors make comments: “So sad”, “terrible; poor thing” and “I can’t stay and watch” were common statements. The caracal was quickly passed by, even after visitors expressed great excitement to see him, often gasping, pointing and crowding at the glass when first arriving at the enclosure. Keeper Chris said that the zookeepers monitor the caracal four times a day. Chris told me that when the carnivore keepers walk past the caracal enclosure, they may be able to explain to visitors what they are seeing, but that often the visitors' minds are made up quickly over a three-minute observation, or less. I have seen the caracal stop pacing minutes after a crowd of visitors leave, and I have seen him begin pacing when I was the only person around.

Interestingly, the tigers at Hamilton Zoo often pace along the fence line separating the two tiger enclosures. However, visitors did not seem to express negative sentiments

about this as frequently, instead theorizing that it might be “near food time,” or “I bet he can smell the girl tiger”. While these may be different visitors, who may not express concern over the caracal, the general trend of differing levels of concern for two species of wild cats stands. Is it the size and appearance of the enclosure? The tiger enclosure appears lush and large, while the caracal enclosure appears more similar in size and design to the smaller lemur enclosure nearby. Is it closeness? Visitors are less than a meter away from the caracal in his enclosure, while the tigers have a longer fence line and therefore pace at the back end of their enclosure, rather than near the viewing area directly. Is it understanding, or lack thereof, of animal behaviour and animal needs? I believe that it is an affective response from the visitors, in response to the perceived unsuitability of the enclosure for the animal. This could be an expression of a lack of trust in the zoo staff, or the zoo as an institution. Zoo visitors making quick decisions from short periods of exposure can be damaging, for themselves and the zoo. If the visitor decides that the zoo is providing unsatisfactory care for the animal, based off a short observation, they may turn away from supporting other ex-situ and captive conservation projects, like zoos. This means that visitors may not engage meaningfully with conservation in a way that they may have, had they not believed there was reason to be concerned for the animal's welfare.

## Visitors Know Less than they Think

The average visitor to Hamilton Zoo may not have a degree in zoology, but they do have an interest in the animals, and care for their wellbeing, which drives how they

engage with the information provided to them. Dove and Byrne (2014) found that, from a study of one hundred self-selected zoo visitors, zoo visitors have less knowledge about what animal's requirements for life are than their understanding of animal behaviour. This may not be a failing to care, rather a failing of an educational system, as many of the questions asked in this survey were science questions. The trend in Dove and Byrne's (2014) study from a private, unnamed, zoo in England was that participants were clearly understanding of animals needs for a habitat, and the effects of human activity on animals in the wild, but are unable to identify animal species accurately, and have low knowledge about animal physiology. It is likely then, for the visitors in Dove and Byrne's (2014) study, that animal welfare concerns are situated in a place of caring but are based on limited scientific knowledge. I observed a similar trend at Hamilton Zoo, which is also present in the relationship between visitor perceptions of welfare and animal exhibits.

Zoo visitors' perceptions of welfare can be connected to the enclosures that zoo animals are held within. However, visitors to zoos do not always know why they believe certain enclosures are better than others (Packer, Ballentyne and Luebke 2018). They also may perceive some behaviours as more or less attractive or make associations between an animal's body condition and welfare (Packer, Ballentyne and Luebke 2018; Nakamichi 2007). Visitors from these studies frequently did not understand the cause of the behaviours and would incorrectly attribute negative associations (e.g. boredom) to regular activity levels and non-stereotypical behaviours (Nakamichi 2007). Visitors may also think about some zoo enclosure designs as being better, because of how they are perceived. For example, the Auckland Zoo is one of many zoos to feature a walkway for their tigers

over top of the visitor pathway. Accounts from visitors I spoke to who had been to the Auckland Zoo made this seem as though the tigers had one large enclosure that spanned both sides of the walkway. From personal observations, the walkway was locked for most of my visit, and it appears to be a method of moving tigers between two enclosures rather than a part of the enclosure itself. This is not to say that this enclosure design does not benefit the tigers, but rather that it benefits the visitors more than directly benefiting the tigers.

At Hamilton Zoo there is a herd of fallow deer located opposite the smaller tiger enclosure. From one enclosure, the tigers appear to be able to see across the viewing space and walkway into the fallow deer enclosure. The tiger cubs are especially enthralled with watching the deer roam, dodging around visitors in their field of view, eyes locked on the prey with their paws pressed against the glass. During a visit, I heard one woman ask her friend “Is it ethical to keep them opposite each other like that?”. His reply was: “Maybe the deer are what the tigers get fed.” The concern from one visitor appeared to be for the deer and the tigers in equal parts: the tigers, for being taunted with unreachable prey items, and the deer, for being in a high stress environment due to proximity to a tiger. The other visitor’s response suggests that he believes the placement of the species was not accidental, nor cruel, but rather a representation of predator-prey relationships, and even for keeper convenience. As stated earlier in this chapter, “true” realism in enclosure design would have predators and prey in the same enclosure, which I believe most visitors would find distressing, and view as a welfare issue. It is apparent that not all visitors would

feel this way, or that some level of separation is enough to satisfy visitors' worries about predators and prey being housed together.

The fallow deer that are in the enclosure opposite the tigers are not kept for the feeding of tigers and no deer kept in the zoo are fed to the tigers at all. I did not observe any signs of additional stress in the deer by the tigers than the deer at the savannah enclosure. The deer remained grouped and grazing, and didn't sprint off at every sound, though they took turns surveying the landscape. The ungulate keepers I spoke to told me that these deer, across from the tigers at the time of my fieldwork, were hand raised while the herd near the savannah has not been. Throughout my visits to the tiger enclosures, the three adult tigers did not appear to take notice of the deer while in either enclosure, even when the deer were clearly visible in the same position as when the cubs were observing them. This includes the cub's mother, who I did not see react to her cub's behaviour when they were observing the deer.

Visitors to Hamilton Zoo form opinions within seconds of arriving at an enclosure; these are typically based on intuitive reasoning rather than scientific knowledge. From my observations, zoo visitors who have immediate emotional responses, whether negative or positive, do not re-evaluate their position when asked about it. For example, a zoo visitor who noted that one of the meerkats was wearing a plastic cone, like the ones used when dogs are neutered, their initial reaction was to express sadness at the state of the meerkat and wonder if it was hurt. When I offered that part of the meerkats back was clearly shaved, and the cone could be for a variety of reasons other than an injury, the

visitor replied: “Well, it still makes me sad for him.” The visitor's response here was not based on knowing the condition of the animal, who was actively running at the time of this discussion, but was based on concern for the welfare of the meerkat<sup>8</sup>. They continued to focus on their personal emotional response to the condition of the meerkat, even when presented with potential, non-injury related reasons for the cone. Visitors also often had emotive responses to the chimpanzees, such as discussing the Chimp Whare as “cold”, sometimes saying “I would need a bigger blanket than that if I lived here” or “they need blankets, look at how thin their coats are.” At other times visitors would comment on how nice the Whare was as a reprieve from the summer heat, saying they were surprised the apes were not inside more frequently, or joking about asking what air conditioning unit Hamilton Zoo uses. These comments are not necessarily the zoo visitor critiquing the welfare of the chimpanzees at the zoo, but are emotive responses made based on a type of welfare concern, the cold, which are centered on the zoo visitors' own perspective and position.

A preliminary study on the affective responses of zoo visitors at Brookfield Zoo Illinois, found that empathetic responses focused on animal behaviour (Luebke 2018). This study also stressed the variability of animal behaviour throughout the day, meaning that some visitors could have different responses to each other. This means that, when evaluating an affective response by a visitor, whether these responses happened during animal encounters, in other designated “close” spaces to view animals or elsewhere should be

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<sup>8</sup> I do not know why this meerkat had a plastic cone on. The discussion with the visitor was just to see if they would change their response when presented with an explanation other than the initial assumption of injury.

taken into consideration (Luebke 2018). Zoo visitors in this study also reflected on themselves in relation to the animals. Luebke (2018) suggested that signage, demonstrations and keeper talks should go beyond facts. The authors found that the empathetic responses from visitors are informed by the behaviour of the animals at the time of their visit. For myself, a person who has a broad understanding of animal behaviour thanks to an undergraduate degree in Zoology, I understand that the animals in the zoo are not suffering or bored every time that an animal, such as a chimpanzee or gibbon, is sitting alone in their enclosure, or lying down but still awake. On the flip side, I would interpret a situation where an animal, such as a tiger, is consistently growling and lunging when visitors scream outside of the enclosure, should not be seen as entertaining, but rather as the tiger experiencing some kind of stress. Both examples are real behaviours that I observed alongside other zoo visitors, at the designated visitor observation spaces. The visitors either egged on the tiger by screaming louder, hitting the glass window and laughing or expressed their disappointment or discomfort at how bored and sad the chimpanzees appeared while they were picking at the grass in their enclosure. Both responses are affective in that they contain a pre-conscious reaction to something, either entertainment and joy, or disappointment and sadness. There are examples of these kinds of interactions between zoo visitors and animals from across the range of species at Hamilton Zoo.

For visitors who have no prior understanding of animal behaviour, especially that of exotic and non-domestic species, it may be easy to anthropomorphise zoo animals and their behaviours. As such, these visitors may not trust that the zoo environment is suitable for

the animals' welfare and may also not be able to recognise that they themselves are not experts in animal behaviour. The signage in these spaces does not direct visitors to navigate these types of encounters, leaving zoo visitors to interpret animal behaviours themselves in many parts of the zoo. While this may be intended to be a neutral space, without zoo direction it can create a place where zoo visitors create for themselves the role of expert.

A frequent issue for staff at the Hamilton Zoo, regarding the question of how well zoo visitors understand and engage with animal welfare, was the issue of fledgling birds. Birds build nests wherever they can find a spot, including atop speakers and in treetops above walkways. Fledgling birds attempt to fly regardless of who else is around. While I was making observations at the tiger enclosure, two fledgling birds dropped from their nest and onto the ground. A group of concerned visitors immediately jumped into action with one girl ushering other visitors away, dutifully pointing out the baby birds. This appeared to be drawing more attention to the bird than not doing so would. At the same time, another person in the group called the front desk and the third friend went hunting for a zookeeper. They told me that someone was "on their way soon," and then stood near the bird for several hours. I was away from the enclosure for at least an hour, and when I returned the group was still waiting for a zookeeper or vet. At the end of my visit that day I spoke with the reception staff who said this type of interaction, where concerned visitors contact zoo staff about birds, happens all the time, sometimes several times a day.

When zoo visitors make it known to the reception desk that there is a baby bird on the ground, either via phone or by coming to the reception, there is a flowchart which can be used to talk visitors through the situation. This flowchart was made by a member of the vet staff, and stays at the reception, for staff use and training. I saw it very briefly, and it outlines the questions that reception staff need to ask, such as “does the baby bird have feathers”, which will help determine the urgency of the situation. Zoo staff are initially concerned about injured animal reports and have a hospital space on site where they take in injured wild animals (Hamilton Zoo 2025j). However, all concern for the bird disappears from the zoo’s side when they hear the baby bird is feathered and uninjured. If the bird is not in immediate danger, leaving it alone is the best course of action, and the zoo staff will prioritise their contained animals, and visitors, over these fledgling birds. For example, when these visitors were standing by for two hours, I later found out the delay in the response from the zoo was due to another visitor having a medical emergency on site, which took precedence.

Zoo visitors do not have access to the flowchart and have many misconceptions of bird behaviour. About a half an hour into the visitors watching over the bird, the group blocked a man from placing the fledgling back in the nest saying, “the mother will reject it.” While the advice from the flowchart is to leave the animal where it is unless in direct harm's way, the reasoning of the group was incorrect; zoo staff insist that most bird species will not reject their young after being handled by humans<sup>9</sup>. Providing visitors direct access to the flowchart could benefit some visitors, but there are many reasons why it may not be

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<sup>9</sup> I was unable to find a conclusive scientific study which specifically investigated the effects of human scent on chick recognition or rejection in any bird species.

posted around the zoo. The interaction I observed showed these visitors were not responsive to the flowchart instructions when communicated to them from the front desk staff, so I am reluctant to believe they would respond much differently to the chart itself. The visitors in this specific interaction with the fledgling birds continually expressed concern for the baby bird, and for the mother bird, whom they assumed was a bird perched on a nearby fence line for a significant portion of the interaction. There are two kinds of knowledge interacting in these situations, and there seems to be a disconnect from what zoo visitors *know*, and what the zookeepers *know*, which is not being communicated. What zoo visitors know is based on observation, and is led by emotion, while what the keepers know is also based on observation but interpreted through animal science and often years of professional experience.

The gap in knowledge between visitors and staff raises the question of, what is the extent of a zoo's responsibility to educating the public? Visitors may expect zoo staff to be readily available to answer their every question, and to complete tasks in the name of welfare, such as rescuing a baby bird. However, the keepers at Hamilton Zoo do not always see these tasks as feasible, and understand "their" animals, which have been specifically chosen to be housed by the zoo, as a greater priority. Many zoo staff enjoy conversing with visitors, even if it is not why they became keepers, and expressed that they enjoy helping people connect with animals. However, this does not mean that zookeepers are able to be readily available to every visitor, or that zoo visitors should be included in every decision made by the zoo staff.

Some welfare conversations may be easier within the context of an ecosanctuary, such as conversations about fledgling birds, or predator-prey relationships. The addition of Waiwhakareke into the conservation landscape in Hamilton City may alleviate some of the pressures from zoo staff. This relies on zoo visitors understanding that these two conservation sites serve similar, but different purposes, and therefore impart different knowledge. I believe that Hamilton Zoo has equipped its staff and enclosures with plenty of information that enables education with inquisitive zoo visitors. The scientific knowledge of zoo staff may feel inaccessible and unintuitive to many visitors. This is especially true for animals which visitors may be attached to domesticated versions of, such as felines like the caracal and tigers. Hamilton Zoo visitors often formulate opinions based on intuitive reactions to animal behaviour. Zoo visitors, by and large, are well intentioned, though this reliance on intuition may mean visitors to Hamilton Zoo do not feel compelled to observe enclosures for extended periods. The result is that these visitors often miss interactions between the animal and visitors, or keepers and visitors that would counter the assumptions made when relying on instinctive or emotive reactions.

## The Zoo is Taking Action

Animal welfare has been described as an “ethical responsibility” of the zoo (Miller and Chinnadurai 2023, p. 1). Organizations for zoos, such as the Association of Zoos and Aquariums (AZA) and the Zoo and Aquarium Association Australasia (ZAA) both have animal welfare standards that member zoos must adhere to (Association of Zoos and Aquariums 2023; Zoo and Aquarium Association Australasia 2025a). The specifics of

what these welfare standards are generally consistent between major zoo associations, but there are some specific regional variations, for example the ZAA use the “Five Domains model” (Zoo and Aquarium Association Australasia 2025a; 2025b), while AZA have twelve “guiding principles” which include zoo staff culture, such as focusing on staff leadership and training focuses as features of a zoo with good welfare practices (Association of Zoos and Aquariums 2023). All zoos in New Zealand are held to a code within the Animal Welfare Act of 1999 specific to zoos (Ministry of Primary Industries 2025), ensuring the appropriate and sufficient care of the animals in its charge.

Throughout my time at the zoo, I noticed several actions taken by the zoo that I understood to be for the benefit of its animals only, and not to enhance the experience of the visitor. The most common example that the keepers brought up is the giraffe enclosure at the back of the wetlands area. Hamilton Zoo has a bachelor herd of giraffes (only males). During the time of my research, until March 2025, the herd was made of three giraffes. In March 2025, Dume the giraffe died at nineteen (Garcia 2025). Dume had suffered with hoof disease (Garcia 2025; personal communication with keepers), which contributed to Hamilton Zoo’s giraffes being kept in their off-display enclosure, rather than on the savannah. Keepers told me and other visitors that Dume was uncomfortable making the walk between the off-display area and the savannah display. However, because of how popular the giraffes are with visitors, it was still a priority to make the giraffes accessible to visitors of Hamilton Zoo. To balance the wishes of visitors to still see the giraffes, while accommodating the welfare needs of their giraffes, Hamilton Zoo staff made the giraffes off-display enclosure accessible to visitors. This pathway is

near the wetlands, where there is signage indicating the presence of the giraffes, and the viewing area at the enclosure has been outfitted with a wooden viewing platform.

Visitors commonly express confusion at the mix of signage near the wetlands and the savannah. One of the questions that comes up frequently when visitors and keepers interact at giraffe feeding times is “Why aren’t the giraffes on the savannah display?”. This leads the keepers to talk to the visitors about the health issues common in giraffes with age, including hoof issues, which have kept Hamilton Zoo’s giraffes from making the walk between their current enclosure, and the savannah area. Keepers also talk about how giraffes are nervous herd animals and are unwilling to leave one of their herd members alone, which is the reason that the whole herd was kept off display. As we have established in the previous two chapters, zoo visitors come to the zoo for entertainment, rather than education. If the giraffes continued to be on display at the savannah, or were made wholly inaccessible to the zoo visitors, then there would likely be a lower number of visitors who noticed a difference in the giraffes’ behaviour. This would likely have a knock-on effect, with fewer visitors learning about the giraffe’s health issues and herd dynamics that are currently impacting the giraffe herd at Hamilton Zoo. Some visitors stated that they felt inconvenienced by the necessary detour to take to see the giraffes but appeared to change their opinion when hearing the issue was related to the welfare of the animals.

An example of animal welfare that zoo visitors did not mention to me, but that I did discuss with keepers, is how zoos decide which species are kept and displayed at the zoo. Animals are moved between facilities for breeding opportunities, and to keep social species in groups rather than in solitude. Keeping an animal for the purpose of public interest is less important to Hamilton Zoo than the welfare of the animal and the benefits to the species overall. Ken, the educational lead at Hamilton Zoo, explained this to me through the example of the Asian golden cat (*Catopuma temminckii*), which Hamilton Zoo had previously homed, and which was the only one of its species in the region. In 2011 the decision was made to move the golden cat from Hamilton Zoo to a zoo in Germany where it could become part of a breeding programme. Ken stated “Yeah, it was pretty cool, but actually, to spend its time here isn’t actually, in the long term, going to help that animal”, demonstrating that while the presence of the golden cat served the purpose of educating the public in New Zealand about the species, the greater benefit for the species overall was prioritised, and the cat was relocated.

Being housed in suitable social environments is a key aspect of animal welfare (Fàbregas, Guillén-Salazar and Garcés-Narro 2012). Hamilton Zoo’s collection of giraffes is all male, known as a “bachelor herd”, acting as a catch all for the male giraffes from other zoos. The director of Hamilton Zoo said in an interview with the Waikato Times “If you put a whole bunch of males together, they’re usually fine. Put a bunch of females together, they’re fine. But put males and females together, it doesn’t work” (Powers 2025, para. 16). As the other two zoos, which are breeding facilities, already have male giraffes, the young male giraffes cannot easily remain in the herds they are born into and are therefore moved

into the all-male herd at Hamilton Zoo. Maintaining a bachelor herd allows for the relocation of these giraffes, which is to the benefit of the young bulls' social needs.

Hamilton Zoo workers consider the safety of their animals, and the visitors, in their facility, part of welfare. The way that Hamilton Zoo workers dealt with an animal escaping from its enclosure is a prime example. The import of three young male capuchins from a zoo in Australia to Hamilton revealed a previously unknown gap in the monkey enclosure when one of the imports was seen by a visitor on the far side of the zoo in December 2024. When I appeared at the zoo on a Friday morning, I was signaled to by the reception staff and told "You can't go in." The family ahead of me and I were told: "A monkey escaped; they found him again this morning." I holed up in the cafe and undertook some serious participant observation. Families with young children, grandparents and grandkids and a group of ten teenage girls loitered around cafe tables and picnic benches. A man in flip flops and upside-down sunglasses resting on the back of his head tailgated nearby, his partner pacing with a toddler on hip.

After an hour or so the groups that headed to the front desk stopped returning to the car park and cafe, so I joined them in entering the zoo from a sort of service-entrance for vehicles. We were directed immediately right once entering; this forced all visitors down a path past the rhinoceroses and then around the zoo. It was only at the top of the zoo, near where the monkey catching activities were underway, that movement was disrupted and prevented. The rainforest and Parrot Court were off limits; exiting the zoo required

passing the tuatara and ferret enclosures. When I left at 2:40pm the monkey had been caught only two minutes prior. Another notable change, aside from the top section of the zoo being inaccessible, was the absence of announcements. Typically, when enrichment and food for the animals is put out, keepers let the reception staff know, and they announce this over the PA system. These announcements were not made while the zoo recaptured the monkey. I believe this was partly because the reception staff were called in to direct patrons, and partly because announcements over the speakers would have further spooked and stressed out the capuchin. However, while announcements were ceased for the day, feeding and enrichment events still occurred throughout the rest of the zoo, specifically in parts of the zoo that were unaffected by the monkey escape, like the giraffe enclosure and Free-Flight Aviary.

Despite the disturbance and the redirection of visitors, the managers of Hamilton Zoo decided not to close that day. When speaking with Hugh, one of the reception staff, at the end of the day he explained some of the decisions made regarding keeping the zoo open, such as the monkey being in an easily contained area of the zoo. Had he been in a more central area where visitors could not be redirected, it would be unlikely for visitors to be admitted. The capuchin was in the Parrot Court, having taken post atop one of the aviaries, and this area was easily cordoned off. This served three purposes: visitors could not interfere with the staff who were attempting to capture the monkey, and this minimised potential stress to the monkey, and minimised the risk that visitors might be hit by one of the tranquiliser darts which were used to capture the monkey. It was made clear to me,

upon asking Hugh, that the zoo would have been shut the following day, had the monkey gone uncaught.

Thus, Hamilton Zoo staff managed the competing interests of the visitor experience, and the value visitors draw from the zoo and their interactions with the animals, with the welfare of the animals at the zoo. It was reiterated to me through multiple conversations with zoo staff that in general, the welfare of the zoo animals comes before the entertainment of zoo visitors, but not visitor safety, and both come above profits. The priority in recapturing the monkey was to do so in a way that was safe for both humans and monkeys. This recapturing was possible because the monkey being a capuchin. A news article from Stuff discussing zoo animal escape procedures in New Zealand said that lions, tigers and chimpanzees would have to be destroyed in the event of an escape (Earley and Piper 2022). The Zoo and Aquarium Association (ZAA) of New Zealand highlighted two contingency plans: Shoot to Kill, and Recapture. Gorillas, wolves and species of bears are among other animals which would have to be destroyed upon escape, while smaller primate species like capuchins are recommended for recapture (Zoo and Aquarium Association Australasia 2013).

Animals escaping is not common, but it is more common in some species than others, specifically primates, and may not represent poor enclosure suitability, but rather a need for increased enrichment. Literature that focuses on escaped zoo animals is largely

scientific in methodology<sup>10</sup>. The escaped capuchin at Hamilton Zoo escaped shortly after being transferred into a new enclosure, after travel between Australia and New Zealand. Mihaylov et al. (2016) also discussed how escaped animals were not considered a welfare concern, but rather a safety concern for staff and visitors. Milhaylov et al. (2016) investigated accounts of tigers, lions, chimpanzees and bears escaping, and found that escapes by chimpanzees are common due to their intelligence and ability to manipulate the environment around them. Perhaps then it is an issue of enrichment for primate species who escape. With proper enrichment, primate species may be less likely to investigate enclosure boundaries. The capuchin who escaped from Hamilton Zoo was new to the enclosure which already housed five capuchins for several years without any escapes. This may indicate that the new capuchin would be more likely to investigate the boundaries of the enclosure compared to the capuchins who had lived at Hamilton Zoo for much longer. This may be because the capuchins who originally lived at Hamilton Zoo associated their enclosure with enrichment and food while the newcomer capuchins did not yet. More investigation into whether behaviours linked to escaping are caused by boredom in zoo populations of primates may be warranted if there is an increasing trend of primate escape behaviours. This may be a useful metric of zoo welfare standards in some circumstances, as long-term zoo residents with suitable enclosures and enrichment should not be actively escaping. In the case of the escaped capuchin at Hamilton Zoo, the reaction of staff was to maintain their original plan of integrating the monkeys into the

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<sup>10</sup> Casey and Hogg (2015) focus their research on quantifying the number of escaped, or stolen, zoo animals from zoos in Australia, rather than investigating the welfare response to escaped animals. Casey and Hogg (2015) did note that mammalian escapees are the most likely to be retrieved compared to other species of animals, though reptiles are the most likely to be stolen. A study by Mihaylov et al. (2016) on the causes of escaped animals found that it was usually human error that caused the escape.

troop, which is already a slow process. In the weeks following the event, there was an observable increase in the number of keepers in the Rainforest area, and from the walkway, I observed many training sessions with the capuchins. The emphasis seemed to be on creating comfortable, enriched monkeys rather than dwelling on potential escapes. The way forward was to create an environment of safety for the monkeys, which in turn would protect the experiences of zoo visitors wanting to observe monkeys at Hamilton Zoo.

## Animal Welfare and Choice

One of the ways that Hamilton Zoo's zookeepers determine that they are providing suitable welfare conditions for their animals, including fulfilling the emotional needs of the animals, is by providing choices. Many researchers have outlined animals' choices as one of the critical aspects of ensuring animal welfare of zoo animals (e.g. Rust, Clegg and Fernandez 2024; Wickins-Dražilová 2006). Though in their study of quality of naturalistic enclosures Fàbregas, Guillén-Salazar and Garcés-Narro (2012) determined there should be seven key aspects, identified in their appendix, for ensured quality of life for animals in zoos and "choice" did not feature, instead behaviours which may have an element of choice, such as movement, resting and safety options were included.

Similarly, Webster (2005) determined that the "Five Freedoms": freedom from thirst and hunger, discomfort, pain or injury, fear and distress and to express "normal behaviour",

create the ideal conditions of welfare for animals in captivity. "Normal behaviour" is not clearly defined by Webster, but is apparently achieved by providing "sufficient space, proper facilities and company of the animal's own kind" (Webster 2005, p.12). I find these conditions of normal behaviour to be simplistic and poorly defined. No additional detail is provided as to what "proper facilities" are, and the need for company does not apply to many solitary species, outside of mating periods. Throughout Webster's (2005) writing, I got the impression that "normal behaviour" is simply the absence of "abnormal behaviour" which is better defined as "stereotypies", "injurious behaviour" and "suppression of normal behaviour" (p.41). Webster (2005, p.13) then states that the five freedoms describe an "unattainable state of Eden", because completely removing stressors, such as injury or poor health, may not be completely avoidable for an animal's lifespan.

The ZAA, as previously discussed, uses the "Five Domains" which is a similar, but different metric of zoo animal life quality which incorporates an understanding that animals can have emotions, or affective states and experiences (Zoo and Aquarium Association Australasia 2025b). Hamilton Zoo's zookeepers emphasise that they provide their animals with the ability to make simple decisions in their day-to-day life, such as whether some animals want to be on display, or whether to partake in encounters. Rewards will be offered, but the decision to join the keeper and display the behaviour remains with the animal itself. The issue of where the giraffes are on display relates to choice. While they cannot choose whether they are on display, the giraffes continually made the choice not to be on the Savannah, and the zookeepers adapted to this. This relates back to their use of the five domains rather than the five freedoms models, as this

understanding of choice is less about the specific behaviour exhibited and more about creating a positive emotional state for the animals, meaning reducing the amount of stress that the animal in their care experiences.

Zoo visitors may enter a zoo space with preconceived notions of what animal welfare looks like at zoos, which may be reinforced or challenged when present at a zoo. Hosey, Melfi and Ward (2020) investigated the type of media attention that zoos receive and noticed that many news stories about zoos from North America, Europe and Australasia focus on animal welfare. Much of the concern for animal welfare focuses on charismatic species more than non-charismatic species (Hosey, Melfi and Ward 2020). It is important to note that the widespread media concern for charismatic species welfare is not perpetuated by the zoos themselves. That is to say that most ZAA and AZA accredited zoos do not invest more money in their charismatic species than their non charismatic species, in terms of welfare. To become accredited by the ZAA Australasia, which Hamilton Zoo is, requires an application, followed by an inspection and review to ensure the facility meets the standards of welfare set forth by the ZAA Australasia. (Zoo and Aquarium Association Australasia 2025c). Sites are then reassessed every one to three years. The features of enclosures, the type of enrichment and the nutrition provided are based on the species' requirements (Hosey, Melfi and Ward 2020). The rainforest enclosures may appear like primate jungle gyms, and the enclosures for the spider monkey are populated with ropes looped between living trees, and the two species are adequately cared for in terms of space requirements and enrichment, specific to their species needs.

Examples of enrichment that I observed at Hamilton Zoo include animals being provided with a type of entertainment specific to their species, such as boxes or balls with scents or leaf litter inside. Enrichment encourages an animal to display natural behaviours like foraging or offers them items which provide mental stimulation. This might be a novel toy for the animals to investigate. Enrichment is frequently provided to the animals throughout the week and is varied. The keepers at Hamilton Zoo spoke frequently about preventing what they called “anticipatory behaviours”, like pacing or gathering where they knew they would be fed at a specific time. Variation also means that visitors' experiences and observations will vary depending on the day and time of their visit.

Much of the welfare actions Hamilton Zoo workers take happen away from the view of their visitors. This may be because these decisions happen during meetings, by upper management before the zoo doors are opened by keepers, or because the visitors are physically blocked from the space. Throughout the time I was conducting research at Hamilton Zoo, I never doubted the lengths that the zookeepers went to, to ensure good standards of welfare. However, I also noticed times when other visitors to Hamilton Zoo expressed that they believed some of the decisions appeared arbitrary, rather than welfare focused. There appear to be two kinds of zoo visitors: those who are deeply concerned with welfare, and make decisions based on their immediate emotional response, and those who do not consider welfare at all. The second type of visitor does not ask questions about why the giraffes' location has changed and does not mention stereotypical behaviour or enclosure size. This means that many decisions that zoos

make to benefit an animal's welfare may go largely unnoticed by visitors, while perceived lapses in welfare are frequently picked up on by visitors to Hamilton Zoo. These perceived lapses occur when visitors do not believe that the amount of care that the zoo staff exhibit is equal to the amount of care the visitor expects and wants the zoo staff to demonstrate. Even when that demonstration of care may be excessive to the actual needs of the animal in question, or outside of the responsibilities that the zoo staff have. Therefore, Hamilton Zoo staff have to work hard to communicate the welfare needs of the zoo animals, and the steps taken to protect the animals from doubting visitors. This work is continuous for staff, and requires continuous contact between zoo staff and visitors, which may compete with other responsibilities of the staff.

## Conclusion

Animal welfare is one of the many priorities of a zoo, and one that has to be balanced against visitor experience and observation opportunities. Visitors to zoos around the world may not recognise the complete picture of animal welfare, instead seeing their small experience at the zoo not as a sliver of the day, based on five minutes or fewer of observation, and instead believing it to be representative of the animal's complete life. As such, zoo visitors may believe that zoos are not doing "enough". Furthermore, the timeline on which zoos operate, sometimes over decades to make renovations to the exhibits may lead visitors to believe nothing is happening, such as it taking twenty years for renovations to Hamilton Zoo's giraffes off display area to begin. Visitors to Hamilton Zoo also know only what has happened before their eyes, at the time

of their visit, as such they may not conceptualise the extent of what animal welfare encapsulates.

Many of the considerations that Hamilton Zoo has made for the welfare of its animals are not advertised to zoo visitors and happen away from zoo visitor's eyes, such as steps taken to recapture the capuchin monkey. Other welfare decisions made by Hamilton Zookeepers are shared if and when zoo visitors seek it out, such as keepers explaining why the giraffes are not on the savannah. Zoogoers to Hamilton Zoo ultimately do care about welfare but consequently place excess responsibility on the zookeepers to care about every animal within its borders, even if they are not charges of the zoo. This is demonstrated by the expectation of immediate action by the zoo staff in the case of fledgling birds falling from their nest. This expectation means that the zoo can never care "enough" as visitors remain seemingly unaware of what exactly they are asking zoos to achieve.

## Conclusion

My thesis explores the ways that Hamilton Zoo staff and visitors interact and engage with conservation messaging and education. I utilised anthropological methods such as participant observation, semi-structured interviews, and the collection of photos and other media such as map scans to curate data for this research. This data was then transcribed, coded and analysed using multiple theoretical frameworks: phenomenology, multispecies ethnography and affective response theories. Through this analysis I found three elements of Hamilton Zoo which impact the engagement of visitors with conservation messaging: the physical zoo environment, the perceived charisma of the animals on display, and how animal welfare is conceptualised by both Hamilton Zoo visitors and staff.

The first chapter investigated how the environment of the zoo affects how visitors view the animals and conservation. Enclosures may contextualise the relationship the animals have within their ecosystem, and with other species. This may be done through signage, maps, theming or pairings of animals, and how the zoo is physically laid out. Hamilton Zoo contextualises species through signage, and the theming of the enclosures. This is

for two reasons: to create enclosures which are highly naturalistic, as preferred by many zoo visitors globally, and to create a narrative around the animal as either needing saving, or as a pest to conservation objectives in New Zealand. The Free Flight Aviary and Waiwhakareke allow zoo visitors to experience gully and other ecosystems in urban areas of New Zealand, thus creating an opportunity where more people may be able to connect with native New Zealand birds. Not every area in Hamilton Zoo is accessible to all visitors, however: many paths are steep or uneven, and the weather and designs of some enclosures can make visibility difficult. This is both in terms of window placement and tint, and the planting within the enclosure, which may make some species difficult for visitors to see, such as the tall trees available for the red panda. Similarly, construction and renovation may make areas of the zoo, and the ecosystems and animals they display inaccessible to visitors.

The layout of the zoo, including which species are close to each other, informs visitors of interspecies interactions. Hamilton Zoo's Savannah enclosure is a multispecies display, containing species like zebra, blackbuck and ostrich. These animals come from multiple regions including India and parts of Africa. Similarly, the Rainforest section of Hamilton Zoo contains species like the caracal, which do not live in rainforests. The distribution of species within Hamilton Zoo may appear to present a story of species that interact within the same habitats in the wild, when these species would actually never meet. From my observations, it does not matter to an average zoo visitor that Asian plains animals and African plains animals coexist within an enclosure space, nor would it matter if these animals were kept on display with species from their actual regions. What matters is that

the zoo clearly identifies these species for the visitor, and that the displays are interesting to them.

There are aspects of naturalism that visitors do not consider, such as in the case of multispecies enclosures housing species from multiple habitat ranges. Here the onus for realism in terms of which species interact with each other falls on the zoo. It is because of the way that Hamilton Zoo has presented its animals as a collective, under the banner of “Rainforest” or “Savannah” animals, that visitors to the zoo believe these animals co-exist in the wild. If Hamilton Zoo presented its animals in some other configuration, zoo visitors may adapt and understand the displayed animals and their relationships to one another outside of the zoo setting, in this new design too. This is the trust that zoo visitors have in the zoo, and keepers, as experts.

The second chapter investigated visitors' responses to different kinds of species, specifically looking at the role of charisma. When observing how different animals were responded to, I noticed that zoo visitors prefer animals which are known to them, such as tigers and rhinoceros, over species which were unfamiliar to them like nyala or bison. Hamilton Zoo visitors often expressed wishes to see many of the cuter species, such as the red panda, while many visitors avoided native species and reptiles even when these species were conveniently near the enclosures of more attractive, sought out species. Species without charisma were able to become charismatic when performing interesting behaviours, or when perceived to be dangerous in some capacity, such as a lace monitor

stealing the feeding carton from a keeper. This is reflective of trends in biological science studies where perceptions of charisma are mediated by the environment and behaviour of the animal. When animals are presented neutrally, zoo visitors are able to construct their own perception of that animal based on observed behaviours from their visit. When zoos load enclosures with political theming, such as framing ferrets as pests, visitors are led to conclusions about the value of that species. Because of the role of ferrets in decimation of ex-situ conservation practices, allowing ferrets any charisma would be at the expense of the native species that Hamilton Zoo and neighbouring Waiwhakareke prioritise.

Finally, my thesis concludes by considering varying conceptions of animal welfare by visitors and zoo employees, and the impact of these differences. Examples discussed include the giraffe off-display enclosure becoming accessible to visitors due to welfare concerns for two elderly giraffes. The reconstruction of the off display as a new observation location contradicts the emphasis that Hamilton Zoo staff place on providing their animals with choices, as part of the understanding of welfare at Hamilton Zoo. Secondly, the escape of a new capuchin monkey saw a section of the zoo become inaccessible to guests for an entire day. This chapter discussed tensions between zoo visitors and staff and how welfare can be understood. Visitors to Hamilton Zoo appreciate the aesthetic quality of enclosures designed to appear naturalistic. They also demonstrate affective responses to welfare based on an animal's behaviour: reactions to stereotypical behaviour like pacing are typically negative, while increased activity levels after enclosure renovations elicit positive responses. These responses, while highly emotional and

instantaneous, are not always well informed. Visitors spend less time at enclosures than zookeepers and are often unable to access zookeepers to get more information. Zoo visitors, who judge the welfare of an animal by that animal's behaviour by looking for stereotypical "zoochosis" behaviours like head swaying and pacing, may miss actual signs of stress in animals and miscategorise relaxation as boredom, sadness or other perceived negative emotions.

Thus, the scientific knowledge of the staff, who monitor the animals in Hamilton Zoo every day, comes into conflict with the observed knowledge of Hamilton Zoo visitors. Similar to how many zoo visitors do not conceptualise many logistical features of naturalistic enclosures, zoo visitors also place heightened expectations on zoo staff to be experts, and to demonstrate care. This means that zoo visitors may find zoo staff responses to assumed emergencies, like a fledgling bird out of the nest, insufficient. Just as there is tension between visitors and staff's understanding of the state of animal welfare in zoos, there is tension between visitors and staff on how care should be expressed.

By understanding species' charisma, experience of being in the zoo space, and conceptions of knowing and care for animal welfare we can anticipate how zoo visitors in Hamilton, New Zealand may respond to developments in conservation practices within Hamilton Zoo. As Hamilton Zoo continues to partner with and support Waiwhakareke's development with conservation strategies, understanding how visitors are impacted by closeness, naturalistic spaces, signage and accessibility may help develop a framework

of communication. This means that as future conservation projects unfold, Hamilton Zoo and Waiwhakareke may anticipate visitor responses, know where they may extract the most value and more effectively engage visitors with conservation messaging and education.

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