

# Evaluating the Interactions between Wellington Residents and the Threatened Kaka Parrot



Sarah Cote, Olivia Durand,  
Erin LaRoche, Rachel Warden

February 27, 2013

Prepared for: Raewyn Empson,  
Zealandia Wildlife Sanctuary



**WPI**

**ZEALANDIA**  
THE KARORI SANCTUARY EXPERIENCE  
TE MĀRA A TĀNE

# Evaluating the Interactions between Wellington Residents and the Threatened Kaka Parrot

An Interactive Qualifying Project Report

submitted to the Faculty of

Worcester Polytechnic Institute

in partial fulfillment of the requirements for the

Degree of Bachelor of Science

in cooperation with

Zealandia Wildlife Sanctuary

Submitted on February 28, 2013

Submitted by:

Sarah Cote

Olivia Durand

Erin LaRoche

Rachel Warden

Submitted to:

Raewyn Empson, Sponsor Liaison

Project Advisors:

Professor Michael Elmes

Professor Ingrid Shockey

*This report represents the work of four WPI undergraduate students submitted to the faculty as evidence of completion of a degree requirement. WPI routinely publishes these reports on its website without editorial or peer review. For more information about the projects program at WPI, please see <http://www.wpi.edu/Academics/Project>*

## **Abstract**

This report presents an evaluation of the relationship between Wellington residents and the threatened kaka parrot. With the implementation of a mammalian exclusion fence and pest eradication system, Zealandia Wildlife Sanctuary created the first nature preserve free of mammalian predators. As a result of this unique design and its success, thriving bird populations are expanding into the urban environment beyond the sanctuary. This project examines the impacts of residential interactions on kaka and assesses the attitudes and behaviors of the community through surveys, focus groups, and interviews. Using this data, we provide a set of recommendations to Zealandia for raising awareness, encouraging safe interactions, and enhancing the sanctuary's methods of community outreach.

## Executive Summary

In New Zealand, once called “the land of the birds,” the clearing of forests and introduction of non-native predators severely diminished the variety of endemic wildlife such as the kaka parrot, seen here in Figure 1.



Figure 1: Kaka Parrot (Briggs, 2012)

In the relatively short amount of time that human settlers have inhabited New Zealand, they have had an irreversible impact on the region’s indigenous wildlife. The consequent extinction of hundreds of native species has led to the deterioration of intricate ecosystems that took billions of years to evolve. As a tribute to the fallen species and to preserve remaining wildlife, Zealandia Wildlife Sanctuary aspires to recreate the expansive native plant and bird life that humans first encountered within the once mammal-free land. However, as thriving bird species such as the kaka parrot expand beyond the sanctuary’s safe perimeter, they are encountering an urban environment.

In what used to be their native habitat, kaka are now susceptible to new threats. The introduction of predators such as stoats, rats, and possums, threaten the kaka population (Figure 2).



Figure 2: Stoat Attacking a Kaka (*Untitled...Kaka*, n.d.)

Furthermore, as they expand into what is now an urban environment, this bird population is increasingly preyed upon by domestic cats. Additionally, kaka traveling outside of the sanctuary are exposed to toxic substances on houses, such as lead and arsenic. The reintroduction of native bird species in their backyards has captivated the interest of the communities surrounding the sanctuary, but the consequent interactions have proven sometimes dangerous to kaka and potentially negative for residents. One common issue associated with these interactions includes many residents' limited awareness of kaka's diet. In their desire to connect with nature, residents often feed the bird inappropriate foods (Figure 3), causing malnutrition and developmental deformities.



Figure 3: Kaka Being Fed

Additionally, the increased presence of kaka on residential properties has resulted in roof, deck, and tree damage for some residents. These adverse impacts on both birds and residents have led to concern regarding kaka's expansion into the suburbs surrounding the sanctuary.

## **Methodology**

The goal of our project was to evaluate the interactions between Wellington residents and kaka by assessing the community attitudes and behaviors toward the parrot. To achieve this goal, we initially carried out a site assessment of the sanctuary and the surrounding suburbs. We determined what locations were most suitable for our study by visiting the suburbs bordering the sanctuary. In this way, we identified accessible locations with the highest potential for human and kaka interactions outside of the sanctuary to include in our research. We used this information to create a target map, distributing surveys to the areas we deemed most relevant. To collect as many responses as possible, we provided an option for residents to fill out either a paper or online survey. Our survey questions focused on collecting data on residents' interactions with kaka, including how often they see the birds and whether or not they feed them. To further our understanding of such interactions, we conducted a series of three focus groups with residents who expressed on the survey their willingness to participate. These focus groups fostered dynamic discussions about the residents' experiences with kaka and their attitudes

towards the birds, providing our team with more in-depth information than the survey results alone. In addition, we conducted interviews with residents who expressed interest but were unable to attend a focus group. Through these strategies, we gathered the appropriate information to explore the complex relationship between kaka, residents surrounding the sanctuary, and their engagement with Zealandia's mission.

## **Findings and Analysis**

Through our assessment of the neighborhoods surrounding Zealandia, we chose to survey parts of the suburbs Karori and Highbury that fell within about four blocks of the sanctuary. We distributed approximately 1000 surveys and subsequently collected 202 responses. From these survey results, we determined that the vast majority of the residents who participated enjoy having kaka on their property, often in spite of tree and property damage. There was a largely positive response from residents regarding the recovering native bird populations, and there seemed to be much support for Zealandia's mission. However, the results from both the survey and the focus groups suggested a general lack of awareness about kaka's habits, diet, and threats that they face. Many residents also were unfamiliar with the details of Zealandia's conservation efforts. A large number of the residents from whom we received feedback expressed great interest in learning more about both kaka and Zealandia, and were eager to become more actively involved in conserving native wildlife.

The analysis of our findings provided insight into the dynamics of Zealandia's mission and its relationship with the community surrounding the sanctuary. It seems that residents are supportive of Zealandia's mission and enthusiastic about preserving native wildlife. They are also highly receptive to receiving information and learning more about kaka and measures they can take to improve their relationship with the birds. However, some residents also expressed feelings of detachment from the sanctuary. For the most part, they seemed unaware of the ample information provided on Zealandia's website, and suggested that they would be more engaged if the sanctuary reached out to the community with such information. Residents also expressed uncertainty about Zealandia's views on interactions with kaka, but felt that they would be more interested or willing to follow it if Zealandia actively promoted a consistent stance. In this way, residents have positive views toward interacting with kaka and are supportive of Zealandia's efforts, but feel that they are slightly disconnected from the sanctuary and unsure of how to access further information.

## **Recommendations**

In accordance with our findings and analysis, we developed a series of recommendations for ways Zealandia can improve interactions between residents and kaka and extend its relationship with volunteers and the community, as well as designed potential tools for implementation of these recommendations. We believe that the residents' positive attitude toward kaka will make them more receptive to additional information on ways to interact safely. In addition, both residents and the sanctuary would benefit from enhanced information flow and outreach. Increased feedback and more reported kaka sightings would be useful to Zealandia, and further information or engagement could enable residents to feel more connected to the sanctuary's mission. Many of these recommendations were developed on the basis of recurring topics and feedback received from the focus groups and interviews. The residents were excited to share their ideas in hopes of becoming more involved with Zealandia's endeavor to help kaka and other native birds. We found that volunteers are passionate about Zealandia's mission, and

residents feel privileged to have native birds in their backyards. In developing these recommendations, we took into account several areas of residential behaviors, attitudes, and interactions that we believe could be addressed:

*We recommend that Zealandia provide and promote a set of guidelines and information on kaka to encourage safe interactions between residents and the birds.*

To achieve this, we recommend specifically that Zealandia be consistent in promoting its stance about feeding, and also provide further information to ensure that continued interactions are not detrimental to kaka. Furthermore, we recommend that Zealandia collaborate with residents on ways the residents can improve their property to be more kaka-friendly. In addition, we recommend that the sanctuary expand and promote its information about the dangers kaka face due to predation by cats. Zealandia might also consider making several changes to the format of its website. Making the important topics prominent on the website could be an effective way to provide the community with a “go to” resource if they seek more information.

*We recommend that Zealandia enhance its outreach and communication with volunteers and the community.*

To accomplish this, we recommend that Zealandia implement changes to existing practices. Enhancing use of free media coverage and making news from the sanctuary more engaging could help increase residents’ and other visitors’ interest in Zealandia and its mission. Another suggestion is to visit neighboring schools and hold an educational program. Furthermore, creating a “Sponsor a Kaka” program could be a way for Zealandia to encourage smaller donations, increase community involvement, and help continue the sanctuary’s programs. Finally, we feel that continuing and expanding its banding practices would be beneficial to Zealandia’s endeavors.

## **Conclusion**

Mitigating and monitoring community attitudes and behaviors are especially important in this situation because the kaka populations are expanding into an urban environment where interactions with residents are inevitable. Due to the irreversible negative impact that humans and the predators they introduced have had on native bird species, it is important that present-day residents be educated and made acutely aware of measures they can take to preserve existing native wildlife. Many residents have requested this as well. Similarly, engaging and reaching out to residents is vital to their understanding and support for the mission of Zealandia and the restoration of native New Zealand bird species. Including residents in these efforts will make the process of restoration easier for Zealandia and may support the reemergence of native wildlife in the Greater Wellington region.

## **Acknowledgements**

We would like to extend thanks to the following individuals, institutions, and organizations for their support and contributions to the successful completion of this Interactive Qualifying Project.

- Zealandia Wildlife Sanctuary, for welcoming us into its research community.
- Worcester Polytechnic Institute and the New Zealand Project Center, for making this experience in Wellington and this project possible.
- Professor Ingrid Shockey and Professor Michael Elmes of Worcester Polytechnic Institute, for their guidance and support throughout the completion of this project.
- Raewyn Empson, for sponsoring our project and for her support and guidance throughout its duration.
- Kerry Charles, for her insight and communication throughout the completion of the project.
- All of the Zealandia volunteers, who provided their expertise and feedback on our project.
- All of the volunteers and residents who contributed to our research by participating in our focus groups and interviews or by completing the online survey.



## **Authorship**

Each member of the team made equal contributions to the completion of this project and the compilation of this report, which includes but is not limited to collecting and analyzing data, as well as writing and editing the report.

# Table of Contents

Abstract.....	i
Executive Summary .....	ii
Methodology.....	iii
Findings and Analysis.....	iv
Recommendations.....	iv
Conclusion .....	v
Acknowledgements.....	vi
Authorship .....	vii
List of Tables .....	x
List of Figures.....	xi
Chapter 1: Introduction.....	1
Chapter 2: Literature Review.....	4
2.1 Introduction to Kaka.....	4
2.2 Threats to Kaka and Causes of Endangerment .....	7
2.3 Zealandia Wildlife Protection.....	11
2.4 Current Human/Nature Interactions.....	20
2.5 Case Studies.....	21
2.6 Summary.....	24
Chapter 3: Methodology.....	25
3.1 Objective 1: Identify Locations of Interactions between Humans and Kaka.....	25
3.2 Objective 2: Collect Data on Direct and Indirect Human Interactions with Kaka.....	26
3.3 Objective 3: Collect Data on Residents’ Attitudes and Opinions towards Kaka Interactions .....	27
3.4 Data Management .....	28
Chapter 4: Findings and Analysis.....	30
Part 1: Findings.....	30
4.1 Objective 1: Identify Locations of Interactions between Humans and Kaka Site Assessment.....	30
4.2 Objective 2: Collect Data on Direct and Indirect Human Interactions with Kaka.....	36
4.3 Objective 3: Collect Data on Residents’ Attitudes and Opinions towards Kaka Interactions .....	46
Part 2: Analysis.....	50

Chapter 5: Recommendations and Conclusion .....	59
5.1 Recommendations.....	59
5.2 Conclusion .....	64
References.....	66
Appendix A: Flyer for Residents .....	70
Appendix B: Online Survey for Residents.....	71
Appendix C: Focus Group and Interview Discussion Points.....	75
Appendix D: Focus Group Transcripts .....	76

## List of Tables

Table 1: Relative incidence of different kinds of nesting failure in kaka at sites with and without predator control (Moorhouse, 2003). .....	10
Table 2: Banding Colors .....	18

## List of Figures

Figure 1: Kaka Parrot (Briggs, 2012).....	ii
Figure 2: Stoat Attacking a Kaka ( <i>Untitled... Kaka</i> , n.d.).....	ii
Figure 3: Kaka Being Fed.....	iii
Figure 4: The North Island Kaka (Kappelly, 2009).....	4
Figure 5: Kaka in Nest (Atwood, 2009).....	5
Figure 6: Beech Trunk Heavily Infested with Scale Insects (Fremlin, 2012).....	6
Figure 7: Kaka Eggs (Miller, 2010).....	6
Figure 8: Wasps in Nest (Wellington Beekeepers Association, n.d.).....	8
Figure 9: Possum and Rat Invading Kaka Nest ( <i>Predation</i> , 2010).....	9
Figure 10: Prowling Cat (Christophers, 2012).....	9
Figure 11: Kaka on Roof (Photograph by Alec McLean).....	11
Figure 12: Zealandia's Educational Tour (Lynch, n.d.).....	12
Figure 13: Jim Lynch and His Wife, Evelyn (Zealandia, n.d.).....	12
Figure 14: The Mammalian Exclusion Fence.....	13
Figure 15: Tight Wire Mesh.....	14
Figure 16: Curved Fence Hat.....	14
Figure 17: Fence with a Three Meter Clearing.....	15
Figure 18: Bait Box in Zealandia.....	16
Figure 19: Kaka at Feeder.....	16
Figure 20: Nest Box.....	17
Figure 21: Kaka Chick in Nest.....	17
Figure 22: Leg Bands (Miller, 2011).....	18
Figure 23: Kaka distribution in 2010, 2011, and 2012. Zealandia (orange) is labeled as Karori Wildlife Sanctuary (modified from Terrametrics, 2012)......	19
Figure 24: Kaka Ripping Bark off Tree (Atwood, 2009).....	21
Figure 25: “832F,” Yellowstone National Park Ambassador Wolf (McLaughlin, 2012).....	22
Figure 26: Bay of Islands Coral Reef (Jones, 2012).....	23
Figure 27: Surveying Target Map (modified from Google Maps)......	26
Figure 28: Food Preparation Shed.....	31
Figure 29: The Rata Cafe.....	31
Figure 30: Pamphlet Shelf.....	32
Figure 31: First Floor of the Exhibition.....	32
Figure 32: Wall with Extinct Species Plaques.....	33
Figure 33: Top Floor of The Exhibition.....	33
Figure 34: Photo from Inside Fenced Room.....	34
Figure 35: Karori.....	35
Figure 36: Highbury.....	35
Figure 37: Neighborhood Cat.....	36
Figure 38: Attitudes of Residents towards Kaka on Their Property.....	37

Figure 39: Kaka Feeding of Residents Who See Kaka on Their Property.....	38
Figure 40: How Long Ago Residents Started Feeding Kaka.....	38
Figure 41: How Often Residents Feed Kaka .....	39
Figure 42: Property Damage Done by Kaka.....	39
Figure 43: Tree Damage Done by Kaka .....	40
Figure 44: Tree Bark Damage by Kaka .....	40
Figure 45: Residents Owning Cats.....	41
Figure 46: Residents Allowing Their Cats Outdoors.....	41
Figure 47: Frequency of Kaka Sightings on Street .....	42
Figure 48: Frequency of Kaka Sightings on Property.....	42
Figure 49: Reporting of Kaka Sightings to Zealandia .....	43
Figure 50: Kaka Feeding in Highbury .....	44
Figure 51: Kaka Feeding in Karori .....	44
Figure 52: Percentage of Property Damage in Highbury .....	45
Figure 53: Percentage of Property Damage in Karori.....	45
Figure 54: Frequency of Kaka Sighting Feeding vs Not Feeding.....	50
Figure 55: Property Damage of Houses Where Residents Do Feed Kaka.....	51
Figure 56: Property Damage of Houses Where Residents Do Not Feed Kaka.....	51
Figure 57: Frequency of Kaka Sightings with and without Cats .....	52
Figure 58: Feeding of Kaka by Residents Who Enjoy Them .....	54
Figure 59: Attitudes of Residents with Property Damage .....	55
Figure 60: Attitudes of Residents without Property Damage .....	55
Figure 61: Website Template.....	61
Figure 62: Informational Pamphlet.....	62

## **Chapter 1: Introduction**

As a consequence of factors such as rapid growth in human population, increased pollution, habitat loss, and the introduction of nonnative species, many indigenous species throughout the world face the threat of extinction. In addition, the invasion of nonindigenous plants and animals often negatively impacts native species by introducing competition for habitat or food sources. In some cases, nonnative species prey on native species or introduce foreign diseases, further decreasing existing populations. Because of the delicate balance that exists among organisms at different levels of the food chain, the introduction of nonnative species may disrupt this balance and result in a rapid decline of some species through predation or competition for resources. Many wildlife reserves are trying to combat the risks that local wildlife now encounters.

One such reserve is Zealandia, which prior to 2010 was called the Karori Wildlife Sanctuary. Zealandia is an educational eco-sanctuary sustained by community involvement and dedicated to restoring native wildlife in Wellington. It identifies itself as a community consisting of over 450 active volunteers that is led by a small core staff, whose primary goal is to restore an environment that more closely resembles New Zealand's original state (Zealandia, 2012f). To accomplish this task, staff and volunteers at Zealandia gather ecologically appropriate native plants and animals, and incorporate them into the Zealandia ecosystem. Their natural habitat is maintained within the fully-fenced walls of the sanctuary, providing endangered wildlife with a safe haven from predators and other threats (Wellington, New Zealand, 2012).

Human settlements can affect native species negatively by introducing exotic species to a new area. Before it was inhabited by Maori and European settlers, New Zealand was predominantly occupied by birds. Settlers brought new species with them, which introduced predators such as possums, rats, weasels, and stoats. These nonnative species preyed upon the birds and competed with them for food. Deforestation destroyed the birds' habitats and left them with very few resources. Until being restored to their natural habitat at Zealandia and other wildlife sanctuaries in New Zealand, some species of birds, reptiles, and invertebrates were effectively extinct in Wellington. The inspiration for Zealandia's endeavor was consequently to reintroduce native species to Wellington, but their mission has expanded to providing protection and awareness of their natural heritage and native species facing the threat of extinction.

New Zealanders have a great deal of cultural pride in their native animal populations, with particularly high regard for their birds. Many of the bird species native to New Zealand cannot be found anywhere else in the world, and the legacy of indigenous birds and wildlife in New Zealand is one that citizens have been recently striving to protect. Since the introduction of mammals to New Zealand, many indigenous species have become threatened or extinct. New Zealanders are acutely aware of these losses, and many citizens have strong feelings of responsibility for protecting and cultivating the remaining populations of native species (Hutchings, 2004). Through their conservation efforts, New Zealanders are protecting not only their native wildlife, but also the strong New Zealand culture associated with these indigenous species.

Community awareness is a significant aspect of conservation. Having a well-informed public can serve as the first line of defense in counteracting the extinction of rare species. If residents are more aware of and take pride in their local fauna, they will be more likely to take steps to reduce their possible negative influences on the local environment. Sanctuaries throughout New Zealand have already taken measures to involve the public in their efforts to preserve native species. At Zealandia and other wildlife reservations, visitors are able to see and learn about the local plants, animals, and endangered species through tours, exhibits, and educational programs. In this way, the public can contribute to the missions of the sanctuaries by donating their time, as well as taking responsibility on an individual level to protect local species.

One local species encountering challenges in Wellington is the kaka parrot. As a result of the increasing kaka population within Zealandia, the parrots are expanding beyond the sanctuary's safe perimeter and interacting with the surrounding community. However, these interactions have had a number of negative consequences for kaka, such as malnutrition from being provided inappropriate food, an increased vulnerability to predators and pets, and a higher exposure to toxic chemicals from residential buildings (Empson, personal communication, November 27, 2012). Although some interactions do not involve direct contact, residents' behaviors can still impact kaka. For example, kaka often suffer from lead poisoning, which is speculated to be the result of the birds chewing lead-headed nails on flashing or roofs. Kaka can also be exposed to other toxic chemicals in treated timber. Leaving food out for pets can unintentionally attract kaka parrots, which increases their vulnerability to predators. Finally,



other actions, such as providing kaka with inappropriate food, have directly impacted the birds by causing malnutrition (Empson, personal communication, November 11, 2012). The goal of our project is to evaluate the interactions between Wellington residents and kaka by assessing community attitudes and behaviors toward the parrot. By gathering information about existing interactions, we hoped to assist Zealandia in improving relations between kaka and the community surrounding the sanctuary.

## Chapter 2: Literature Review

Human development can negatively impact ecosystems that host threatened wildlife. The large numbers of endangered native species within New Zealand is one indicator of these impacts. In parts of New Zealand, for example, indigenous species have suffered from habitat loss and predation by non-native mammals introduced to the country. Presently, with increased attention to the reintroduction of native species, the interests of newly protected wildlife are conflicting with areas of human inhabitation yet again. Recent research on the topic of native species restoration reflects the clash between wildlife and the built environment. To gain a better understanding of this paradigm, we briefly consider the historical factors that have catalyzed conservation initiatives in New Zealand, and we evaluate the efforts at Zealandia to protect wildlife. Finally, we present case studies involving the reintroduction of species into developed land that was once their natural habitat and also studies that consider community support of environmental restoration projects. In order to gain insight about such interactions, we begin with an introduction to kaka before assessing the problems relating to community impacts and awareness.

### 2.1 Introduction to Kaka

The kaka parrot (*Nestor meridionalis*), or bush parrot, is a relatively large forest parrot endemic to New Zealand (Figure 4).

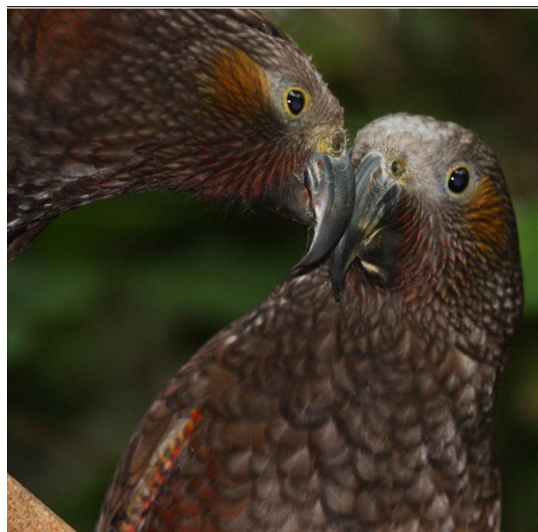


Figure 4: The North Island Kaka (Kappelly, 2009)

They are recognized by their olive brown and crimson feathers, and typically weigh about 450g and measure around 45cm in length. In the wild, kaka remain inactive for most of the day, but

become more active at dusk and dawn when they forage for food (Fingland, 1997). They feed on fruits, berries, seeds, flowers, buds, nectar, sap, and small worms or grubs (The IUCN Red List of Threatened Species, 2012). Kaka inhabit large areas of low- to mid-altitude forest and typically occupy the mid to high canopy, but usually nest about three to six meters above the ground in lower levels of the forest (Figure 5).



Figure 5: Kaka in Nest (Atwood, 2009)

Kaka's powerful, curved beak is ideal for ripping into wood to carve holes for nests or to find grubs and other invertebrates (Fingland, 1997). They also have a brush-tipped tongue, which they use to sip nectar and sap (Bouglouan, 2012). The beech scale insect lives inside the bark of beech trees and draws off the sap (Figure 6).



Figure 6: Beech Trunk Heavily Infested with Scale Insects (Fremlin, 2012)

The insect then excretes honeydew, a sugary liquid on which kaka and other native birds feed (Nelson/Marlborough Conservancy, 2006). In these ways, kaka is strongly dependent upon its forest habitat for survival.

Kaka also require specific environmental features to find a suitable breeding site. Kaka need mature and dying trees to create shallow nests of decayed wood dust in the bases of the hollow trees or in hollow branches or trunks. Between September and January, female kaka lay between one and five eggs, which she incubates for 23-25 days (Figure 7).



Figure 7: Kaka Eggs (Miller, 2010)

Once the chicks hatch, they fledge in about 60-70 days, but do not become fully independent of their parents for another five months. The male kaka helps care for the chicks by returning to the nest and regurgitating food as nutrients for the chicks or female. After fledging, the young parrots often have difficulty flying and spend time on the ground surrounding the nest. This makes them particularly vulnerable until they become stronger fliers. The parrots first breed

from four years old, and usually remain breeding in the wild until they have reached about 14 years old (Heather, 1997). They typically live about 20 years, but females tend to have shorter lifespans due to the risks associated with predators during nesting. Since kaka nests are relatively low to the ground, females and their young are more susceptible to nonnative predators.

## **2.2 Threats to Kaka and Causes of Endangerment**

Prior to any human influence, countless rare species of birds thrived in New Zealand. Honored by this heritage, New Zealanders are instilled with a sense of pride in their uniquely endemic bird species (Empson, personal communication, November 27, 2012). Over time, the residents of New Zealand realized that their actions and the impact of the mammals brought over by their ancestors were contributing to the endangerment of many native birds. If remaining species do become extinct, New Zealand will lose a crucial part of its identity (Hutching, 2004). Alfred Newton, a professor from Cambridge University said, “I would ask you to bear in mind that these indigenous species of New Zealand are, with scarcely an exception, peculiar to the country, and from every scientific point of view of the most instructive character. They supply a link with the past that once lost can never be recovered” (Young, 2004, pp. 92-93). Due to this link, native birds are iconic to New Zealand culture; understanding and mitigating the factors that led to their endangerment is crucial to preserving the country’s heritage.

Although kaka are no longer endangered, they are still considered a vulnerable species. According to the New Zealand Department of Conservation, the concept of “nationally vulnerable” is defined as a species whose population is unnaturally small and increasing or whose population is between 5000-20,000 mature individuals and declining significantly (Townsend, 2008). We interpreted the meaning of unnaturally small as a population whose size has been notably decreased due to human influence rather than natural causes. Although they have started to recover in recent years, the kaka population has declined significantly since the introduction of mammalian predators by European settlers. For this reason, kaka are defined as a nationally vulnerable species.

Kaka were originally put at risk due in part to the destruction of their habitat and access to food. Clearing and degradation of forests by non-native mammals has reduced the number of potential nest sites and the amount of space kaka have to live, breed, and forage for food. This reduction in habitat has also increased the competition for potential food sources. For example,



kaka must compete with *Vespulid* wasps in beech forests for the honeydew produced by native scale insects (Figure 8).



Figure 8: Wasps in Nest (Wellington Beekeepers Association, n.d.)

These wasps have a biomass larger than rodents, birds, and stoats combined, so their consumption of honeydew has a large impact on the available supply. Furthermore, introduced mammals, such as possums, also interfere with kaka's feeding habits by destroying nectar, fruit, and seeds while browsing. In terms of habitat loss, possums also act as a potential source of nesting competition, since they also build their nests near the ground (Wilson, 1996). In this way, problems relating to inadequate habitat and food sources have negatively impacted kaka.

The addition of non-native mammals not only impacted kaka's habitat and feeding, but also resulted in new sources of predation. Settlers originally brought possums and rabbits to New Zealand for their fur, but these species soon overpopulated due to a lack of predators. In an attempt to reverse the population boom of possums and rabbits, the settlers also brought over stoats and weasels to hunt these animals (Wodzicki, 1984). Although stoats slightly decreased the possum and rabbit population, they also became one of the main predators of native birds. These predators are particularly devastating to kaka because they often prey on nesting females. This skews kaka populations to have many more males than females, which increases stress among competing males and creates breeding problems. Furthermore, possums feed on the eggs

of nesting kaka (Figure 9), and stoat invasions of kaka nests typically kill both the females and their young.



Figure 9: Possum and Rat Invading Kaka Nest (*Predation*, 2010)

Similarly, domesticated animals are also potential predators of kaka nesting in urban areas. Loose cats and dogs may attack kaka, especially if kaka nests are located in backyards or parks (Figure 10).



Figure 10: Prowling Cat (Christophers, 2012)

With so many threats on the mainland, many species of birds only flourish in sanctuaries and islands off the coast of New Zealand. The impact of predators on kaka nesting sites can be seen clearly in Table 1 below.

	Egg mortality	Female killed	Nestling mortality	Non-predation	Total
Predator control ( <i>n</i> =70)	4%	3%	3%	6%	16%
No predator control ( <i>n</i> =43)	46%	21%	12%	5%	84%

Table 1: Relative incidence of different kinds of nesting failure in kaka at sites with and without predator control (Moorhouse, 2003).

This table shows data collected from six different sites throughout New Zealand, three with predator control and three without predator control. Between 13 and 54 adult kaka were radio-tagged at each site and the nesting sites were tracked through these birds. Each nesting site was checked on about every week and the data was collected from 1996 to 2000 for all the sites except one, which was collected from 1984 to 1996 (Moorhouse, 2003). As seen above, the sites with no predator control had a significantly higher rate of nesting failure than the sites with predator control. This is compelling evidence to remove predators from all kaka territory, but there is a lack of research on how willing local communities are to participate in a predator-free zone.

Another impact of human development on native wildlife is increased exposure to toxic chemicals such as arsenic and lead used in residential buildings. These chemicals can have damaging effects if ingested by wildlife, and even exposure to low levels can cause diseases or developmental problems (Huff, 2010). According to our research, the primary source of exposure to arsenic is from CCA-treated wood. CCA, or chromated copper arsenate, is a chemical commonly used in pressure treated wood used for decks, patio furniture, benches, and picnic tables (Healthy Child Healthy World, 2008). The inorganic arsenic acts as a pesticide against insect attack and decay, and can remain in pressure-treated wood for long periods of time (EPA, 2012). Chemicals in outdoor paints can also pose health hazards to wildlife. For example, arsenic has been used as a whiteness extender pigment in white outdoor paints. In addition, lead is often present in exterior paints of older homes and is used in the lead-headed nails and flashing of roofs (Figure 11).





Figure 11: Kaka on Roof (Photograph by Alec McLean)

It is most commonly found on windows, trims, railings, columns, porches, and on outdoor walls (Joseph, 2004). Even if kaka do not come into direct contact with humans, the presence of these toxic chemicals on outdoor furnishings negatively impacts the birds' health.

### **2.3 Zealandia Wildlife Protection**

Community awareness can play an important role in the conservation efforts of bird and wildlife sanctuaries. There are many sanctuaries in New Zealand, all sharing a similar vision: to restore New Zealand's natural wildlife and provide indigenous species with a safe haven from predators, while also raising funds, awareness, and support for their mission (New Zealand Tourism Board, 2012). These sanctuaries often increase awareness of their conservation efforts by engaging members of the community in protecting the wildlife. For example, Rainbow Springs, a kiwi conservation center located in Rotorua, uses their "Sponsor a Kiwi" program to both raise money for their cause and to get people actively involved in wildlife protection (Rainbow Springs, 2012). This program generates funding for conservation, while simultaneously promoting the sanctuary's cause by generating interest and directly connecting participants to the protection efforts. Each of these sanctuaries also offer guided tours and educational programs, which give visitors the opportunity to experience the wildlife that sanctuaries are working to protect (Figure 12). Through these programs, sanctuaries promote community awareness and involvement in their endeavor to protect wildlife.



Figure 12: Zealandia's Educational Tour (Lynch, n.d.)

Zealandia, formerly known as Karori Wildlife Sanctuary, was renamed in 2010 as part of a rebranding effort, and is still run by the Karori Wildlife Sanctuary Trust. Located in Wellington, Zealandia was the world's first fenced, mammalian pest free ecosystem in an urban setting. It encompasses 556 acres and is located about ten minutes from Wellington Central (Zealandia, 2012g). The idea for Zealandia originated from Jim Lynch, who was a member of the Royal Forest and Bird Society (Figure 13).

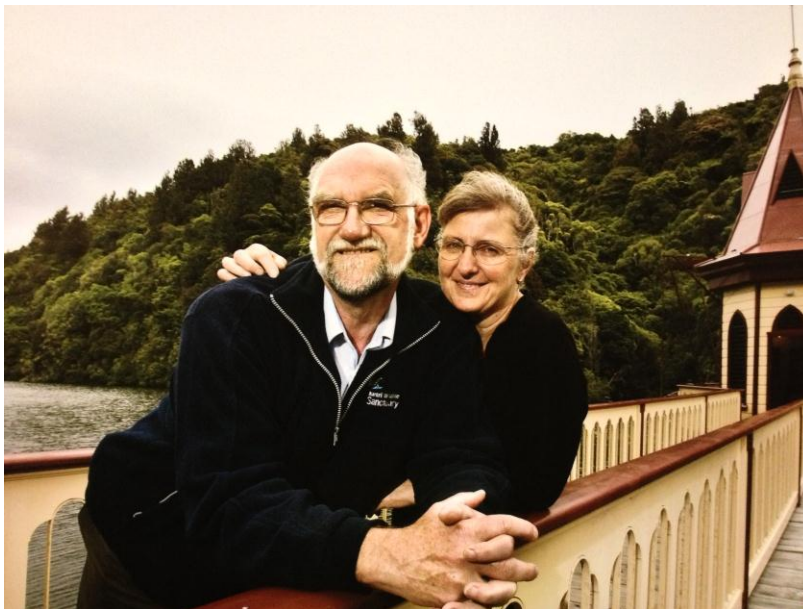


Figure 13: Jim Lynch and His Wife, Evelyn (Zealandia, n.d.)

He developed a plan entitled “Natural Wellington: A Plan to Preserve and Enhance the Natural Treasures of Wellington City”, which aimed to provide protection for the natural animals and plants in Wellington. After a successful feasibility study and securing the support of many

organizations, Lynch's project gained enough momentum to mark the beginning of what is now Zealandia (Lynch, 2007).

The main goal of Zealandia is to restore the plants and animals that originally inhabited New Zealand. To accomplish this, it fosters native wildlife within the sanctuary, providing them with protection, food sources, and places to nest. Zealandia replicates New Zealand's original ecosystem as closely as possible, working under the guidelines of the Department of Conservation to ensure that the habitat it has established is suitable for the species contained within it (Zealandia, 2012b). Replicating the original habitat is a key part of Zealandia's endeavor to restore the wildlife.

In an effort to reduce threats and keep predators outside the sanctuary, Zealandia completed the construction of an 8.6-kilometer mammalian exclusion fence in August 1999 (Figure 14).

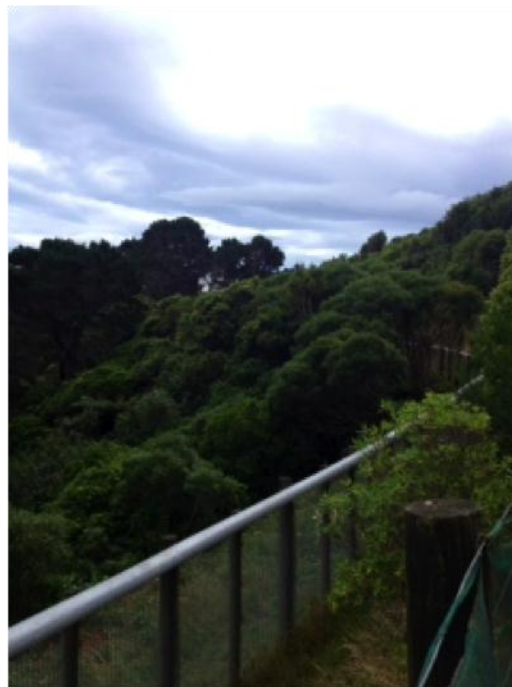


Figure 14: The Mammalian Exclusion Fence

This perimeter was the first of its kind to be successfully implemented in an urban location. It was carefully designed to consider many possible methods of pest invasion, taking into account different species' abilities to jump, climb, fit through small spaces, and burrow. Zealandia designed the fence after an extensive period of studies and prototype testing. The tight wire

mesh wall of the fence is intended to keep small animals from climbing through holes (Figure 15).



Figure 15: Tight Wire Mesh

The 2.2-meter-high fence also has a curved “hat” on top, which is specifically intended to prevent animals from climbing or jumping into the enclosure (Figure 16).



Figure 16: Curved Fence Hat

Since the perimeter of the sanctuary is in close proximity to trees, a three-meter clearing is maintained outside the fence to prevent the trees from being used as a means to jump over the fence hat (Figure 17).





Figure 17: Fence with a Three Meter Clearing

The bottom of the fence extends 0.4 meters into the ground, forming a skirt to keep burrowing pests from digging under the wall. With this design, Zealandia's exclusion fence successfully prevents over thirteen different mammalian species from breaking the barrier into the sanctuary (Zealandia, 2012d). This innovative fence design, which is the first of its kind, is an effective method of keeping predators away from endangered native species within the sanctuary.

While the mammalian exclusion fence is highly effective at keeping predators out, Zealandia also needed to eliminate the presence of pests already in the sanctuary. Zealandia developed and carried out a five-phase pest eradication plan that lasted from December 1998 through January 2000. The phases of this plan included planning, gaining consent, building the exclusion fence, trapping possums, distributing poisoned bait, and trapping and eradicating the remaining nonnative animals (Figure 18).



Figure 18: Bait Box in Zealandia

At the conclusion of this eradication program, the sanctuary valley was declared mammal-free. Mice, however, have since reinvaded the area by getting through small holes in the fence. Zealandia is working on a solution to the mice problem. There were also incidents of weasels within the fence in 2004, 2008, and 2012, and ship rats in 2008 and 2010. Each time, the weasels and rats were once again successfully eradicated. The sanctuary staff continues to monitor the possibility of mammal reinvasion regularly, and has prepared a response plan in case of any incidents (Zealandia, 2012e). The maintenance of a mammalian predator-free zone is key to the revival of native bird populations.

In 2002, Zealandia first transferred kaka into their sanctuary and established several plans to help the birds with breeding and maintaining their well-being (Zealandia, 2012a). In terms of a nutritious diet, kaka have access to a number of pellet feeders located within the sanctuary (Figure 19).



Figure 19: Kaka at Feeder



These feeders have perches that are easily accessible to the birds, and are filled with nutritionally balanced pellets in order to provide a well-rounded diet. Furthermore, Zealandia provides specially designed nest boxes for kaka to use for breeding (Figure 20).



Figure 20: Nest Box

Sanctuary staff regularly check the boxes to record which are occupied and how many eggs or fledglings are present (Figure 21).



Figure 21: Kaka Chick in Nest

To keep records of the nesting and feeding habits of specific kaka, such as locations of their typical nest boxes, how many chicks they raise, and where they feed, staff at Zealandia use a banding system. Every kaka raised in Zealandia has a unique combination of colored bands on each leg that staff use to identify the individual bird (Figure 22 and Table 2).



Figure 22: Leg Bands (Miller, 2011)









BAND COLOUR NAME	CODE	COLOUR(S)
Blue	B	
Green	G	
Black	K	
Lime / Light green	L	
Mauve	M	
Orange	O	
Pink	P	
Red	R	
Silver	S	
Lavender	V	
White	W	
Yellow	Y	

Table 2: Banding Colors (Zealandia, 2012c)

Through the use of this banding system, Zealandia staff keeps track of specific kaka on a database and have a record of how many birds are thriving. In November 2012, Zealandia



banded its 400th kaka chick (Zealandia, 2012a). In this way, since the introduction of kaka to Zealandia, practices such as these have led to a significant growth in their population.

As kaka continue to thrive in the sanctuary, the newly expanding species is venturing beyond the safe perimeter and into surrounding backyards. To monitor kaka's expansion into these areas, Zealandia provides a feature on their website that allows citizens to document locations of kaka and other bird sightings, as well as the gender of the birds and whether or not they are banded. Figure 23, below, shows incidents of kaka sightings, with blue marks indicating sightings in 2010, red marks indicating sightings in 2011, and purple marks indicating preliminary sightings in 2012.

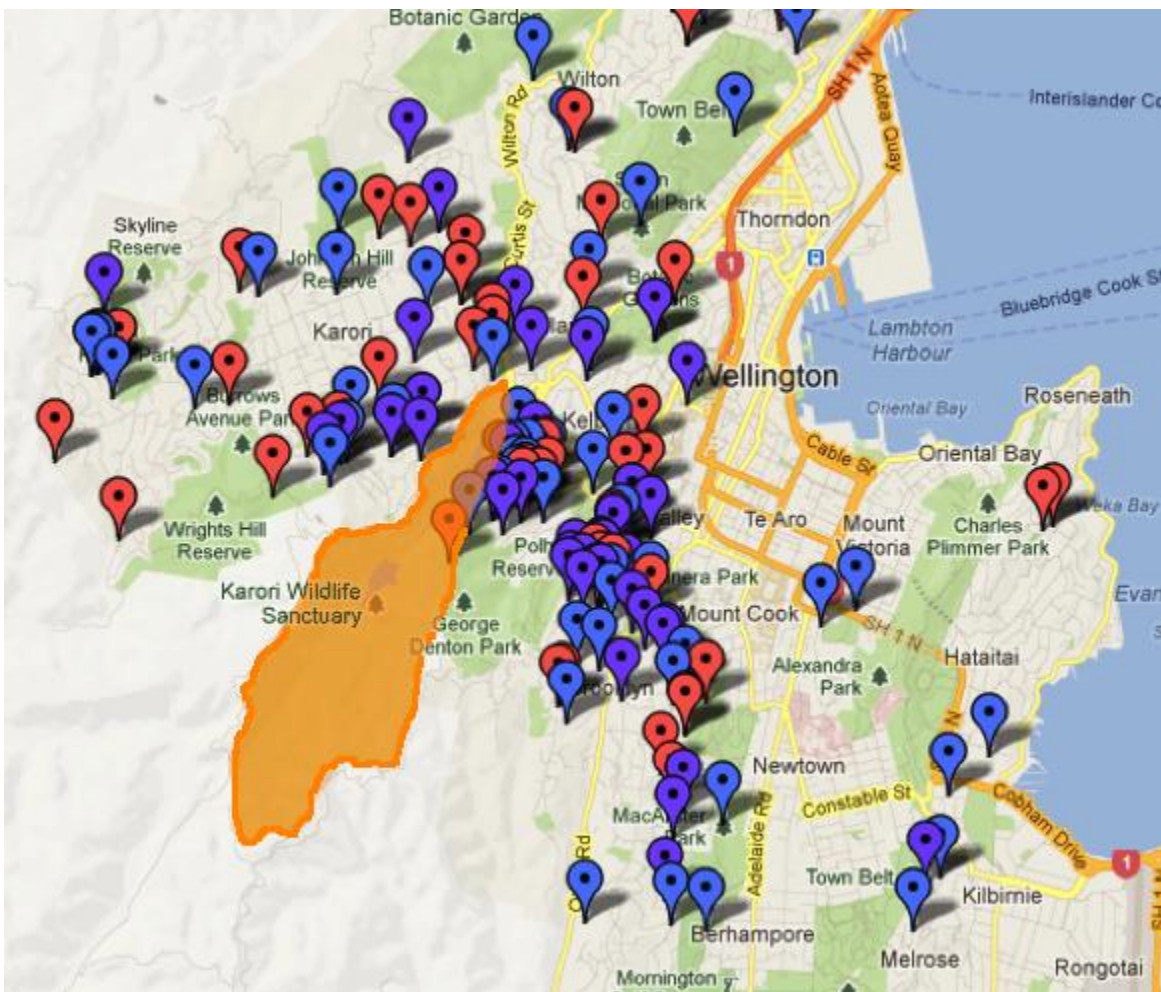


Figure 23: Kaka distribution in 2010, 2011, and 2012. Zealandia (orange) is labeled as Karori Wildlife Sanctuary (modified from Terrametrics, 2012).

The community surrounding Zealandia actively contributes to data collection on kaka. Zealandia has utilized social networking sites such as Facebook and Twitter to update the public

on the wildlife and events at the sanctuary. On these sites there is also evidence of public interaction with kaka in the form of posts and pictures of people feeding the birds. Activity on the websites is high because there is a great deal of public interest in these birds. Kerry Charles, a student working on her master's degree in conjunction with Zealandia, noted that there was approximately a 60% return rate of surveys she distributed involving Wellington residents' relationship with birds (Charles, personal communication, November 6, 2012). This indicates that the community is relatively eager to reach out and offer opinions and information regarding kaka (Empson, personal communication, November 13, 2012). Nevertheless, there is a lack of research surrounding specific incidents of feeding, or where it is most prevalent. For this reason, effectively evaluating the relationship between kaka and residents is a challenge faced by the sanctuary.

#### **2.4 Current Human/Nature Interactions**

Due to Zealandia's successful efforts to increase the number of kaka in the Wellington area, the birds' presence beyond the fence has grown significantly. This has resulted in a notably higher frequency of interactions between humans and kaka. In our preliminary interviews with staff, we uncovered some trends in local interaction with the birds. Since the Zealandia preserve borders several neighborhoods, residents in the Wellington area interact with kaka on a regular basis. Some residents are pleased by the growing number of kaka, increasing their inclination to interact with the birds (Chug, 2010). Neighbors often directly interact with kaka by feeding them. However, these residents are often unaware of what foods are acceptable to feed kaka. Consequently, kaka are developing bone deformities due to the poor nutritional value of the foods being fed to them (Empson, personal communication, November 27, 2012). If female birds feed their chicks with the food they have been provided by humans, the chicks may not receive enough nutrition to develop properly (Charles, personal communication, December 6, 2012). The birds also become more dependent on the food they are given, reducing their natural instinct to forage for themselves. Residents also affect kaka indirectly when they leave food out for their pets. The birds may be attracted to the food, which puts them at risk for attacks by domesticated animals (Chug, 2010). The proximity of residential areas to Zealandia increases the likelihood of frequent interactions between humans and kaka.

Although the increased presence of kaka in and surrounding Zealandia is a positive indicator of their repopulation, some residents find that the birds are a nuisance. These

charismatic birds are known for destroying roofs of nearby homes; one resident is known to have replaced all of the nails in her roof due to the extent of the damage (Charles, personal communication, November 27, 2012). This makes some residents less enthusiastic about the growing kaka population. Kaka are also known for destroying trees while trying to eat the bugs and sap found beneath the bark (Figure 24) (Chug, 2010; Empson, personal communication, November 27, 2012).



Figure 24: Kaka Ripping Bark off Tree (Atwood, 2009)

Due to the varied impacts of kaka population on the community, residents have had some negative responses towards the bird (Empson, personal communication, November 27, 2012). As kaka population continues to grow, their interactions with the surrounding community will inevitably increase, potentially exacerbating the negative impacts on both the residents and the birds.

## 2.5 Case Studies

The impact of endangered native wildlife repopulating and expanding into developed areas of human settlement has been a challenge that wildlife experts have faced working with gray wolves as well. A 1995 case study on the reintroduction of gray wolves in the Yellowstone area asserted, “human reintroduction of the wolves is more symbolic than tangible because wolves have been reintroducing themselves” (Hartman, 1995, p.88). Previously, full-time surveillance and an electric fence were used to keep grizzly bears and residents separated from the wolves. However, beginning in the early 1990s, the wolves were allowed to stray from this captive environment and spread to what used to be their natural habitat. The expanding wolf



population met opposition from residents and local farmers as interactions with humans became more prevalent. Local farmers were concerned for their livestock, and members of the community feared wolf attacks would occur on their property. In order to combat these negative attitudes toward reintroducing the gray wolf, a wolf recovery team was formed with the hope of improving public interest and easing tensions. The team believed that informing the public was essential because interactions between humans and wolves are inevitable as the wolf population continues to increase. The conclusions drawn from this case study reveal that “education is an essential component of defusing antagonism toward reintroduction,” and “public education and outreach was a key component of restoring wolf populations” (Hartman, 1995, p.97). Specifically, the Wolf Education and Research Center (WERC) conducts outreach and appeals to children in Idaho with its “Track a Wolf” program. In this program, schoolchildren can choose the name that will be inscribed on the radio collars the wolves wear. After tracking the wolves for a period of time, WERC provides schools with data to allow children to keep track of the wolves’ activity. Their outreach also includes bringing an “ambassador wolf,” named 832F, to community programs or classrooms in order to increase community engagement and support (Figure 25).



Figure 25: “832F,” Yellowstone National Park Ambassador Wolf (McLaughlin, 2012)

In this way, actively engaging the surrounding community appears to be a crucial aspect of improving interactions between humans and endangered native wildlife, and must be a sustained and ongoing effort (Hartman, 1995).

A second case study from 1997 explores direct community involvement in the conservation of a coral reef in Honduras. It evaluates a community in the Bay Islands of Honduras that spearheaded the development of a community-based marine protected area in an attempt to preserve what remained of the coral reef ecosystem (Figure 26).



Figure 26: Bay of Islands Coral Reef (Jones, 2012)

This project began when an individual community member decided to take action to counter the damage being inflicted on the marine life through tourism, project development, and commercial marine use. To gain support, he spread awareness about the protection of marine species to other members of the community. His ideas were “accepted by the community because they could see the decline in reef health and certain marine populations, and the problem had been causing much concern about the future of their livelihoods” (Luttinger, 1997, p. 14). The community ultimately adopted this cause because they identified themselves as playing a key role in or being able to impact its success; the project relied entirely on strong community support and involvement. Regardless of their limited resources, the community successfully started and

maintained Sandy Bay-West End Marine Reserve, which has since resulted in “a remarkable difference in the quality of the protected reef” (Luttinger, 1997, p. 21). This study exemplifies the importance of community engagement in conservation efforts by demonstrating that if community members identify with and feel personally connected to a cause, they are more inclined to support it (Luttinger, 1997).

These case studies provide insight into methods that have been used to alleviate negative human impacts on endangered species. In each study, community members were heavily involved in combating the problems. Above all, these case studies strongly suggest that engaging and educating the community are critical aspects of improving interactions between protected species and residents.

## **2.6 Summary**

Through our review of the literature, we gained a better understanding of why kaka became threatened and what problems the species continues to face. Evidence that we found shows that human interactions play a critical role in the activity and wellbeing of kaka. According to the data collected by the sanctuary, residents surrounding Zealandia have been interacting with kaka more frequently since the bird population has expanded into residential areas. Some of these interactions, such as feeding, have been detrimental to both kaka and the residents. Case studies have shown the importance of informing and engaging the community in conservation and protection efforts. The research we conducted helps to explain the nature of kaka and the urban threats the species faces, serving as the basis for our assessment of community interactions with kaka.

## **Chapter 3: Methodology**

The goal of our project was to evaluate the interactions between Wellington residents and kaka by assessing the community attitudes and behaviors toward the parrot. To achieve this goal we identified the primary locations and scenarios for human and kaka interactions outside of the sanctuary. Our group collected data on the specific kinds of direct and indirect human interactions with kaka. Finally, we gathered data on the residents' attitudes and opinions towards these kaka interactions.

### **3.1 Objective 1: Identify Locations of Interactions between Humans and Kaka**

On January 10 and 11, 2013, we conducted a site assessment to gain a better understanding of the locations and the common scenarios that facilitate interactions between humans and kaka. The site assessment method is useful for research that proposes the use of a specific location or portion of land in the study. We familiarized ourselves with Zealandia and its mission by touring the sanctuary and witnessing firsthand kaka in their native habitat. We also systematically investigated residential areas surrounding Zealandia to evaluate the location's features and restrictions as they relate to our research. By analyzing data previously collected by Zealandia regarding kaka sightings and reported interactions, we assessed how suitable these areas were for our study (Site Assessment, 2012). Based on indications from our preliminary research, we traveled through parts of the suburbs Karori and Highbury, which border Zealandia along its west, north, and east perimeters, respectively. These communities are in close proximity to Zealandia and have experienced frequent kaka interactions, so information gathered here was relevant to our research. Specifically, we looked for locations with a high frequency of reported kaka interactions that were easily accessible for collecting data. We measured the approximate time it took to cover this area so that we could have a realistic idea of how many people we would be able to reach, and found that it took about six hours total to traverse the targeted area. We used this information to create a target map of the portions of Wellington that we later surveyed (Figure 27) and estimated the length of time required to pass out the survey flyers. We planned to distribute the flyers over the span of two days, February 17 and 18, 2013 and handed out approximately 1000 flyers.



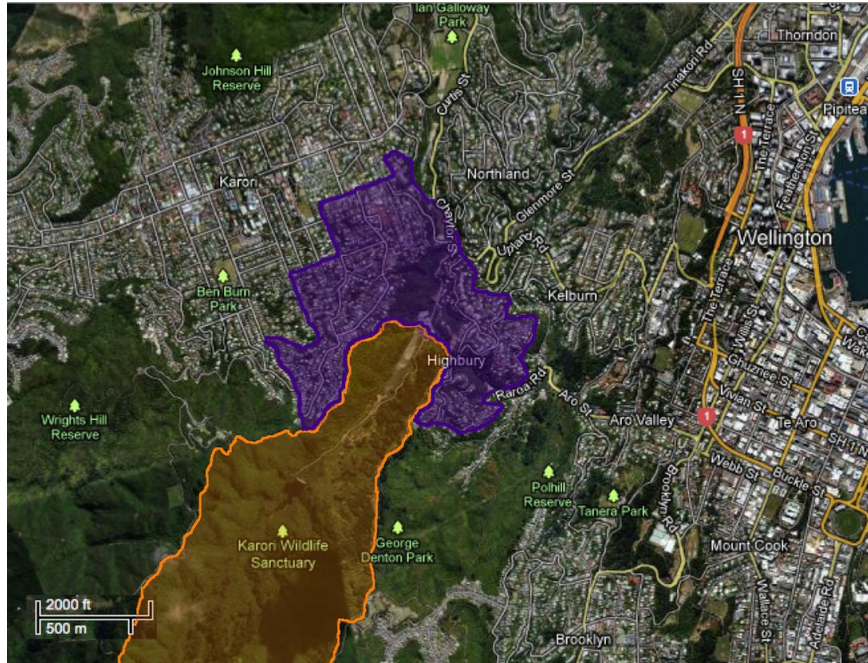


Figure 27: Surveying Target Map (modified from Google Maps).

### 3.2 Objective 2: Collect Data on Direct and Indirect Human Interactions with Kaka

In order to collect data on human behaviors and incidents involving these birds, we hand-delivered flyers with a brief description of our mission and a link to an online survey (see Appendices A and B for copies of the flyer and online survey). These flyers were distributed on January 17 and 18, 2013 to 1000 houses on the streets we had determined to be most relevant. We confirmed through our site assessment and Zealanda's databases of kaka sightings that the houses closest to the fence had a high frequency of kaka interactions and were most easily accessible for our surveying purposes, leading us to target streets within approximately four blocks of the sanctuary's fence. Due to resource restrictions and the large number of houses we targeted, we chose to create the survey using the online survey generator, SurveyMonkey. This reduced the resources necessary to print the surveys, and eliminated the need to collect completed surveys by hand. To accommodate residents who wanted to participate but did not have access to the Internet, we included an option in the flyers to request a paper survey. This allowed us to include the responses of a broader demographic in our results, but was still a more efficient way to collect data than strictly using paper surveys, providing us with additional time to analyze the data. We collected survey results until January 30, 2013, after which we closed data collection for this study. We gave any additional results collected after this date to Zealanda for potential use in future research.



To understand the specifics of the direct interactions, we asked in the survey how frequently the residents saw kaka on their street and property, and whether or not feeding was involved. If feeding was involved, we determined what kaka were fed, how often, and when it began. To assess indirect actions, we included questions to determine if the residents owned domesticated animals and whether or not they noticed property or tree damage due to kaka. If a resident had domesticated animals, we asked if their pets were allowed to roam outside.

We used surveys as a method of collecting data because they identify overall problems or situations that stakeholders face without spending an extraordinary amount of resources or stakeholders' time to collect the data. Surveys have a wider distribution range than a focus group or case study, so fewer people are excluded from the data set. Surveys also have a standardized set of questions that focuses the data collected from a community, making the data manageable and useful for the study (The Pennsylvania State University, 2006).

### **3.3 Objective 3: Collect Data on Residents' Attitudes and Opinions towards Kaka Interactions**

In order to collect data on residents' opinions of kaka and their attitudes towards interacting with the birds, we designed and organized a series of focus groups. The sample consisted of community members we had surveyed and who indicated they were interested in participating. At the end of the survey, we included three optional dates and times from which residents could choose based on their availability.

A focus group typically consists of eight to ten members gathered for the purpose of discussing a single topic. This qualitative method of research is useful for obtaining feedback or suggestions on a limited topic. If a statement or idea is unclear, the moderator is able to ask the participants directly to explain their thoughts. The moderator can draw out the more subjective elements of local opinion, and gain insight on the feelings, attitudes, and motivations of participants. Group discussions can also lead to the creation of new ideas or dimensions of the problem that may have been overlooked prior to the group (Edmunds, 1999). We determined that a focus group was a useful strategy to obtain information surrounding attitudes toward kaka interactions because it was the most appropriate approach "for investigating motivations, decisions, and priorities" (Berg, 2012, p 164). Actively observing the participants during discussions allowed us to gauge their emotions regarding kaka and Zealandia. Finally, the focus group enabled us to ask questions that were more open-ended than those posed in the survey, as

well as allowed for follow-up questions for clarification and more details. Topics discussed in the focus groups we held can be found in Appendix C. Utilizing focus groups allowed us to collect more subjective information about participants' attitudes toward kaka interactions.

We took into consideration a number of factors while choosing participants for the focus groups. We separated each of the focus groups by suburbs, with one group including only Highbury residents on Monday, February 11, one with a combination of people from each suburb on Tuesday, February 12, and one with only Karori residents on Wednesday, February 13. In this way, we could identify potential differences between the two communities in regards to the residents' attitudes and behaviors towards kaka. In addition, we aimed to create each focus group with a combination of participants who had positive, negative, and neutral feelings towards kaka. The goal of this diversity was to encourage a more dynamic and well-rounded discussion with a variety of opinions. Finally, we identified which prospective focus group participants were volunteers at the sanctuary. We decided to limit the number of sanctuary volunteers in the focus groups. With approximately 60 residents interested in participating, we chose to fill the limited focus group spaces with as many non-volunteers as possible to get a better representation of residents' views outside the Zealandia community. Because volunteers are easier for Zealandia to contact for potential follow-up in the future, including non-volunteers allowed us to hear perspectives that may not otherwise have been available. Taking these steps provided us with complete and comprehensive information from the focus groups.

In addition, we conducted interviews with certain community members who were unable to attend our focus groups on the specified dates. These residents felt strongly about their interactions with kaka and wanted to participate further in our research. By interviewing such people, we enabled them to be a part of our study more extensively than only surveying them, and we also gained a deeper understanding of their views on the issue. This ensured that we did not overlook anyone willing to participate, and allowed us to gather more data than using focus groups alone.

### **3.4 Data Management**

We addressed several challenges that we could have encountered while conducting the survey and focus group. The first potential problem was that survey questions might be misinterpreted by the sample because of linguistic differences between our two cultures. We managed this issue by asking several Zealandia volunteers to review our survey to ensure that

they interpreted our questions correctly. Secondly, some residents might not have wanted to participate in the survey, which would reduce our sample size. Also, it was necessary for us to take into consideration that January is a vacationing month for many New Zealand residents. To counteract these potential problems, we sent our survey link to approximately 1000 households and gave residents over a week to fill out the survey. This provided an adequate sample size of participants and allowed residents who were away enough time to fill out the form. Furthermore, potential stakeholders might not have had time to participate, or may have felt uncomfortable interacting in a focus group. For this reason, we provided residents with the option to indicate that they were interested, but unavailable to attend the specified focus group dates. This allowed the potential for Zealandia to follow up with these residents at a later time. We also conducted interviews with residents who showed interest in our study but could not participate in a focus group. All identifiable information was optional, will remain confidential, and will be used at Zealandia only for research purposes.

## **Chapter 4: Findings and Analysis**

### **Part 1: Findings**

The site assessment of Zealandia and the parts of Highbury and Karori that border the sanctuary, our communication with residents and Zealandia volunteers, and the opinions gathered at the focus groups provided us with useful findings for our analysis and eventual recommendations.

#### **4.1 Objective 1: Identify Locations of Interactions between Humans and Kaka Site Assessment**

At Zealandia, we explored the sanctuary from the point of view of both visitors and volunteers. The general layout divides the preserve into three parts: the staff and research station, the visitor center, and the fenced wildlife sanctuary. The site assessment began with becoming familiar with the sanctuary's staff locations, such as the main research building, the education house, and the staff shed.

The staff shed and research quarters are forced to serve multiple purposes, ranging from staff and volunteer facilities, tool storage, food preparation for the birds, and meeting space. The research facility is a modest building off the side of the road on the way to the visitor center and sanctuary. Several rooms of the building are used as shared office space, with computers to access online databases and bookshelves full of research materials and documents. The kitchen serves a multitude of purposes aside from a place to eat and prepare food; staff also use this room to conduct meetings, analyze bird eggs, store traps, perform bird autopsies, and study biological samples. The education house, located on the hill above the research quarters, is a multi-purpose building usually used to hold meetings and educational programs. This is also the location our team used to carry out parts of our research and to conduct two of our focus groups. The staff shed, also called the "tea room" (Figure 28), functions as a break room, meeting area in the event of an emergency, location for preparing food for the birds, storage for rain gear and other equipment, and parking area for the sanctuary's four-wheel motorized vehicles. Every building the staff uses is utilized to the fullest extent in order to provide the research necessary to run the sanctuary.



Figure 28: Food Preparation Shed

In contrast to the staff locations, the public buildings of Zealandia are modern, open, and bright. The visitor center houses such attractions as the gift shop, Rata Café (Figure 29), and an educational space known as Zealandia: the Exhibition.



Figure 29: The Rata Cafe

The visitor center's high ceilings, spacious display area, and large glass windows create an open atmosphere, while the stainless steel support structures and natural lighting also give the space a contemporary feel. The main lobby of the visitor center includes a pamphlet shelf (Figure 30)

with various options to donate to Zealandia by “adopting” a certain feature of the sanctuary, such as a fence post or bench.



Figure 30: Pamphlet Shelf

Zealandia: the Exhibition is a two-story informative exhibit on the past, present, and future of New Zealand’s native wildlife. Visitors to the exhibition encounter on the first floor information on the unique wildlife endemic to New Zealand, unfolding an image of what the environment was once like (Figure 31).



Figure 31: First Floor of the Exhibition



The focus on wildlife takes on a slightly darker tone as visitors make their way to the second floor. The passage through a quiet stairwell lined with plaques of extinct species (Figure 32) evokes feelings of sadness and shame as one reminisces on humanity's role in New Zealand's lost past.



Figure 32: Wall with Extinct Species Plaques

The second floor's theme progresses from predators and other threats, to early efforts to protect New Zealand's native species, and concludes with the current status of Zealandia's conservation success (Figure 33).



Figure 33: Top Floor of The Exhibition

Overall, Zealandia: the Exhibition is a comprehensive educational experience that allows visitors a glimpse into New Zealand's rich ecological history and Zealandia's mission to restore it.

The sanctuary itself stretches out beyond the visitor center with a dense canopy of trees and understory of indigenous plantings. Before entering the fence, all visitors to the sanctuary must check their belongings for unwanted pests, such as lizards or rats. After the bag check is

completed, visitors swipe a bar code allowing them entry into the sanctuary. The entrance consists of a fenced-in room with two doors attached on either side (Figure 34).



Figure 34: Photo from Inside Fenced Room

To prevent pests coming in or native animals leaving the sanctuary, only one door is allowed open at a time. After walking through the second door, the landscape opens up to a lawn with signs directing visitors on their journey. Along the path there are multiple stands with buttons that when pressed play various bird sounds from a speaker hidden in the woods. There are a number of places along the trails with binocular viewing stations. Visitors can also take part in a guided walking tour, during which they learn about the numerous species of plants and animals fostered by Zealandia. Feeders for small birds are located in an area slightly off the track, which is one of the many locations where visitors can sit and quietly watch the acrobatics of hihi, robins, and fantails. Further down the trail are kaka feeders, with ducks waiting to catch the crumbs dropped by kaka. From here, many tracks can be taken to explore the deeper parts of the sanctuary. The chirps, squawks, and whistles of countless bird species fill the air, and kaka and tui can frequently be seen flying overhead. In the peacefulness of the valley, it is easy to forget that just outside of the fence is an urban environment full of danger for the native birds.

After touring Zealandia's facilities, we explored the suburbs surrounding the sanctuary, including the layout and terrain of the neighborhoods. They revealed that the suburbs



surrounding Zealandia are quaint and residential, with many gardens and trees. Both communities include a great deal of altitude change, with very slanted roads or steep stairs to residents' mailboxes. The streets of Karori are organized in more of a grid-like pattern, and seem to have better paving conditions (Figure 35).



Figure 35: Karori

We observed that the houses also appear slightly larger and more modern, with more neatly kept gardens and landscaping. The Highbury area has a more sprawling layout with less-maintained roads (Figure 36).



Figure 36: Highbury

In general, the houses are smaller, older, and the gardens and lawns are less tame than those in Karori. The houses in Highbury seem to be built scattered on terraces off of the main roads, whereas in Karori the houses lay on relatively flat land, neatly organized on streets.

Some of our observations were overarching between both communities. We saw and heard many native and nonnative birds, including kaka. We also observed a number of cats roaming freely in backyards and throughout the streets (Figure 37).



Figure 37: Neighborhood Cat

The backyards of both communities have many mature trees and are filled with both native and nonnative plants. We used these observations to prepare for surveying and to develop an understanding of the suburbs' unique characteristics.

#### **4.2 Objective 2: Collect Data on Direct and Indirect Human Interactions with Kaka**

##### **Surveys**

After distributing approximately 1,000 fliers with a link to our online survey, 202 surveys were submitted and used for this research. Ninety-six of these households were in the Highbury suburb and 106 were in the Karori suburb. According to the results, the majority of the residents

surveyed enjoy seeing kaka on their property (86.6%), while 9.9% were indifferent. Only 3.5% did not enjoy having the birds on their property. This is depicted in Figure 38.

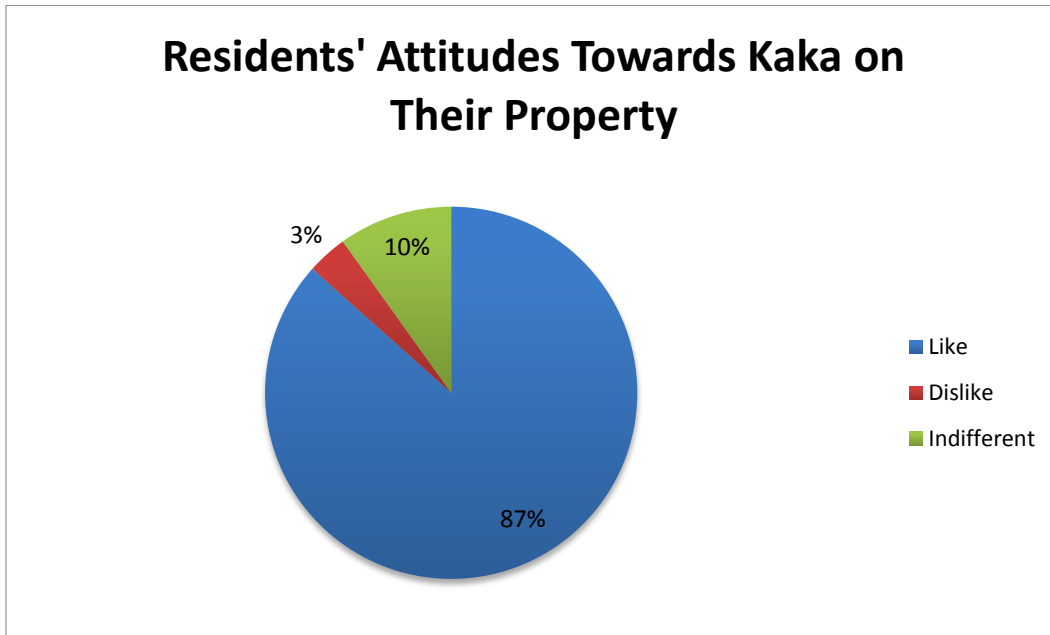


Figure 38: Attitudes of Residents towards Kaka on Their Property

The survey contained open-ended response sections for residents to elaborate on their attitudes towards kaka and one at the end to provide any additional feedback or comments. For example, one positive resident expressed,

“Kaka are amazing! Cheeky, fun, and pretty amazing when they swoop down onto the deck. I love hearing them in the morning and the evening, and we have a great view of them in their favorite tree” (Survey 181, January 27, 2013).

Similarly, other residents stated, “They are wonderful hooligans, fun, beautiful, and part of my heritage. It is a privilege to have them around” (Survey 2, January 19, 2013), and, “I like having all kinds of birds and other wildlife on the property. It is their area as much as mine” (Survey 149, January 17, 2013). This sentiment is also reflected in the opinion, “Kaka have been here much longer than humans. There is room for us both” (Survey 171, January 25, 2013).

Of the residents who have seen kaka on their property in the past 12 months, 22% feed them (Figure 39). Of the same group, the majority of residents started feeding kaka within the past two years (Figure 40).

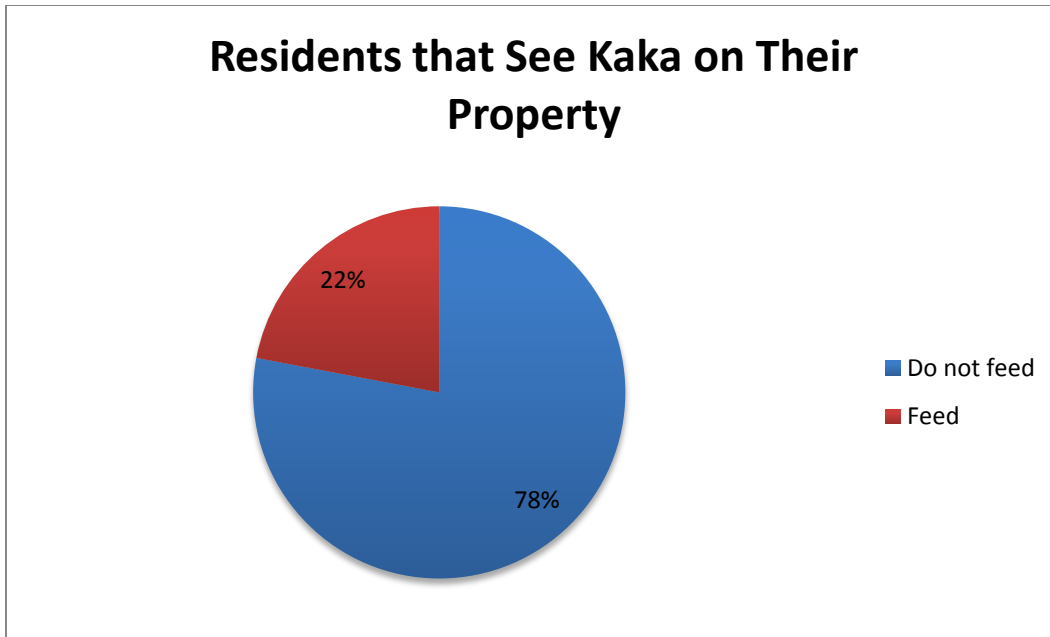


Figure 39: Kaka Feeding of Residents Who See Kaka on Their Property

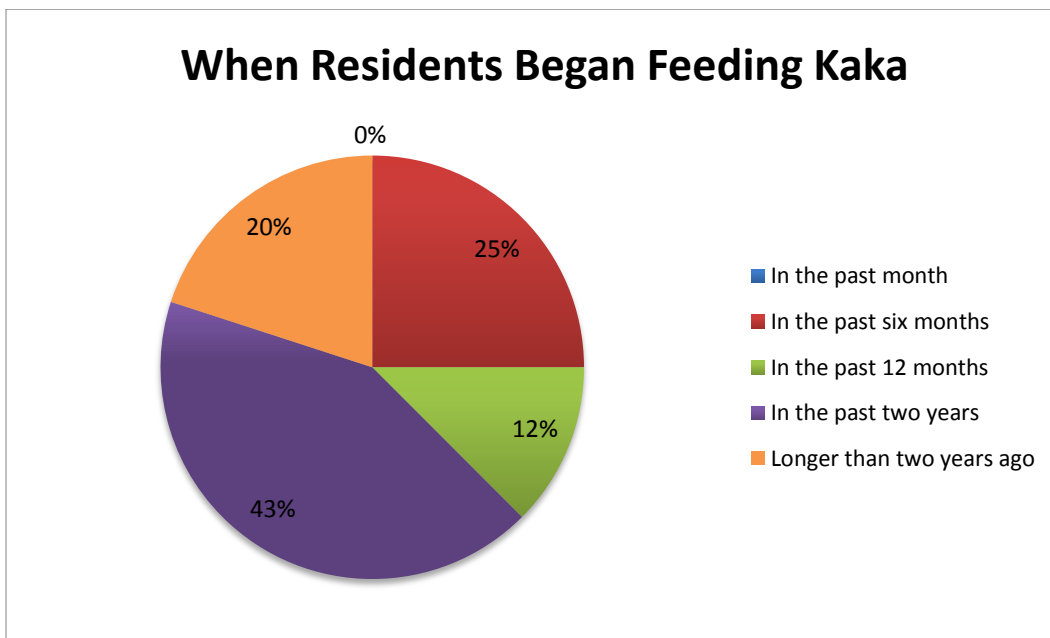


Figure 40: How Long Ago Residents Started Feeding Kaka

We discovered that of the participants that feed kaka, most (38.1%) feed them less than monthly, but 28.57% feed them daily or several times a day (Figure 41).

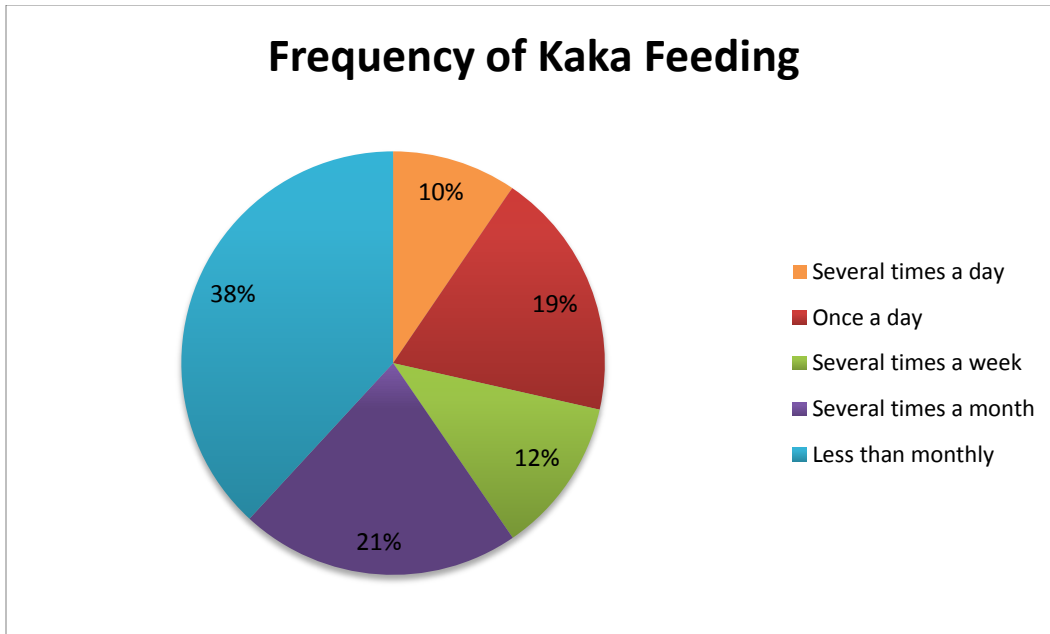


Figure 41: How Often Residents Feed Kaka

A majority of residents did not notice any property damage (82.2%) or tree damage (84.7%) caused by kaka (Figure 42 and Figure 43 respectively). The main damage residents reported finding on their trees consisted of kaka ripping bark off of trees in search of food.

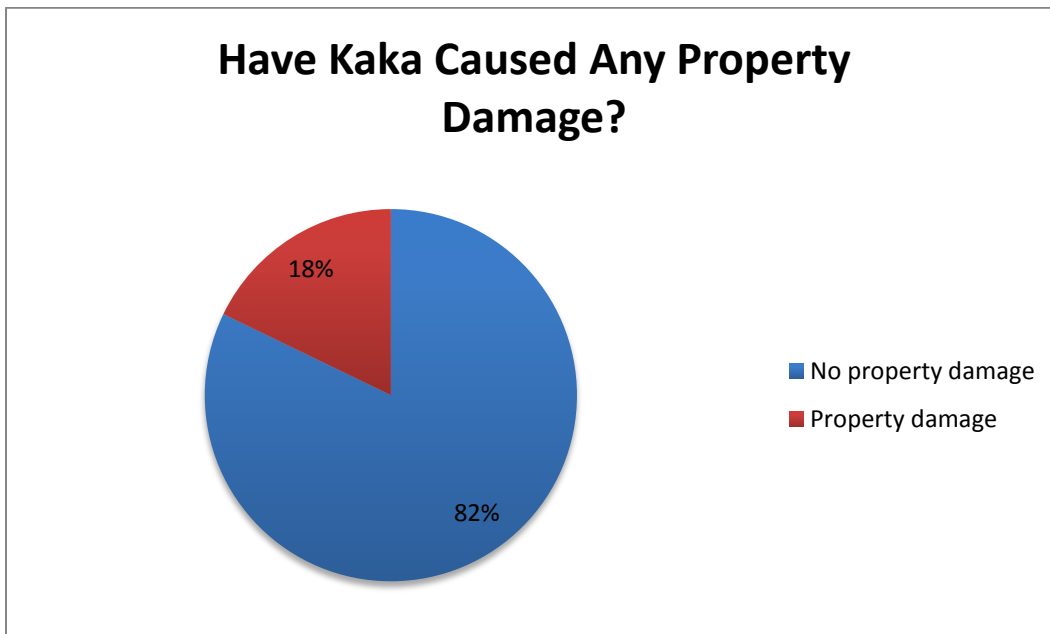


Figure 42: Property Damage Done by Kaka

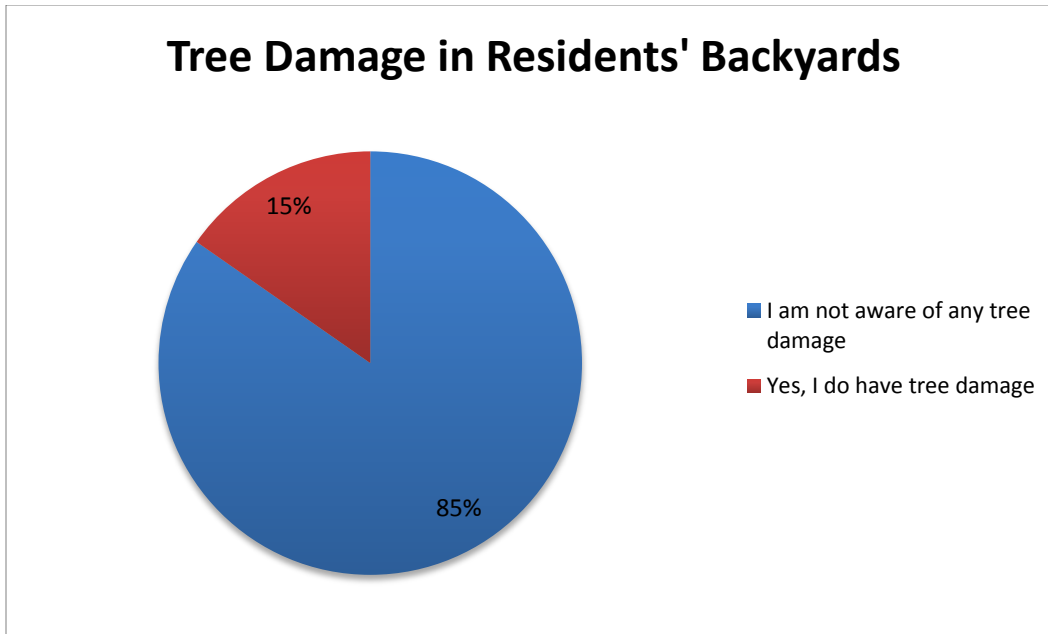


Figure 43: Tree Damage Done by Kaka

Although the majority of residents had positive feelings towards the presence of kaka, 26.3% reported some type of property damage (Figure 44).



Figure 44: Tree Bark Damage by Kaka

As stated by one resident, “As far as we’re concerned any damage to our property caused by kaka is insignificant compared to the benefits of having such wonderful birdlife in our backyard” (Survey 98, January 19, 2013).

Of the residents surveyed, 39.1% own cats (Figure 45). A large majority of these residents reported having outdoor cats, with 70% allowing their cats outside at all times (Figure 46). Some residents noted that their cats have bells on the collars so the birds can hear them, and



other residents have begun bringing their cats inside at night. One resident also stated, “When I’m outside interacting with the kakas, I ensure that I put the two cats inside” (Survey 58, January 18, 2013), whereas another resident responded to the question “Do you own cats?” with “Yes, and we’re not getting rid of them” (Survey 170, January 25, 2013).

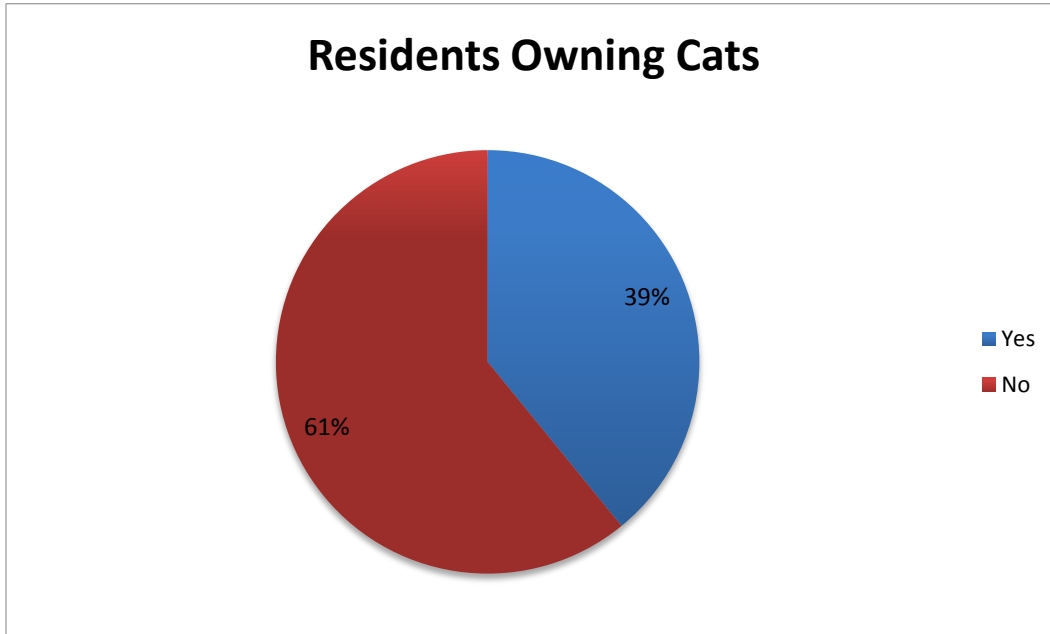


Figure 45: Residents Owning Cats

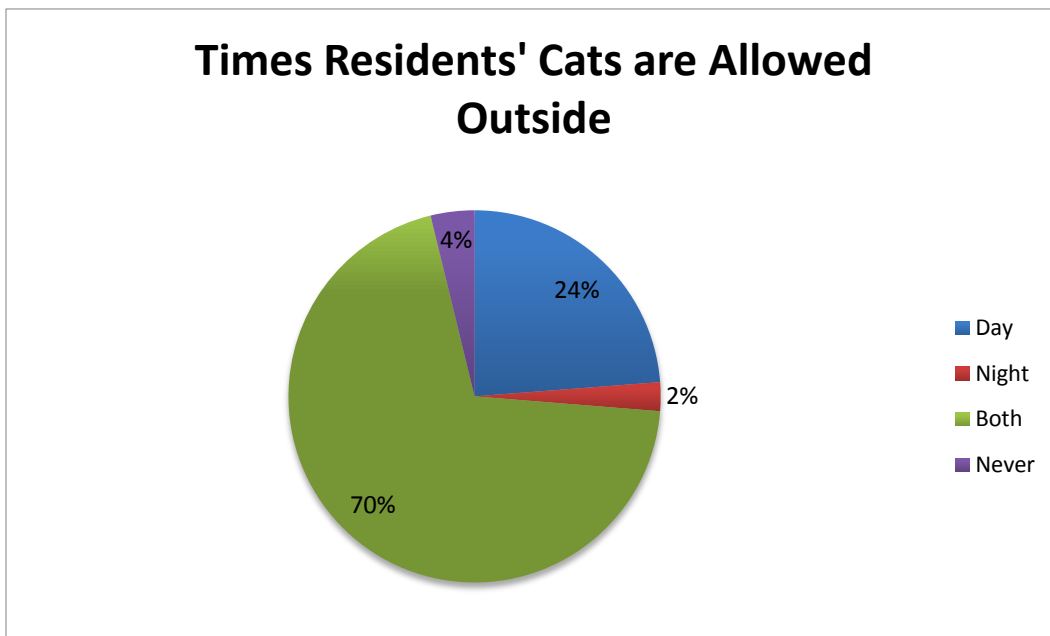


Figure 46: Residents Allowing Their Cats Outdoors

Additionally, 46% percent of residents saw kaka on their street several times a day within the past 12 months, while only 25.7% saw them on their property within the past 12 months (Figure 47 and Figure 48).

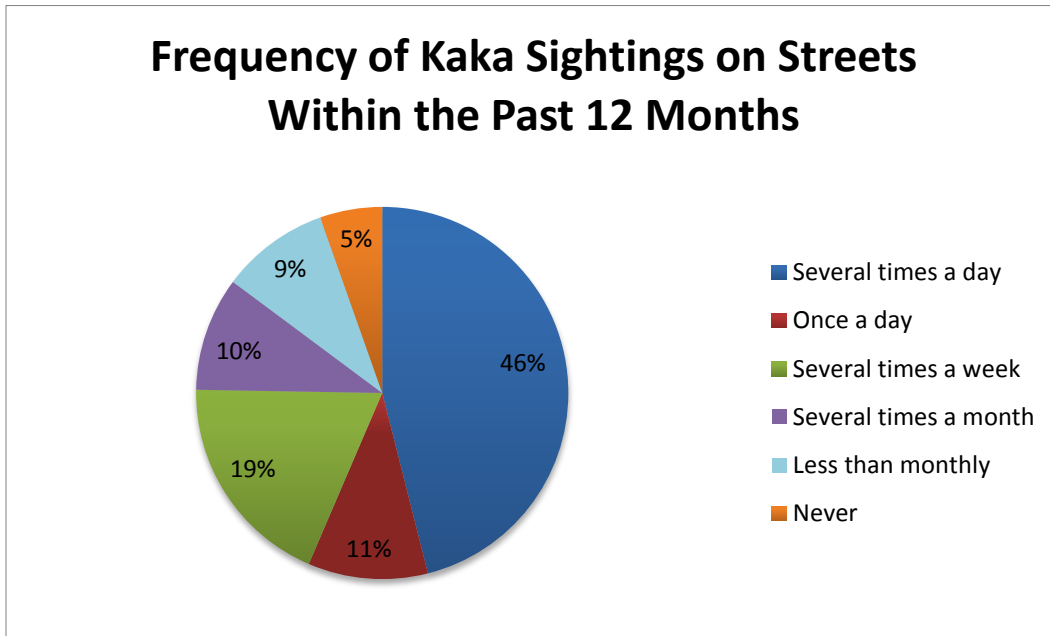


Figure 47: Frequency of Kaka Sightings on Street

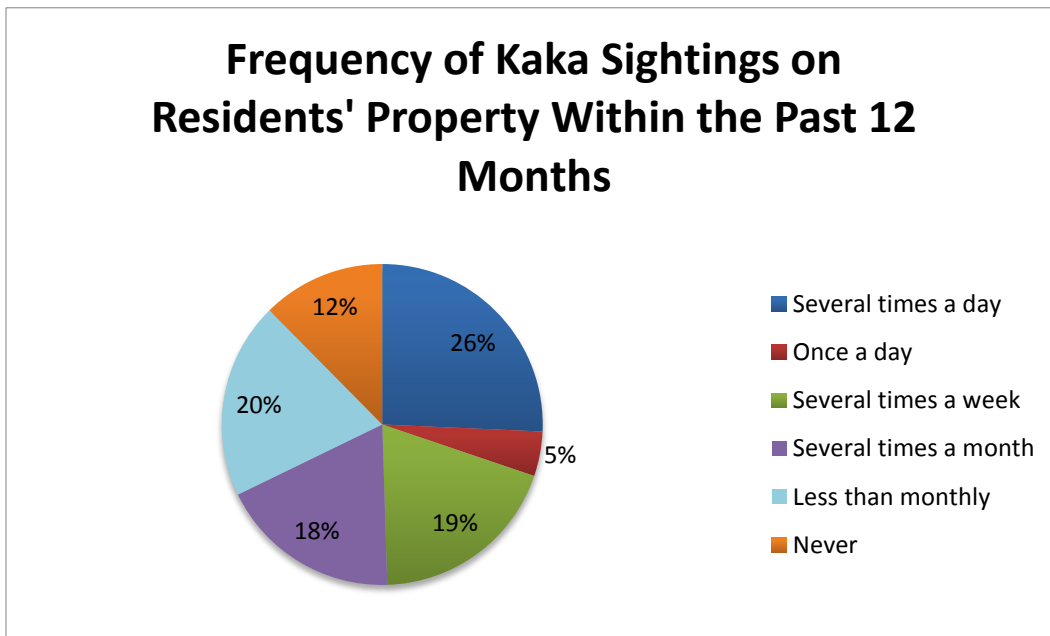


Figure 48: Frequency of Kaka Sightings on Property

Only one resident of those surveyed reported his sightings to Zealandia every time he saw a kaka. According to another resident, members of his household saw kaka too frequently to

report the birds every sighting. Furthermore, one resident expressed that they used to report sightings, but eventually stopped due to a lack of feedback from Zealandia. Overall, 43.1% of those surveyed responded with never reporting any kaka sightings. In addition, 44.1% were not aware that they could report sightings to Zealandia (Figure 49).

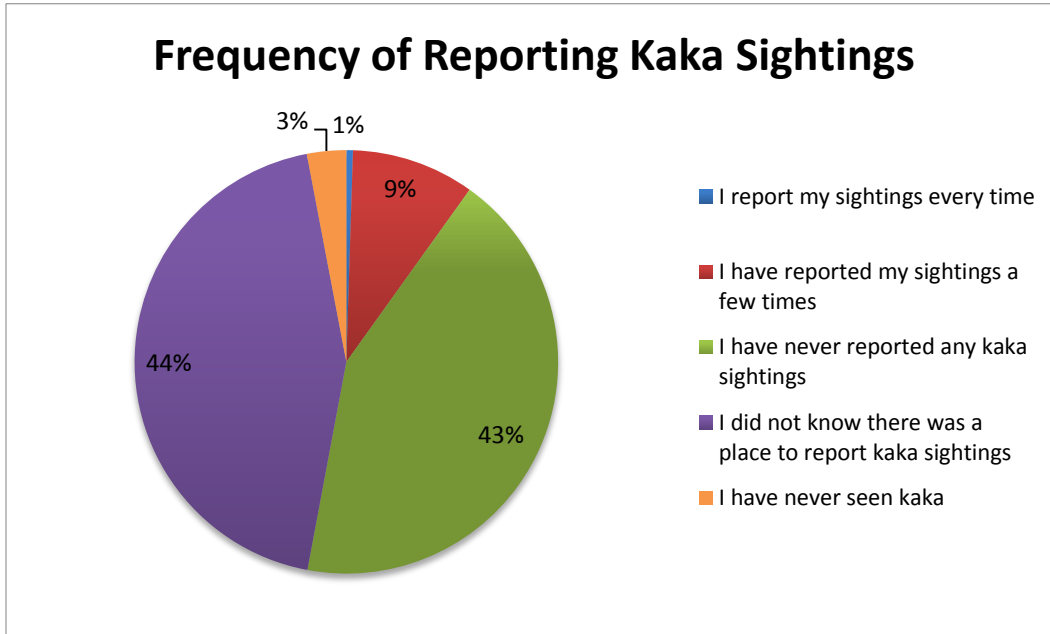


Figure 49: Reporting of Kaka Sightings to Zealandia

Other findings include a comparison of responses from Highbury residents to those of Karori residents. Twice as many Highbury residents (26 residents, or 27% of Highbury respondents) feed kaka as Karori residents (13 residents, or 12% of Karori respondents) (Figure 50 and Figure 51).

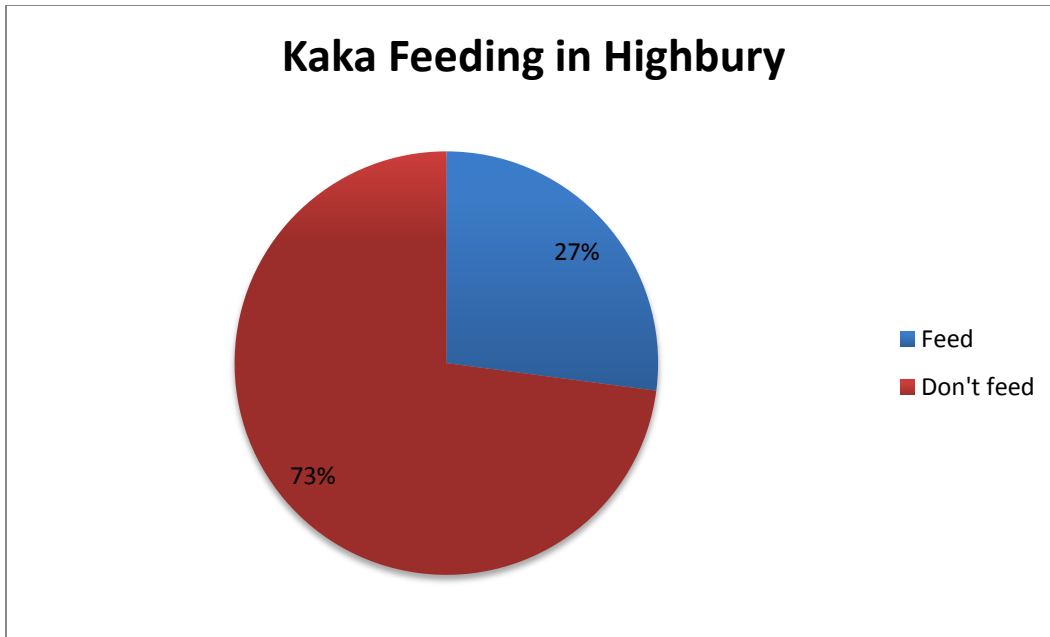


Figure 50: Kaka Feeding in Highbury

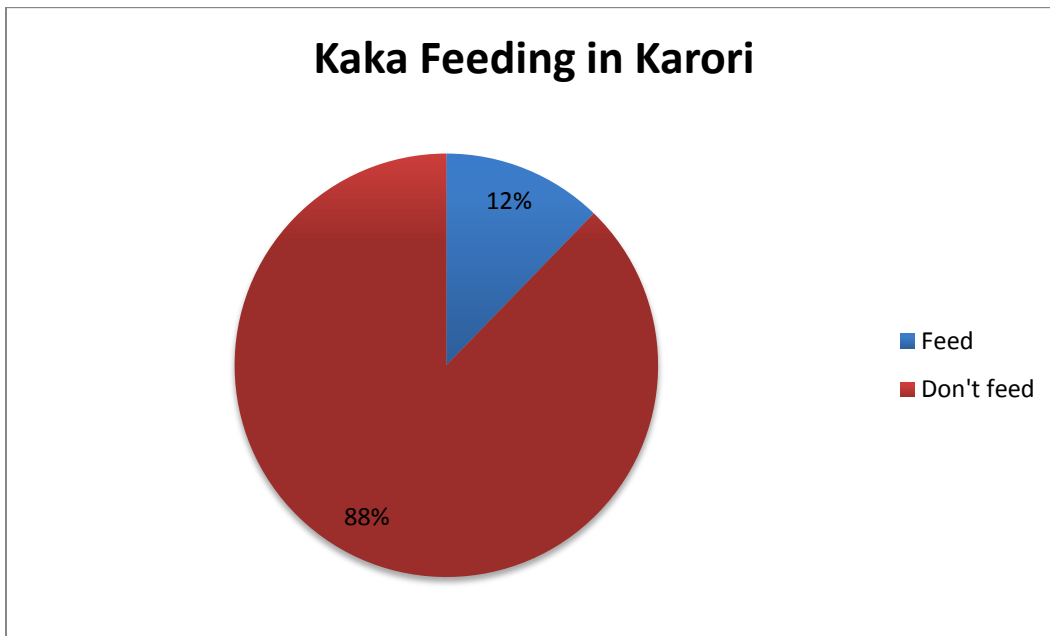


Figure 51: Kaka Feeding in Karori

As shown in Figure 52 and Figure 53, more property damage was reported by Highbury residents than Karori residents.

### Percentage of Reported Property Damage in Highbury

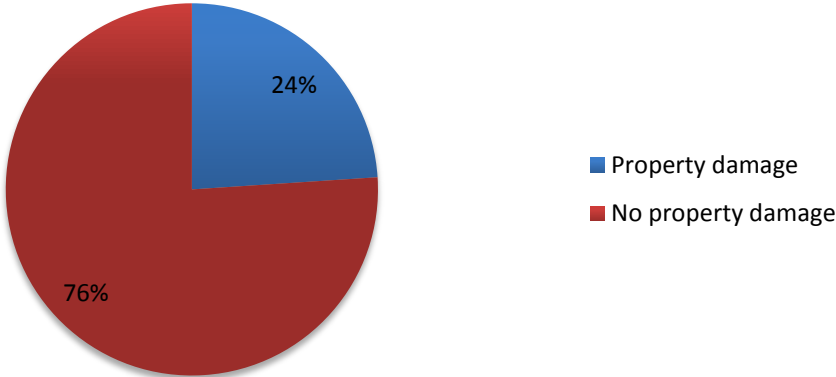


Figure 52: Percentage of Property Damage in Highbury

### Percentage of Reported Property Damage in Karori

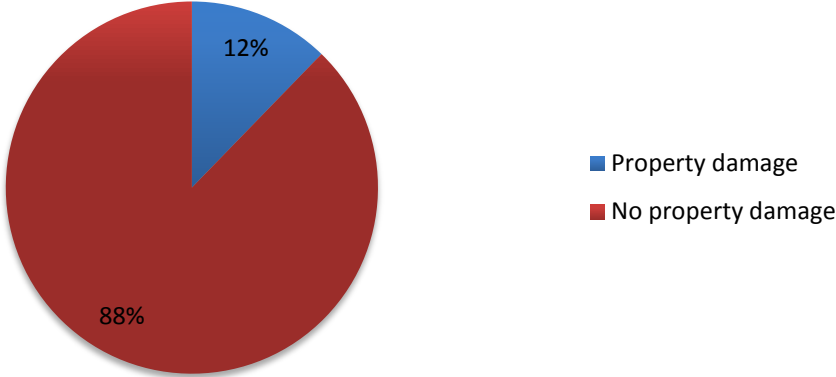


Figure 53: Percentage of Property Damage in Karori

Of those who were surveyed in Highbury, 24% reported property damage, whereas only 12% of those surveyed in Karori reported that kaka had damaged their property.

### **4.3 Objective 3: Collect Data on Residents' Attitudes and Opinions towards Kaka Interactions**

The findings presented in this section were collected from the interviews and focus groups held to determine the specific attitudes held by residents, both towards kaka and towards Zealandia. First we present the interview findings, followed by the focus group findings.

#### **Interview 1**

We conducted an interview with a resident on January 24, 2013, in which he discussed his attitude toward and interactions with kaka on his property. For purposes of confidentiality, this resident will be referred to in this report as Resident A. He reported that although kaka have caused damage to his fruit trees and stripped bark on other trees around the property, he loves having these “wonderful birds” around. He described them as “agile and curious,” and enjoys watching them fly around. In discussing damage to his garden, Resident A noted, “blackbirds are worse on garden destruction than kaka,” and that “exotic conifers get most of the damage.” Also, Resident A has experience interacting with cat owners and provided some insight as to how people may respond to being asked to keep their pets indoors. In his opinion, residents would not like the idea of not being able to let their cat out as they please, and he has found that cats restricted indoors develop mental problems due to lack of stimulation. When we asked him about his knowledge of lead nails, he informed us that he did not realize this was a problem. He supposed that “older houses would more likely have lead nails,” and that “people would be interested in education about lead.” He was surprised that he was unaware of this potential threat and that “awareness would be good.” Additionally, Resident A noted that he does not inform Zealandia of his sightings. Since he sees at least one kaka every day, he said that it would be “a little annoying to report it every time you see it.” Finally, Resident A stated that Zealandia’s cause was particularly important to him because “people are unaware of how much wildlife has been impacted by humans and the current pattern is leading to destruction of native wildlife.” (Interview 1, January 24, 2013)

#### **Interview 2**

On February 1, 2013, we interviewed two residents, referred to here as Residents B and C. B and C had been feeding all birds in their garden for several years and in 2010 were introduced to kaka when the birds started appearing in their garden, attracted by sugar water placed out for other birds. Fascinated by kaka’s intelligence and behavior, they became very



involved with the birds, actively engaging with kaka in their own backyard on a daily basis. Not only do B and C report which birds visit their property, but they also have familiarized themselves with what the birds' bands mean and have come to recognize the different personality of each bird. They have kept track of individual birds who visit frequently, saying some of these are "birds we've known for three or four years," and that they "love them" and have become "quite used to them," and some of the birds in turn even seem to know B and C. B and C did show us some tree damage, but informed us that they do not mind the damage. They noted that younger birds are more randomly destructive, but that they do less damage as they mature. They have never seen any damage to their house or deck, but they noted that they are careful to place feeders away from the house.

Residents B and C frequently feed kaka in their garden and on their deck, both by hand and by leaving food out for the birds. When the birds first appeared on their property, B and C fed them sugar water, apples, and peanuts in the shell, reporting that the birds were "playful and enjoyed breaking the shell open." As they learned more about kaka and an appropriate diet for them, B and C replaced the innutritious peanuts with almonds and sunflower seeds. A cat-proof feeder was already in use for other birds' safety. B and C said kaka typically come every day to feed and play in the garden, particularly in the early morning and at dusk. B and C said that they "didn't set out to create their own 'kaka museum'; the birds just come," and now they can "observe the birds at all times, and see individual behaviors and places that they frequent."

When we asked them about the noise level of the birds, Residents B and C confirmed that the visiting kaka can be "quite loud," particularly early in the morning. They are not bothered by it, but said they were occasionally "nervous for the neighbors." Most neighbors have told them they enjoy the birds and do not mind the noise, but once a neighbor expressed their disapproval of the birds' disruptive presence and said that people should not be feeding kaka. Despite this, B and C said, to their knowledge, no one has been "violently mad" about the birds and in general are very tolerant of them. They drew a comparison to another neighbor's "noisy dog" that everyone seemed to tolerate.

In discussing Zealandia's work with kaka, Residents B and C commented that the sanctuary seems to convey "no straightforward position on kaka feeding." They said they find this "very confusing," and suggested that if the sanctuary communicates a clear stance on feeding birds, residents could be made more aware of the safest way to interact with kaka. They

suggested that the sanctuary advise residents not to feed kaka during breeding season so the birds will be more likely to feed and breed in the sanctuary. B and C noted that the venturing of kaka outside the sanctuary is inevitable, as is residents' desire to feed them. According to B and C, if information were circulated about what foods not to feed to kaka, "most people would do the right thing." They think that "education should go to all of Wellington" so people who want to feed them will "do more good than harm" by feeding them appropriate foods. "People need and want to be aware," they stated.

Other recommendations B and C made were to suggest residents keep cats indoors during the weeks when fledglings are most vulnerable, as they cannot fly for some weeks once they are out of the nest. They believe that residents would be more receptive to this request than if they were asked to keep cats indoors year round. They also brought up the idea of encouraging garden centers to give bird-related information about the plants they sell, such as what plants are native versus nonnative, when they flower, what birds are attracted to them, and any other pertinent information (Interview 2, February 1, 2013).

### **Focus Groups**

The focus group discussion included residents' awareness of kaka's habits and threats, their receptiveness to further information, their willingness to make changes to accommodate kaka, and their suggestions for Zealandia. Although we separated the focus groups by suburb, we did not determine any notable differences of opinion between the communities.

Residents were curious about kaka's behavior. Some felt that if they were aware of what kaka were doing and why they were doing it, they would be accepting of the behavior. For example, some residents felt that knowing why kaka screech in the early morning and late at night may make it more bearable. A few even mentioned that if they were aware that kaka were ripping bark off the tree for the purposes of searching for food, they would not mind as much. However, one resident did not think that people with damage to their property would be as forgiving about the topic. This opinion is represented by the statement, "If they were pulling my house apart, I probably would be [upset]" (Focus Group 2, February 12, 2013). These sentiments reveal that residents might be more tolerant of kaka behavior if they understood its origins.

Most of the residents that attended the focus groups wanted more education about native wildlife and how they should be interacting with kaka. One woman stated that Zealandia could

further the support for their cause if they were more “proactive and E-mailed the surrounding residents” to provide them with more information (Focus Group 2, February 12, 2013). Another resident mentioned that Zealandia holds various information sessions, which none of the members from the focus group have attended. A few were unaware that the sessions took place. When the topic of feeding was discussed, a few residents were unsure if you could feed them or not. One man said he was never fed kaka because he felt that it was bad for them, but when approached by one, he was tempted to provide it with food. Other residents mentioned that they were interested in what was acceptable to feed kaka. Participants said that there was information on what not to feed kaka, but nothing on what was beneficial to them. One resident believed that providing this information “won’t necessarily solve [the problem] but at least people will know that they’re doing and can make better choices” (Focus Group 1, February 11, 2013). Residents’ enthusiasm for kaka was reflected in their desire for more information, particularly around feeding the bird.

When the topic of cats was discussed, many residents became defensive. Overall, it does not seem like residents are willing to keep their cats indoors, but Zealandia can “encourage people to do anything that would help” (Focus Group 1, February 11, 2013). One resident mentioned that January, when birds are usually fledging, is a difficult month to keep cats indoors, as many residents take holidays during this month. Pet-sitters would have to monitor the animals much more closely if they were being kept indoors. Many residents seem to be under the impression that their cats do not attack birds or other wildlife. Most claim that their cats “aren’t hunters,” or are afraid of kaka (Focus Group 1, February 11, 2013). Above all, residents seemed rigid about making changes pertaining to keeping their cats indoors.

Finally, many residents were unaware that Zealandia’s website is not only a location to find information on the sanctuary, but also provides information on the native birds and plants, as well as various conservation methods. A few residents have never been to the website, while others have only looked on the website for opening times and prices. The residents in the focus group were mostly unaware that there was a location to report kaka bands. When informed that all one needs to provide was the correct order of the colored bands, members of one focus group enthusiastically agreed that they would be willing to report their kaka sightings.

## Part 2: Analysis

Our analysis of the data revealed that there were strong and unexpectedly complex feelings about kaka in the neighborhoods, and several trends emerged from the data that merit discussion. We used the data from our survey to show several correlations that were clear from the quantitative analysis. From our interviews and focus groups we discuss several overarching themes: the dynamics of residents' positive attitudes, their lack of awareness of how to safely interact with kaka, and their relationship and engagement with the sanctuary.

### Outcomes of Direct and Indirect Interactions

#### *Kaka Sightings and Feeding*

One correlation we discovered was the frequency of kaka sightings between residents who feed kaka and those who do not. Residents who feed kaka see them much more frequently on their property than residents who do not feed them. As seen in the figures below, around 70% of residents who feed kaka see them once to several times a day, while only around 21% of people who do not feed them see them once to several times a day. Although feeding has a high correlation with seeing kaka on their property, 19% who do not feed kaka still see them several times a day. This suggests that proximity to Zealandia and other factors such as having trees in the backyard also attract kaka to people's property. This data can be seen in Figure 54.

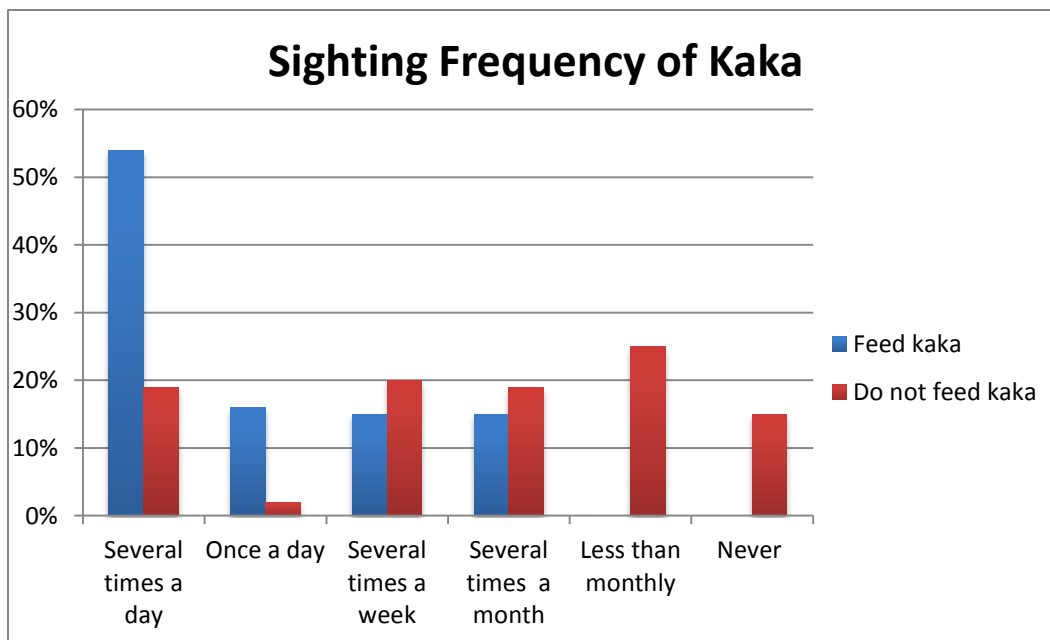


Figure 54: Frequency of Kaka Sighting Feeding vs Not Feeding

### *Kaka Feeding and Property Damage*

There seems to be a strong correlation between feeding kaka and property damage caused by kaka. Specifically, 44% of the residents who feed kaka reported that the birds caused property damage, as compared to 12% of the residents who did not feed kaka (Figure 55 and Figure 56). This suggests that feeding kaka increases the likelihood that the birds will cause property damage.

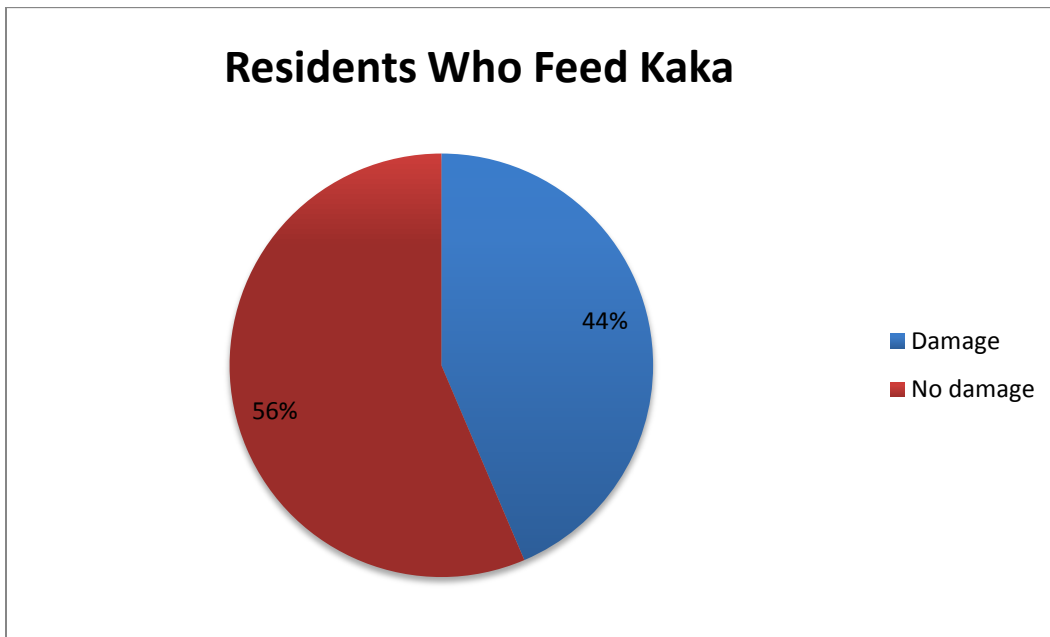


Figure 55: Property Damage of Houses Where Residents Do Feed Kaka

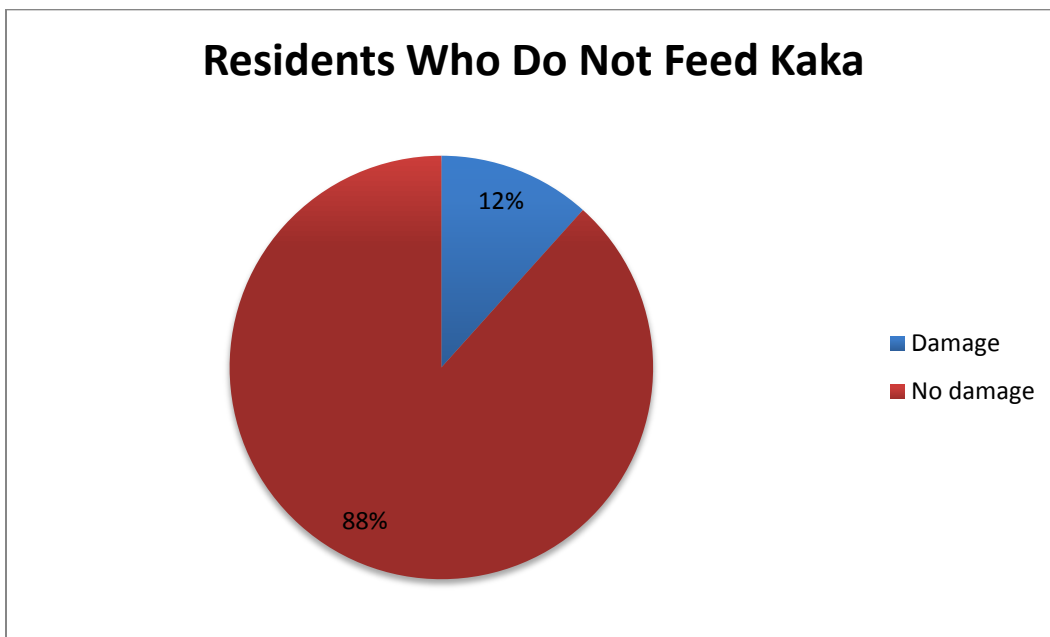


Figure 56: Property Damage of Houses Where Residents Do Not Feed Kaka

### *Owning Cats and Kaka Sightings*

Although one resident claimed, “We see less kaka since getting cats two years ago” (Survey 160, January 24, 2013), this does not seem to hold true for all households. Cat owners see kaka equally as often as the people who do not own cats (Figure 57). Since kaka do not appear to avoid houses with cats, this could put them at more of a risk for cat attacks. As previously mentioned in Chapter 2, kaka had no mammalian predators before humans settled in New Zealand, and therefore lack the adaptations to protect themselves against the introduced predators, such as cats. Many residents claim that their cats have stopped trying to hunt kaka after a few attempts because they were unsuccessful at catching them. A few claim that their cats are terrified of kaka. As stated by a focus group participant, “[kaka] ganged up on [the cat] to the point where she doesn’t go after them anymore. She knows better” (Focus Group 1, February 11, 2013). Many residents are in denial that cats can be a real threat to kaka, and are more willing to believe that rats and stoats are the only predators. Referring to cats, a resident said, “I don’t think they’re the major problem anyway” (Focus Group 1, February 11, 2013). Because of this attitude, most residents seemed unwilling to consider keeping their cats indoors, or at most would only be willing to keep their cats indoors during the fledging season.

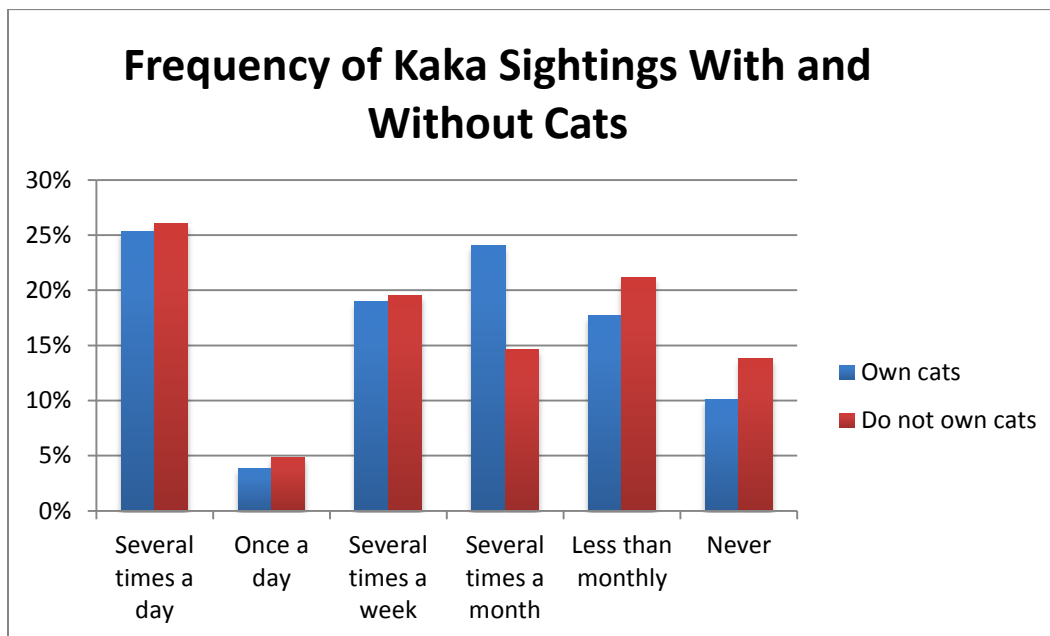


Figure 57: Frequency of Kaka Sightings with and without Cats



### *Comparison of Communities' Interactions with Kaka*

As mentioned earlier in the findings, Highbury residents have a higher percentage of property damage than Karori residents (Figure 52 and Figure 53). This corresponds to the fact that Highbury residents also reported that they feed kaka more often than Karori residents (Figure 50 and Figure 51), and previous analysis showed that property damage and feeding have a positive correlation. Furthermore, the fact that more residents surveyed in Highbury reported property damage could be an indication of the source of kaka lead poisoning. As determined in the site assessment, this area has a larger quantity of older houses than in Karori, and older houses are more likely to have lead nails in their roofs.

### **Awareness of Kaka and Desire for Information among Residents**

Overall, most residents enjoy the sight of kaka in their backyards and neighborhoods despite the noise and damage they cause. One resident captured this sentiment in the statement, “Good to see native birds flourishing and getting so well established again... Even though they are so raucous!” (Survey 52, January 18, 2013). Another resident mentioned, “The inconvenience of having a large flock of kakas residing nearby is greatly minimized by the delight of seeing these birds establishing themselves so confidently again” (Survey 52, January 18, 2013). When asked if the noise ever posed a problem, a participant replied that the noise was “lovely! It makes me smile” (Focus Group 3, February 13, 2013). One resident noted that he will need to remove all of his lawsonianas (a nonnative coniferous tree) and replace a railing on his balcony, but added, “I don't care” (Survey 141, January 22, 2013). These responses reflect the overwhelmingly positive attitude towards kaka and the willingness of residents near Zealandia to coexist with kaka peacefully.

Although a large percent of people like kaka, only 22% of those who like them feed them (Figure 58). This shows that residents can feel positively towards kaka without having direct interactions with them.

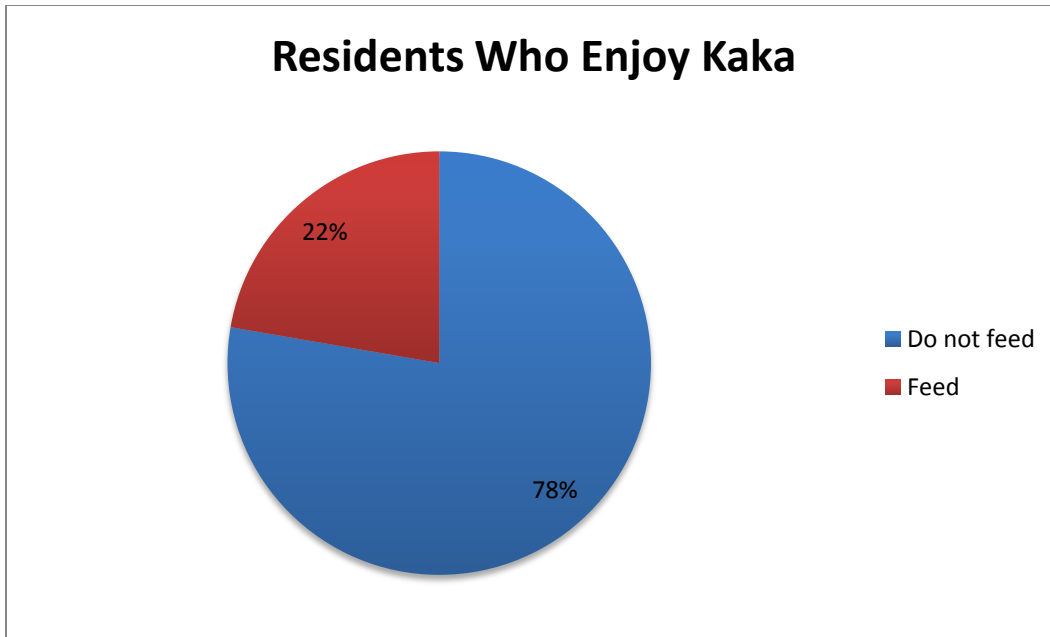


Figure 58: Feeding of Kaka by Residents Who Enjoy Them

However, many people who like kaka are actually harming the beloved birds because they are unaware of foods appropriate for kaka’s diet. For example, one resident in a focus group admitted to feeding kaka peanuts, but expressed great interest in knowing other foods kaka can eat or what they are fed in the sanctuary. It seemed that the residents who feed kaka inappropriate foods do so because they do not know otherwise. When asked if residents would like to be informed of appropriate types of food, most responded positively, and one said, “That would be great” (Focus Group 2, February 12, 2013). Some residents noticed that when feeding smaller birds bread, kaka would often eat the bread as well. Focus group participants pointed out that unless they also stop leaving food out for smaller garden birds, kaka will still be at risk of being indirectly fed improper foods. Residents also expressed that they would be more receptive to making changes or accepting recommendations if they felt more informed. For example, one resident in the focus group expressed that she would be willing to plant more native trees if she was provided with information about which trees to plant, and another suggested that he would love to know what the sanctuary feeds kaka so that he could provide a more well-balanced diet for the birds. Residents enjoy the presence of kaka and are eager to learn how to interact with them safely.

There does not seem to be any correlation between having property damage caused by kaka and the attitudes of the residents towards the birds. The two graphs are similar in regards to

the distribution between the people who like, dislike and are indifferent towards kaka. As depicted in Figure 59 and Figure 60, 86% residents with property damage still enjoy kaka, which is almost identical to the 87% of residents without property damage who enjoy kaka. During a discussion of kaka eating fruit off of their trees, residents responded, “That’s nature,” and “If it wasn’t kaka, it would be other birds” (Focus Group 1, February 11, 2013). Therefore, it seems that property damage does not have an effect on residents’ attitudes toward kaka.

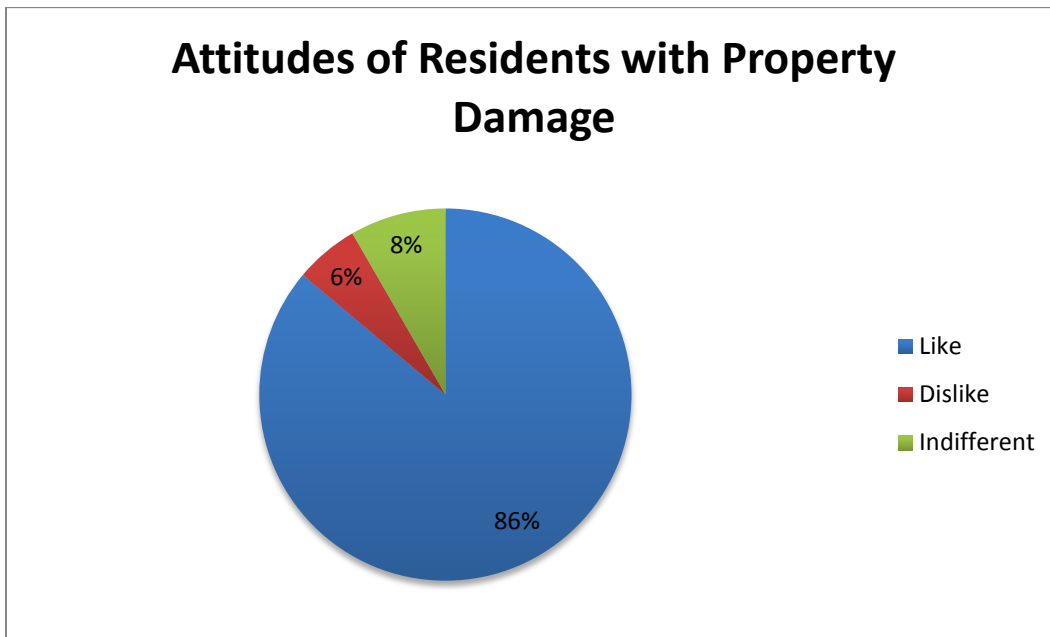


Figure 59: Attitudes of Residents with Property Damage

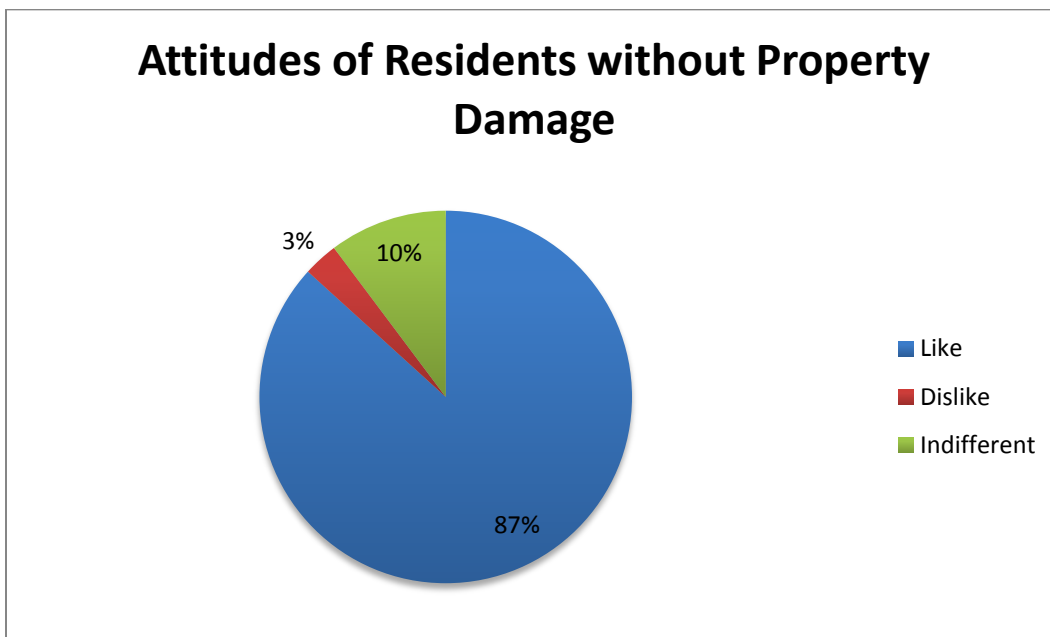


Figure 60: Attitudes of Residents without Property Damage

There also appeared to be a lack of awareness associated with property damage. Residents were, for the most part, completely unaware of the dangers of lead poisoning or whether their houses had lead-headed nails. In addition, people were interested in, but not aware of, any explanations for kaka's destructive behavior. Surprisingly, property damage seems to have little effect on residents' attitudes towards the birds.

Although only about 3.5% of residents disliked kaka, those in this minority felt strongly and seemed to voice their opinion as if speaking for the entire community. For example, one resident stated, "I hope the sanctuary are[sic] aware that we are not happy with the booming Kaka population...We feel like they are taking over and we enjoy the smaller birds more" (Survey 129, January 21, 2013). One respondent noted that, in her opinion, kaka are not suited for an urban environment, and that "their introduction to the area has probably been too successful" (personal communication, February 13, 2013). Another resident shared this sentiment and proposed that Zealandia transport the birds out of Wellington into a more mountainous location due to the damage caused by the birds in the Botanic Gardens. This resident said,

"I was concerned to hear of damage by kaka to trees in the Botanical Gardens (recent letter in Dominion Post from President of Botanic Gardens Assn) and surprised that there was not more reaction. The Botanic Gardens are very highly prized by Wellingtonians - it has a 98 percent satisfaction rating. This reinforces my feeling that there are too many of these birds here in Wellington and that many of them should be transported back to mountain retreats which are probably better suited to them...Failing that, numbers should be strictly controlled" (Survey 12, January 16, 2013).

One resident during our focus group stated that there should be a pamphlet sent out informing residents to stop feeding kaka because they will become tame and more of a nuisance. Another resident claimed the birds were not a nuisance yet, but if they started destroying property they could become one. Although the majority of residents surveyed feel positively about kaka, those who dislike them seem concerned about their growing presence.

### **Enhancing Outreach and Information Flow**

Although Zealandia's website is highly informative, residents were largely unaware of the extent of the information provided. Residents seemed to be interested and excited at the possibility of learning more information about kaka, native plants, or what they can do to help, but admitted they were not likely to seek out such information on the Zealandia website.

Residents seemed confused when Zealandia's stance on feeding was discussed. Some were unaware whether or not Zealandia had a stance pertaining to feeding the birds, and no one was sure as to what the stance was.

Residents also seemed slightly unclear about Zealandia's mission. Some focus group participants expressed confusion about what Zealandia was designed for, as represented by the following quotes: "I thought the function of Zealandia was to create a place for visiting all these rare and endangered species," "Well, it's equivalent to the zoo," and "I'm not sure whether they're breeding them to release them in this urban environment. They might be breeding them to release them somewhere else where it's more of a natural habitat" (Focus Group 1, February 11, 2013). However, they still seemed supportive of restoring native wildlife and happy with what the sanctuary had accomplished so far. For example, another resident stated that she "appreciate[s] the success of Zealandia in helping restore birdlife in our area" (Survey 189, January 16, 2013). In this way, residents seem enthusiastic about what Zealandia has accomplished, but feel slightly detached from the sanctuary's goals and information.

It seems that there is some confusion among residents about Zealandia's banding practices. As evident in Figure 49 on page 43, most people are unaware that they can report band combinations. One resident said, "I knew you guys were wanting to record it, but it's a shame that I didn't know how to go about [reporting the bands]" (Focus Group 2, February 12, 2013). In focus groups, people were very inquisitive about the meanings of the different band colors, or whether kaka they see frequently had also been sighted in other locations. Similarly, volunteers who help keep count of kaka seemed highly interested in seeing the data that they helped collect. Despite confusion, residents were interested in learning more about reporting their sightings and seemed willing to participate.

Above all, the analysis of our findings provided insight into the dynamics of Zealandia's mission and their relationship with the community surrounding the sanctuary. It seems that residents are supportive of Zealandia's mission and enthusiastic about preserving native wildlife. They are also highly receptive to receiving information and learning more about kaka and measures they can take to improve their relationship with the birds. However, residents also expressed feelings of detachment from the sanctuary. For the most part, they seemed unaware of the ample information provided on Zealandia's website, and suggested that they would be more engaged if the sanctuary reached out to the community with such information. Furthermore,

residents expressed uncertainty about Zealandia's views on interactions with kaka, but felt that they would be more interested or willing to follow it if Zealandia actively promoted a consistent stance. Residents have positive views toward interacting with kaka and are supportive of Zealandia's efforts, but feel somewhat disconnected from the sanctuary and unsure of how to access additional information.



## Chapter 5: Recommendations and Conclusion

### 5.1 Recommendations

In accordance with our findings and analysis, we developed a series of recommendations involving ways Zealandia can improve interactions between residents and kaka, as well as extend its relationship with volunteers and the community. The complexity of the issues discovered in our research posed a challenge in developing recommendations that simultaneously were consistent with Zealandia's mission, protected the birds, and provided residents with valuable information. We believe that residents' positive attitudes toward kaka will make them more receptive to additional instruction on ways to interact safely. In addition, we feel that both residents and the sanctuary could benefit from enhanced information flow and outreach. Increased feedback and more reported kaka sightings would be useful to Zealandia, and further information or engagement could enable residents to feel more connected to the sanctuary's mission. Many of these recommendations were developed from recurring topics and feedback received from the focus groups and interviews, and could be implemented as resources become available. The residents were excited to share their ideas in hopes of becoming more involved with Zealandia's endeavor to help kaka and other native birds. In our study, we found that volunteers are passionate about Zealandia's mission, and residents feel privileged to have native birds in their backyards. In developing these recommendations, we took into account several areas of residential behaviors, attitudes, and interactions that we believe could be addressed.

*We recommend that Zealandia provide and promote a set of guidelines and information on kaka to encourage safe interactions between residents and the birds.*

We found that there was a great deal of uncertainty among residents regarding Zealandia's stance on feeding the birds. We recommend that Zealandia promote a consistent stance about feeding, but also provide further information to ensure that continued interactions are not detrimental to kaka. In addition to an explanation of why feeding is discouraged, Zealandia could offer information about kaka diet and behaviors so that if residents choose to continue feeding kaka, they can provide the birds with nutritious options in a safer environment. For example, residents could be made more aware of foods that are healthy for kaka, such as almonds, as well as foods that should be avoided, such as bread and peanuts. Residents could also be informed how far bird feeders should be off the ground (approximately 1.8 meters) in order to avoid attacks on kaka by cats and other predators. Furthermore, residents could be

encouraged to place the sugar water or food in their garden, rather than close to the house, in order to reduce the risk of kaka flying into windows or landing on the roof. However, this should be coupled with information on potential negative impacts and risks of feeding for both residents and kaka. Potential impacts on kaka include shorter life spans, malnutrition, and increased vulnerability to predators. Examples of possible effects on residents are a higher risk of sustaining kaka-induced property and garden damage, neighborhood tensions caused by the noise of the birds, and potential encounters with aggressive birds expecting to be fed. With the knowledge of these risks, residents would be more likely to refrain from feeding kaka. However, residents who choose to continue feeding the birds would be informed of proper nourishment for kaka. Despite the fact that residents are feeding kaka, the negative impacts on the birds would be lessened with the provision of appropriate food. In this way, awareness of potential risks and safe ways to interact would be beneficial to both residents and kaka.

Furthermore, we recommend that Zealandia collaborate with residents on ways they can improve their property to be more kaka-friendly. For example, Zealandia could make information about the dangers of lead poisoning caused by lead nails on residential roofs more readily available. We found that many people were unaware of such risks, and that they were not sure which types of nails were used on their property. In addition, residents should be encouraged to buy native plants that benefit kaka, but warned that birds may graze upon fruit plants. We recommend that Zealandia work with local plant stores so that the stores can label which plants or trees are native, and potentially provide information about which birds such plants or trees attract.

In addition, we recommend that Zealandia expand and promote its information about the dangers kaka face due to predation by cats. As mentioned before, many residents claim their cats are not real predators and would never harm a kaka. Articles and studies on the real risks of pets harming wildlife could be provided to the public. This information could be included on Zealandia's website as well as on flyers handed out to the residents closest to the fence. Along with this information, residents could also be provided with ways they can reduce their cat's impact on kaka. For example, residents could be informed when kaka breeding and fledging seasons are and encouraged to keep their cats indoors more often during these periods of increased vulnerability. In this way, the community would be better informed of dangers caused

by their cats, but would also be aware of measures they can take to coexist with native birds such as kaka.

Zealandia could also consider making several changes to the format of its website. Many people were unaware of the information that they could find on the website such as how to read bird bands or report the birds. Although the website has an eye-catching layout and provides ample information on the sanctuary, residents feel that the material on the native birds and ways one can help get lost among other features of the page. For example, if residents do not think to scroll down to the bottom of the first page, they may overlook reporting the bird sightings. In addition, one resident pointed out that many useful topics can be only found by exploring through the many links. To help address these concerns, we designed a website template that provides information about kaka, ways residents can help, and an easy link to report bird sightings (Figure 61).



**ZEALANDIA**  
THE KARORI SANCTUARY EXPERIENCE  
TE MĀRA A TĀNE

## Kākā

*Nestor meridionalis septentrionalis*

**Diet:** In the sanctuary kaka are provided almonds and nutrient pellets in specially designed feeders, but also feed on fruit and sap in trees.

**Nesting:** Kaka build nests in hollow trees low to the ground or in nest boxes in the sanctuary during the breeding season September - March

**What can YOU do?**

- Plant native trees in your garden
- Report sightings to Zealandia

**Report me!**  
(click here)



Figure 61: Website Template

Making the important topics prominent on the website could be an effective way to provide the community with a “go to” resource if they seek more information.

We recommend that Zealandia enhance their outreach and communication with volunteers and the community.

Most residents in focus groups expressed interest in learning more about what was happening in the sanctuary, but admitted that unless such information was promoted they were unlikely to seek it out themselves. Flyers, E-mails, and newspaper articles were suggested as the best mediums to provide this information. As part of our implementation, we designed an informational pamphlet for Zealandia to potentially distribute (Figure 62).



Figure 62: Informational Pamphlet

Residents feel that having a more colorful and interesting way to bring news to residents surrounding Zealandia would help make them more engaged in the sanctuaries programs. One resident suggested that the sanctuary have “a more readable newsletter [that] includes pictures and is presented in a readable way.” In his opinion, “the current E-mail updates are a little boring and better E-mails could get more people interested” (Interview 1, January 24, 2013). We also

suggest that Zealandia enhance its use of free media coverage to bring more residents to the sanctuary. For example, Zealandia could publicize accomplishments and feature interviews with volunteers so that the community feels more connected. Furthermore, the sanctuary could celebrate birthdays of the first of certain types of birds by having half off admissions or other deals that could be advertised to the public. Similarly, local media could be invited to more events at the sanctuary in order to further enhance its engagement with the community. By making news from the sanctuary more accessible and engaging, it could help increase residents' and other visitors' interest in the sanctuary and its mission.

Another suggestion that could be implemented when resources become available is to expand the educational program to include visits to neighboring schools. As stated by one focus group participant, "Get them young and you've got them for life" (Focus Group 2, February 12, 2013). The educational tours for students from kindergarten to grade 13, which is already in place, is a great program that could be expanded to have sanctuary workers visit the schools to discuss various topics such as their conservation efforts. In one focus group, a Zealandia volunteer stated that children who attend the educational programs are "brilliant. They talk. They know. They care. I think that's so valuable" (Focus Group 3, February 13, 2013). We believe it would be beneficial to reach out to children who do not have the opportunity to visit the sanctuary. As discussed in Chapter 2, the wildlife sanctuary outside of Yellowstone utilizes an "ambassador wolf" to bring to schools and help generate interest in conservation. Perhaps Zealandia could bring props or pictures of birds from the sanctuary into schools in order to create a memorable experience for students. By doing so, children may learn proper ways to interact with kaka and other native wildlife, creating a well-informed generation to contribute to Zealandia's 500 year mission.

Similarly, as seen in Chapter 2, we discovered a "Sponsor a Kiwi" program at Rainbow Springs that we believe Zealandia can emulate to receive more donations. Zealandia already has a program to "adopt" various items, such as fence posts, benches, and steps. These items range in cost from \$150-\$10,000 (Figure 30), which we found is out of the price range for many residents and volunteers. However, we feel that this concept can be expanded to target a different group of visitors by setting up a program for under \$10 donations to cover the banding of a kaka. In this way, visitors would be more likely to "Sponsor a Kaka" with only a small donation, and feel more connected to research within the sanctuary. In the future, if many

visitors responded to the program, Zealandia could expand it by sending a photo of the bird to the person whose donation helped band it. Creating a “Sponsor a Kaka” program could be a way for Zealandia to encourage smaller donations, increase community involvement, and help continue the sanctuary’s programs.

We recommend that Zealandia continue to expand its banding practices. Having unique bands on all the birds helps in the identification of individual kaka, and reporting these band combinations helps residents become more involved with Zealandia’s cause. As said in Chapter 4, one resident stopped reporting kaka sightings, as she was not receiving any notice from the sanctuary regarding the birds she reported. For this reason, in order to encourage people to continue to report kaka sightings, Zealandia could provide feedback when they receive a report. One suggestion to provide feedback is that Zealandia could send an E-mail to the resident thanking them for reporting the bird. Taking it a step further, Zealandia could create a website or database that would provide information on the banded birds, including small stories about certain individual kaka. If this proved to be successful, Zealandia could expand this program to all banded birds. For this reason, we recommend that Zealandia make their databases of kaka sightings more accessible to volunteers or to people that consistently report sightings. In this database, those who are interested are able to see where kaka are traveling. In a focus group, one resident was adamant that “they go somewhere. And I was just wondering if we know where,” and many others were also inquisitive about this topic (Focus Group 1, February 11, 2013). If residents or volunteers are able to experience the results of their outreach directly, they may have more incentive to continue to not only report kaka sightings to Zealandia but also support the sanctuary generally.

## **5.2 Conclusion**

As a result of Zealandia’s success in restoring native birds to the Wellington region and the proximity of the surrounding urban area, interactions between humans and kaka are inevitable as the bird population increases. For this reason, we suggest that Zealandia address these interactions with an educational plan and a clear and consistent policy in order to improve kaka safety outside of the sanctuary.

According to our survey results and the interviews that we have conducted, most residents surrounding Zealandia enjoy having kaka on their property and have positive attitudes toward the birds. They are willing and eager to learn more about kaka and their living habits.

By encouraging safe interactions with kaka and improving the residents' relationship with both the bird and the sanctuary, Zealandia can help improve the condition of kaka life outside the sanctuary.

Mitigating and monitoring community attitudes and behaviors are especially important in this situation because kaka are expanding into an urban environment where interactions with residents are inevitable. Due to the irreversible negative impact that humans and the predators they introduced have had on native bird species, it is important that present-day residents be educated and made acutely aware of measures they can take to preserve existing native wildlife. Many residents have requested this, as well. Similarly, engaging and reaching out to residents is vital to their understanding and support for the mission of Zealandia and the restoration of native New Zealand bird species. Including residents in these efforts is likely to make the process of restoration easier for Zealandia and reduce additional destruction of native wildlife.



## References

- Attwood, S. (Photographer). (2009). *North Island Kaka Chicks (Nestor meridionalis septentrionalis) in the nest*. [Photograph]. Retrieved from <http://www.flickr.com/photos/parrots/favorites/page31/?view=lg>
- Attwood, S. (Photographer). (2011). *North Island Kaka - Nestor meridionalis septentrionalis* [Photograph], Retrieved from <http://www.flickr.com/photos/stevex2/5498286231/in/photostream/>
- Berg, B., & Lune, H. (2012). *Qualitative Research Methods for the Social Sciences*. Boston: Pearson.
- Bigonneu, R. (Photographer). (2010). *A chick in a nest* [Photograph], Retrieved from <http://ibc.lynxeds.com/photo/kaka-nestor-meridionalis/chick-nest>
- Briggs, J. (Photographer). (2012). *Alfie kaka* [Photograph], Retrieved from <http://www.visitzealandia.com/happy-birthday-alfie-zealandias-oldest-kaka/>
- Chug, K. (2010, Dec 2). Kaka Face New Human Threat. *Stuff.co.nz*. Retrieved from <http://www.stuff.co.nz/environment/3318613/Kaka-face-new-human-threat>
- Christophers, H. (Photographer). (2012). *A cat climbs up to a tui feeder in an urban garden* [Photograph], Retrieved from <http://www.stuff.co.nz/dominion-post/news/7288835/They-re-killers-Zealandia-calls-for-fewer-cats>
- Edmunds, H. (1999). *Focus Group Research Handbook*. NTC Business Books.
- Fremlin, M. (Photographer). (2012) *Southern Beech Trunk Heavily Infested with Ultracoelostoma*. [Photograph]. Retrieved from <http://maria-fremlin.blogspot.co.nz/2012/01/sooty-scale-insect.html>.
- Hartman, P. (1995). Resolving Conflicts between Endangered Species and Man: Case Study-The Reintroduction of Gray Wolves to Yellowstone National Park and Central Idaho. *Environs*, Vol. 18, No. 2, p. 88-103.
- Healthy Child Healthy World (2008). Healthy Child Healthy World. Retrieved from [http://www.healthychild.org/livehealthy/checklist/avoid\\_arsenic\\_exposure\\_from\\_cca\\_treated\\_wood1/](http://www.healthychild.org/livehealthy/checklist/avoid_arsenic_exposure_from_cca_treated_wood1/)
- Heather, B., & Robertson, H. (1997). *Field Guide to the Birds of New Zealand*.
- Huff, E. (2010). Natural News. Pesticides are Killing Birds, Bees, and Bats by the Millions. Retrieved from [http://www.naturalnews.com/027971\\_pesticides\\_bees.html](http://www.naturalnews.com/027971_pesticides_bees.html)

- Hutching, G. (2004). *The Penguin Natural World of New Zealand* (2 ed.). Auckland, New Zealand: Penguin Group (NZ).
- Jones, S. (Photographer). (2012). *Bay Islands coral reef* [Photograph], Retrieved from [http://www.diverwire.com/post/scuba-travel-news/discover-honduras-reefs-ruins-rainforests-and-relaxation/attachment/exif\\_jpeg\\_picture-2/](http://www.diverwire.com/post/scuba-travel-news/discover-honduras-reefs-ruins-rainforests-and-relaxation/attachment/exif_jpeg_picture-2/)
- Joseph, R. (2004). Paints and Coatings Resource Center. Retrieved from <http://www.paintcenter.org/rj/oct04mm.cfmch>
- Kappelly, J. (Photographer). (2009). *Kaka* [Photograph], Retrieved from <http://blog.forestandbird.org.nz/the-kaka-screechingly-good/>
- Luttinger, N. (1997). Community-based Coral Reef Conservation in the Bay Islands of Honduras. *36*(Issues 1–3), 11–22. doi: 10.1016/S0964-5691(97)00014-8
- Lynch, J. (2007, Oct. 10). One Man's Vision '90-'95. Retrieved from <http://www.visitzealandia.com/what-is-zealandia/our-history/one-mans-vision/>
- Lynch, T. (Photographer). n.d. *Education* [Photograph], Retrieved from <http://www.visitzealandia.com/education/>
- McLaughlin, D. (Photographer). (2012). *832F* [Photograph], Retrieved from <http://green.blogs.nytimes.com/2012/12/10/mourning-an-alpha-female/>
- Miller, J. L. (Photographer.) (2011). *Kaka BG-Y* [Photograph], Retrieved from <http://www.visitzealandia.com/wildlife/hear-bird-calls-more/how-to-read-kaka-bands/>
- Miller, J. L. (Photographer). (2010). *Three Kaka Eggs!!!* [Photograph]. Retrieved from [http://www.flickr.com/photos/zealandia\\_insider/galleries/72157627912191092](http://www.flickr.com/photos/zealandia_insider/galleries/72157627912191092).
- Moorhouse, R., Pryde, M., Fraser, I., August, C., August, A., Greene, T., & Wills, D. (2003). Control of Introduced Mammalian Predators Improves Kaka *Nestor meridionalis* Breeding Success: Reversing the Decline of a Threatened New Zealand Parrot. *Biological Conservation*, *110*(1), 33-44. doi: 10.1016/S0006-3207(02)00173-8
- New Zealand Tourism Board. (2012). New Zealand Bird Sanctuaries. Retrieved from [http://www.newzealand.com/travel/media/features/naturesustainable-tourism/nature\\_experience-new-zealand-bird-sanctuaries\\_feature.cfm](http://www.newzealand.com/travel/media/features/naturesustainable-tourism/nature_experience-new-zealand-bird-sanctuaries_feature.cfm)
- Predation* [Photograph]. (2010). Retrieved from <http://www.doc.govt.nz/about-doc/news/media-releases/2010/doc-and-ahb-join-forces-for-a-triple-hit-on-forest-pests/>

Rainbow Springs. (2012). Sponsor a Kiwi. Retrieved from <http://rainbowsprings.co.nz/248/kiwi/sponsor-a-kiwi>

Site Assessment. (2012). Retrieved from <http://www.uri.edu/ce/wq/nemo/Tools/siteassess.htm>

Terrametrics (2012). Kaka Sightings. Google Maps. Retrieved from <http://www.visitzealandia.com/contact-us/report-a-bird/>

The Pennsylvania State University (2006). "Using Surveys for Data Collection in Continuous Improvement". *Innovation Insights*.

Townsend, A., de Lange, P., Duffy, C., Miskelly, C., Molloy, J., & Norton, D. (2008). *New Zealand Threat Classification System Manual*. Wellington: Science & Technical Publishing.

U.S. Environmental Protection Agency (2012). Chromated Copper Arsenate (CCA): Consumer Safety Information Sheet. Retrieved from [http://www.epa.gov/oppad001/reregistration/cca/cca\\_consumer\\_safety.htm](http://www.epa.gov/oppad001/reregistration/cca/cca_consumer_safety.htm)

[Untitled photograph of a stoat attacking a kaka]. Retrieved from <http://www.stuff.co.nz/national/blogs/in-our-nature/7106241/Turning-the-tide-on-predators>

Wellington Beekeepers Association. n.d. *Swarm*. [Photograph] <http://www.beehive.org.nz/files/pictures/Swarm.jpg>

Wellington, New Zealand. (2012). Zealandia: The Karori Sanctuary Experience. Retrieved from [http://www.wellingtonnz.com/school\\_trips/zealandia\\_karori\\_sanctuary\\_experience](http://www.wellingtonnz.com/school_trips/zealandia_karori_sanctuary_experience)

Wilson, P. R., Karl, B. J., Toft, R. J., Beggs, J. R., & Taylor, R. H. (1998). The Role of Introduced Predators and Competitors in the Decline of Kaka (*Nestor meridionalis*) Populations in New Zealand. *Biological Conservation*, 83(2), 175-185. doi: 10.1016/S0006-3207(97)00055-4

Wodzicki, K., & Wright, S. (1984). Introduced Birds and Mammals in New Zealand and their Effect on the Environment. *Tuatara (Wellington)*. 27(2), 77-104.

Young, D. (2004). *Our Island, Our Selves. A History of Conservation in New Zealand* (1 ed.). Dunedin, New Zealand: University of Otago Press.

Zealandia. (2012a). 400th Kaka Chick Banded at Zealandia. Retrieved from <http://www.visitzealandia.com/news-item/400th-kaka-chick-banded-at-zealandia/>

Zealandia. (2012b). Goals & Planning. Retrieved from <http://www.visitzealandia.com/what-is-zealandia/conservation-restoration/goals-and-planning/>

Zealandia. (2012c). *How to read kaka bands* [Table], Retrieved from <http://www.visitzealandia.com/wildlife/hear-bird-calls-more/how-to-read-kaka-bands/>

Zealandia. (2012d). Our Groundbreaking Fence. Retrieved from <http://www.visitzealandia.com/what-is-zealandia/conservation-restoration/our-groundbreaking-fence/>

Zealandia. (2012e). Pest Eradication. Retrieved from <http://www.visitzealandia.com/what-is-zealandia/conservation-restoration/pest-eradication/>

Zealandia. (2012f). What is Zealandia?. Retrieved from <http://www.visitzealandia.com/what-is-zealandia/>

Zealandia. (2012g). Zealandia in a Nutshell. Retrieved from <http://www.visitzealandia.com/what-is-zealandia/zealandia-in-a-nutshell/>

## Appendix A: Flyer for Residents



### Kaka Research Survey



Dear Resident,

We are a group of university students collaborating with Zealandia—Karori Wildlife Sanctuary to conduct research on interactions between the kaka parrot (bush parrot) and the surrounding community. As a part of this research project, we are seeking direct feedback from community members, such as you.

**Below is a link to a brief online survey** inquiring about the kaka's presence in your neighborhood. If you would rather have a paper copy of this survey, please leave a voicemail at 0223701472 and we will provide you with one.

**Please complete this survey by Monday, 28 January** to ensure that your responses can be used in this study. However, if you are unable to fill out the information by the 28<sup>th</sup>, feel free to submit your answers for future research. All responses are valuable and would be greatly appreciated.

**<https://www.surveymonkey.com/s/kakaresearch>**

Thank you for your time,

Sarah Cote

Olivia Durand

Erin LaRoche

Rachel Warden

## Appendix B: Online Survey for Residents

### Kaka Research Survey

Please complete this survey by Monday, 28 January to ensure that your responses can be used in this study. However, if you are unable to fill out the information by the 28th, feel free to submit your answers for future research.

All identifiable information is optional, will remain confidential, and will be used only for research purposes.

#### 1. Optional: Name and Street Address

#### \*2. Street name

#### \*3. In the last 12 months, how often did you see kaka on your street?

- Several times a day
- Once a day
- Several times a week
- Several times a month
- Less than monthly
- Never

#### \*4. In the last 12 months, how often did you see kaka on your property?

- Several times a day
- Once a day
- Several times a week
- Several times a month
- Less than monthly
- Never

## Kaka Research Survey

### \*5. After sighting a kaka, do you report the sightings to Zealandia?

- Yes, I report my sightings every time
- I have reported my sightings a few times
- No, I have never reported any kaka sightings
- No, I did not know there was a place to report kaka sightings
- I have never seen kaka

### \*6. Do you like having kaka on your property?

- Yes
- No
- Indifferent

### 7. Describe why you do or do not enjoy them on your property.

### \*8. Do you feed the kaka?

- Yes
- No

### 9. If yes, how often do you feed them?

- Several times a day
- Once a day
- Several times a week
- Several times a month
- Less than monthly

### 10. If you do feed the kaka, approximately how long ago did you start feeding them?

- In the past month
- In the past six months
- In the past 12 months
- In the past two years
- Longer than two years ago



## Kaka Research Survey

11. What do you usually feed the kaka?

\*12. Have kaka caused any property damage, and if so what did it entail? (tick all answers that apply)

- I am not aware of any property damage caused by kaka
- Roof and/or gutter damage
- Woodwork (eg. windows, walls) damage
- Balcony damage
- Other (please describe the damage)

\*13. Have kaka caused any damage to trees in your backyard?

- I am not aware of any tree damage caused by kaka
- The following type(s) of tree have been damaged:

14. If so, describe the type of damage.

\*15. Have you had to do any renovation to your property due to kaka damage?

- No
- Yes (describe renovation)

\*16. Do you own any dogs?

- Yes
- No

## Kaka Research Survey

17. If yes, when is/are your dog(s) unleashed in your backyard

- Day
- Night
- Both
- Never

\*18. Do you own any cats?

- Yes
- No

19. If yes, when is/are your cats(s) allowed outside?

- Day
- Night
- Both
- Never

20. Additional comments, feedback, or relevant information:

\*21. In the upcoming weeks, we will be conducting a focus group to have a more in-depth discussion about these survey results and the community's relationship and interactions with kaka. Would you be willing to participate in such a focus group?

- No, I would not be interested
- Yes, I would be interested. Here is my contact information (phone or email):

22. Please check off the dates that you are available to participate. We will contact you by Monday, 4 February with the scheduled time.

- Monday, 11 February Time: 1-3pm
- Tuesday, 12 February Time: 6-8pm
- Wednesday, 13 February Time: 10am-12pm
- Interested, but not available for these times

If you would like more information on the kaka, feel free to visit the Zealandia - Karori Wildlife Sanctuary website: [www.visitzealandia.com](http://www.visitzealandia.com)

## **Appendix C: Focus Group and Interview Discussion Points**

How informed do you feel about kaka's behavior, diet, breeding, threats, etc.?

If residents were provided with more education about native wildlife, how receptive do you think people would be to making changes to their gardens, houses, interactions with wildlife, etc. to benefit species such as kaka?

What can Zealandia do to improve its outreach of information to the community?

Do you have any additional suggestions for Zealandia?

## Appendix D: Focus Group Transcripts

Focus group participants are referred to by the number corresponding to their arrival, and members of our team are referred to by their first initial.

### Focus Group 1 – February 11, 2013

2: I know that people are feeding them and I recognize you can't stop them feeding naturally, but people are feeding them, and I don't think that's a good idea. I think that they are related to keas, aren't they? So the more tame they become the more of a nuisance they may become, and that would be a pity because I'm sure we all welcome them. I think they're gorgeous, and they're such joyful birds, but I don't think we should be deliberately encouraging people to feed them.

S: Do you think residents would be likely to stop feeding them if they knew the negative impacts?

4: I think if we were educated about those sorts of things it would be helpful, because I have just moved in to [street name] from [town outside Wellington], and so this is my first experience with kaka. I've only been here a few months, so I have no idea. I have come across keas before, but I have no idea how to treat [kaka]. I think they're delightful, I love them, but I don't know anything about their diets, or if they're at risk of harm from cats or from their own doing or from people.

3: I live in a house with two cats, and neither of them chases the kaka. One of them used to, but she never caught any and they ganged up on her to the point where she doesn't go after them anymore. She knows better.

5: We've got three cats, and they dream about it. They don't get too close.

3: The closest that my cat has gotten is on the other side of a window [making noises], and the kaka's just sitting out there going, "Yup, I'm a kaka, and you're inside. Haha!"

5: Yeah, they're pretty clued up. They know how close they can let things get.

3: Oh, and every time bird of the year roles around I get a kaka knocking on my window telling me to vote.

2: I think another thing, I don't want to sound too negative, but another thing I've noticed having lived in the area a long time is that there are not nearly as many small birds around, and I wonder if the kaka are frightening them away, including the tui. I don't see as many tuis as we used to, so if the numbers get too large and out of control they are definitely going to change the environment.

5: But it could be that tui numbers were artificially high before they were here.

2: The tui numbers I think, yeah, but they don't do any harm, do they? They just sing.

5: Well, they're quite aggressive to other birds.

3: They are very aggressive, yes.

6: They eat different foods. I've seen the tuis chase the kakas out.

2: Have you? Oh, really?

5: A lot of tuis will chase the kaka.

6: They've got sharp little beaks.

5: They don't take nothing lying down, tuis.

6: Yes, and the tui are nectar eaters.

5: Don't kakas eat nectar, too?

6: Yeah, but the tuis are the ones who think they own the tree, it looks like it anyway. And they just chase them out. I was surprised because the kaka's so big, it's such a big bird.

2: Oh, that's interesting.

3: There's about equal amounts tui and kaka around my house.

6: Before the kaka came around, there were a lot more tuis. I think the tuis have spread out.

1: There might be a food, also. I don't know if there's food competition. But does anyone know what the actual populations are of these different... So if we could even monitor if the tuis are getting supplanted, or if the kakas are taking over, or if the little birds are getting chased out? Does anyone have this information?

O: We don't know that information, but the sanctuary does have databases with the bird populations, and they do surveying each year of the different species.

6: All the kaka are counted. There's only a few that are unbanded.

1: Yeah, I just meant there's other smaller birds and whether some of those are. Because I think the tui are also coming from the sanctuary, I assume, because they started appearing like three or four years ago, we started seeing a lot of tui.

6: Yeah, but they don't seem to be banded, so I'm not sure if their counted.

5: No, they wouldn't be. It wouldn't be an exact count.

3: I've seen a lot of wax eyes, and there's a bunch of fantails as well that live near my house and roost in the trees, and plenty of sparrows. So the small birds aren't necessarily all going away. They're definitely still there. There's flocks of wax eyes.

5: And bellbirds I've been seeing a lot more of too.

3: Yes!

1: So is there anyone kind of looking at the whole bird composition as part of the sanctuary, or are they just focusing on individual species?

O: The sanctuary itself is focusing on the bird population as a whole. The four of us are doing a more specific research project that involves the kaka, so we're not all that familiar with the other species. But the sanctuary does keep track of all the other species as well.

S: Yeah, we wanted to gather feedback so that we could give recommendations to Zealandia about what their stance should be, or how to reach out to the community because as you were saying, residents want education, or just suggestions on the best ways to go about that and issues you're running into.

6: The kaka don't actually build nests, do they?

O: They do, they nest usually in hollow branches or trunks naturally.

6: Yeah, but they don't build a nest?

O: No, inside they gather...

6: So they need established forests too, to lay their eggs. They don't actually build a nest like, I don't know, does the tui build nests? I've never seen a tui build nests.

3: Tui do build nests and kaka also line the hollow trees with shreds of bark. That's why the rip apart trees. They're looking for nesting material. I've seen the kaka nesting boxes at Zealandia, and one of them was almost totally destroyed because the kaka had been so enthusiastically gauging to line the box.

6: Well, that's like the macrocarpa trees, because there are all those nooks and crannies in them. So they need established forests, which we haven't really got around a lot of the place.

O: When Zealandia first brought kaka into the sanctuary, they bred solely within the fence, free of predators. But what's been happening recently is, as you've mentioned, the numbers have increased and they've started going outside of the sanctuary and breeding there, as well.

6: There's only one case that's been documented. It was in the paper a few weeks ago.

5: I did see a pair of them check out the macrocarpa up the end of Koromiko Rd once, and they were really looking like they were checking it out.

2: But I don't think anything came of it.

3: I've seen about 25% of un-banded kaka, and I think that they are actually using that macrocarpa as a resting spot.

6: They're there all night. And if you walk out, they take off. They're like teenagers, basically. They're up all night, and they disappear in the day. That's why I was asking before; do they come to the sanctuary in the daytime? Does anybody know?

R: They fly around. I'm not sure. They've been saying they've been seeing them less and less in the sanctuary, but people have been also seeing them in their backyards so it's hard to tell where they're actually going.

6: And what time are they seeing them, in the morning?

O: They're most active early in the morning and around dusk.

6: Right. So in between, they're not sitting in the trees. They've gone somewhere. They all fly off in a group. I hear them.

5: They can be surprisingly quiet, you know, they're not always flying around squawking. You don't know they're there half the time unless they're banded and you hear something rattle.

6: They actually do go out in the daytime.

5: Yeah, they can be sneaky.

6: They do go somewhere. There's a couple that stay around in the daytime like one of the birds has been appointed as the watch bird or something, to guard the tree, and sticks around. But most of them take off, I've seen them, and they go somewhere. And I was just wondering if we knew where.

S: No. That's one thing Zealandia is trying to get people to report seeing the birds, and from the feedback on our surveys, most people don't realize that there's even a way to report your sightings, or which birds you're seeing at what time. So that's definitely a useful tool that could be used to figure out where the birds are going.

6: It's all on the site. I used to make a note to identify the bands and tick them off, the times. But then November, the year before last, they just stopped visiting. We did something, I don't know what we did, but we did something, and they just stopped calling in. We used to have up to a dozen on the house. I live just down from the big macrocarpa tree. They'll swoop over to the poplar trees, and up to the top of the hill, and back down, and into the gully, and back up to the macrocarpa tree and around. And they used to come in. And every time I'm on the deck, at certain times, or in the garden, they come down and check me out to see what I'm doing. They'd swoop down, or dive-bomb me sometimes, and then swoop off again.

2: So where is this macrocarpa tree?

6: It's on the walking track.

3: Yes, the bit between Mt. Pleasant and Koromiko.

6: And they're in there all hours.

1: They do sometimes stare and they peered in at my daughter, hanging off the roof and staring in. And she felt it was a little bit of an invasion of privacy. They are quite curious, and I think they recognize people. Certain birds and crows even learn to recognize people's faces, among other things.



5: I wouldn't doubt it. I think there are very few birds who can't actually recognize peoples faces.

1: And they obviously seem to be able to tell whether or not things are right or not, so they seem to have a lot of various forms of intelligence. But what would you think; education seems to be one thing. I mean, if people don't know there is this sighting calendar or something like that that you can put, and do you know if there's any advice about feeding or any of those things?

6: It's all on the Zealandia site.

1: Oh, it is. But people have to go and look, I guess.

6: Yeah. You could sort of put pamphlets I suppose in letterboxes to tell people, but it's all part of the Council. You get the papers on it; it's in the paper. There's information to be had if you just look for it, and what sort of degree you want to go to get it.

2: Well, I gather that all of us here live in the same area. So Zealandia could take a little walk around our way one night at five or six o'clock and just look at the macrocarpa, and have a look at my roof, and you know, just get the feel for where they're going and what they're doing.

6: [A volunteer] has looked at my logbook and taken copies of it. Well, I've stopped doing that now, because they don't visit me anymore. Well I do, I get one, the first one that came comes, and he's been coming for five years and every now and then. He came yesterday and he just sort of sits alone. There are more around on the weekend, which it strikes me that they're going somewhere during the week, and the weekend's a little different

3: There is that bit, and I basically think they're more around during the weekend because humans are also more around during the weekend. So they're more likely to be active and out scavenging for food, or just being sociable.

6: So where are they scavenging for food?

3: There are a whole bunch of places around [street name] that feed them.

6: Yeah, but that's not scavenging.

3: No, it's not really. But begging for food, I suppose.

6: But there are little areas more on the terrace and into Brooklyn, there's another lot of kakas up there. And if you go up on top of the hill, I think there's some more up there. But they're different. They're not the same. They're so hard to tell which kaka it is because you can't see the bands. You don't know which kaka's which because you've got to get them down close to be able to see them, which sort of makes things difficult to identify them. Maybe a little radio transmitter.

2: So it seems that Koromiko Road and Old Bullock Road are kaka central. Are there other areas?

O: The areas that we've looked at were along Highbury and parts of Kelburn, and into Karori on the other side of the sanctuary.

6: Are there a lot out there? So they're the same cohorts but different color sequences.

O: They go all over, but I'm not sure of individual birds.

S: They're very strong fliers so I'm sure Zealandia wouldn't be surprised if the same bird being fed over in Highbury was also being fed by someone in Karori, or eating fruit in one neighborhood as well as the other.

6: Well, that one that had the chick, which they said was the first kaka that they'd noticed have a chick outside the sanctuary was over in Prince Wales Park, which is over on Mt. Cook, which is quite a distance away.

3: There have been sightings of Zealandia banded kaka in Palmerston North.

S: When you were mentioning about the stuff on the website, do you think there are better ways to distribute this information to people?

1: Well I mean, for some people probably getting to a website, they're probably not even aware that it exists. So a little flyer or something might be one good way, and saying there's more information available about those things on the website. And I don't know what was suggested about doing a visit around to see some of them, because it sounds like there are maybe several different flocks of kaka in different locations, and certain kinds of premises. And I think people would like that. I'm not sure, for example, should I try to put a net over the top of my apple tree? Because it's all gone now, they descended and ate it. But is that bad, for them to eat it? Or is it all right?

2: And how do you feel about that, having your beautiful apples eaten?

1: Well, they were not necessarily terribly beautiful anyway. We inherited the apple trees. And so I feel, for me it's fine. My daughter was a little indignant about the mess they made, but then that's probably fine. That's nature. They're kind of messy.

6: And if it wasn't kaka it would be other birds.

1: Yeah, tui have done it too, and they jump on our flax and destroy it. So I think it's probably just something unusual, we're not quite used to it so we don't quite know what their habits are, so I think that's part of it. And then some I think are very concerned about their strawberries getting eaten. I'm not particularly concerned.

5: Well, you can protect things. The walnuts are a bit of a problem, but I guess the kakas have got as much right to them as we have, really. They're more native than us.

6: Walnuts?

5: Oh, yeah. We've got a walnut tree. We inherited it, and it had just started producing when the kakas arrived, and we had about three of them the first year. There's always good crops on it now, but they go before they hit the ground.

6: So they take the skin off and crack the nut as well?

5: They're designed for it, they're seedeaters.

1: Yeah, they're very good at the pinecones from the macrocarpa and opening it up and getting the seeds out.

6: That's interesting, because the pine tree and the walnut tree are not native plants.

1: No. But I think they're adapted probably to whatever.

4: They're smart, they're adaptable.

1: Yeah. They use their beaks as a tool, as well as obviously their feet. So I think that yes, they are quite adaptable. I mean, they're just like people. They're scouting to find out what food sources there are, and whether or not we should plant more food sources for them, but I'm not sure what the answer would be.

3: I think planting more food sources for them is a good thing because if it's a natural native thing, then planting more native trees can only be a good thing, really.

1: Yeah, but what do they eat? What would they be eating naturally? I mean, obviously apples.

6: I think this is happening anyway. I think as the trees in the residential areas get bigger and bigger, they become the food source.

4: And half of them were planted by birds anyway, so they're definitely bird food sources.

1: So what would they have eaten pre-Europeans? Because what sort of food sources are there in the New Zealand trees and so forth? I mean, I don't know.

4: Probably all the karakas. I think there's a few trees around.

6: Matai and beech. They were the predominant trees around here.

1: Yeah, and did they have nuts or anything like that?

3: Yes, seeds.

1: So that would probably be useful, if people wanted to provide a few more trees and sources, because I think that would not cause the problems of ground feeding. Because as I understand there may be dangers of cats if they learn to get food on the ground and they're not necessarily going to be as alert. That's what I think I remember it saying. So that kind of information would be useful.

O: Do you think the majority of people would be open to making changes such as that in their gardens, if they knew it would help the native birds?

1: Certainly I think quite a few people would. I don't know if the majority would, because there certainly are letters to the editors saying they want to shoot kakas, or whatever. Some people were very indignant about having their space invaded. But I think some would really enjoy having various native birds, and they are quite interesting doing what they do, and I think a lot of people are interested in some interaction with nature, if they knew what was the right thing to do. And I think planting food sources that are good for them and that are also off the ground so there

aren't likely to be predators after them I think would be good. At least I would appreciate it, if I'm a worthy sample.

5: I think if predators were a major problem, they wouldn't be increasing in number so fast.

2: We have a Highbury e-group newsletter that goes out to about half the houses in Highbury, and we're trying to increase that number. That would be a good way of sending out information, just have a little note from Zealandia every time it goes out giving some little snippet of information.

3: I found it really interesting that the kaka that are around here, mainly born in Zealandia, have completely different songs from kaka in the Kapiti Island. I've been to the Kapiti Island, and the kaka have an absolutely completely different song. They don't sound like they're playing Space Invaders like they do here.

6: They don't do the squawk?

3: They do the squawk, but not the Space Invaders. They do something that sounds a lot more like a cross between a tui and a bellbird.

1: Oh, so we could teach them to sing nicer songs.

3: There are enough tui that they are starting to do that, but not to the same extent as on Kapiti Island. I was sitting at one of the picnic benches at Kapiti and a kaka hopped up on the bench, came over to me, and sang to me and then hopped off again. The ones on Kapiti Island are not really wild either. They're very tame.

2: What sort of response did you get to the questionnaire? How many people replied?

O: We got just over 200 responses from the whole area we surveyed, including Karori. And we actually got an overwhelmingly positive response. Many people did have complaints about noise or property damage, but they would follow that up with, "We don't mind the native birds." So there seems to be a very positive attitude towards the kaka.

3: The people's parrot.

4: I was approached once by a news reporter, and she seemed quite wary. She was trying to find people complaining about the kakas, and going up and down the steps around the neighborhood. She'd obviously been to plenty and I never saw a news article. She seemed quite disappointed when I said, "No, no. We love them!"

6: The kea goes and rips the cars apart, but kaka don't seem to do that.

1: What does the kea do to the car?

6: They rip all the rubber off the windows and wipers.

3: And occasionally take money off the dashboard. That was in the newspaper recently.

O: Yeah, the kea are a lot more aggressive usually than the kaka. They are related, but they're larger.

4: So they're probably physically stronger.

6: They haven't got trees. They've got scrubland, so there's a different environment. The thing about trees is that I do get worried about the Council ripping out old pines and things like that because they're going to fall over. Some do, some don't. But they're the things that the kaka are going to nest in, but if they take them out, there goes a potential home. I can't help but think they need to go to established forests.

S: Yeah, the thing is the pines here aren't native.

6: But they'll go to them. The macrocarpa is not native, but they'll go to it.

5: If you wait for the native ones to get that big, you'll be waiting for centuries.

S: That's kind of the problem Zealandia is running into also.

O: If you look in the sanctuary, there are many pine trees that are not native that they would ultimately like to not have there. But they need to be there until the rest of the bush grows in.

6: And there is a danger with them, too, because they do fall over.

S: But the thing with kaka nesting outside in those mature trees is that during the nesting and fledging period they're really vulnerable to cats because they have to stay on the ground and they nest close to the ground.

5: And stoats, too. Stoats are the big problem, aren't they?

6: I've got to say, our cat has never attacked one. She'll look at them, but never considered it. It is a much bigger bird. But the danger I think is with the rats and stoats. They climb up, and if there's a nest they'll get at them. I had a program of possum trapping on my place, about 20 years ago. And it basically killed all the possums that used to come in. They used to come in through the corridors. You'd trap a couple, then there'd be nothing for a month, then a new family would move in, and you'd trap them. Then they built the sanctuary, and it blocked that whole area off. They poisoned all that area and there are no possums anymore.

5: We've only had three possums since we've been in the area, and that's been about 15 years. None recently.

6: Yes, and that really helped in the production of trees growing, not being stripped of new growth. But there are other things too. I'm not sure if they eat the passion fruit, but I've noticed the kaka break them open, and the thousands of little seeds just all go out. A couple of months ago I saw a few guys from the Council, and I asked them what they were doing. They said, "Oh, we're down looking for noxious weeds." So I hope it's actually working. They're only doing Council land. Maybe there'll be some sort of a program, because we've got honeysuckle, and ivy, and all sorts of these noxious weeds coming up the gully. And it's a real hell to keep. That sort of kills the native trees, and they can't really be eaten by the birds. So growing trees is good, but also keeping your garden free of those things.

S: So if people were educated about that, do you think they'd be receptive to following up?

6: I think most people do know about that sort of thing, it's just getting out and doing it. There's a second step to it. And also the Council could actually be there and doing it as well.

5: I think probably a very effective way if the Council wanted people to get rid of weeds off their own property would be to have a sort of organic waste collection once a month or something. Then people would have to do it that week.

2: Right, and then they'd clean down the sides of the roads all at the same time.

O: With the birds expanding, and potentially nesting outside of the sanctuary, that's obviously not ideal but if they're going to do that there's not really a way to stop them. One of the suggestions we did get from a resident was to encourage residents to keep their cats indoors during just breeding season. Is that something that you think people would be receptive to, if it was just for a couple weeks out of the year to protect the chicks that are fledging?

5: I don't know, we've tried keeping our cats inside and you don't get a moment of sleep.

6: I don't know if it would actually work, to tell you the truth. I don't think they're the major problem anyway.

5: Yeah, the major problem is the rats and the stoats.

3: And if cats aren't litter box trained, it's very difficult to get them to do that for just a couple of weeks a year.

6: But you could encourage it. I think it's a good idea to encourage it, but whether it gets done or not is something else. If 50 percent of people do it, then fine.

1: I think it's the information. Anyway, you can be the soft face, versus the Gareth Morgan kind of exterminator. He's done the hard stuff, so you can be the soft version. "Just keep them inside for a couple weeks," you could say, very nicely.

6: Anything that could work, do it. Encourage people to do anything that would help.

1: And people have to know, I think, when is the breeding season? Is it in a certain set couple weeks?

S: I think it's sometime between October and March.

4: Are the fledglings on the ground for a while?

O: Yeah, once they fledge they aren't able to fly for another week or two. And that's really when they are the most vulnerable, when they're out of the nest but not flying yet.

6: So they don't stay in the tree?

S: No, because they nest so low to the ground they end up just being on the ground for a period of time before being able to fly, so they're pretty clumsy and vulnerable.

6: Oh, I didn't realize that.

4: Yeah, that's very interesting.

6: Well then definitely keep cats inside.

S: Do you think if people were more aware of how vulnerable they are with their breeding habits that they'd probably take suggestions better?

1: Yes, stress vulnerability and have a nice kaka chick with big eyes looking innocent.

5: But if not everybody does it, it could backfire too. Because as the density goes down with cats, the more time they spend hunting. With a higher density, they spend more time sorting out territory and things like that. And so if nine out of ten people keep their cats inside, that remaining one is going to have the place to itself with nothing else to do but hunt.

6: I think dogs are probably more of a problem than cats. They're a big killer of kiwis in the forest.

5: We're just lucky we don't have foxes. There'd be no kiwis if we had foxes.

S: We talked a little bit about feeding earlier, and I know there was a mixture of opinions. And even with the survey, some people love feeding them and that's how they interact with kaka, but they don't know the right foods. Or some people don't feed them at all, or other people reported more property damage with feeding. Do you have any experiences or know of anything like this?

2: I think with loving feeding, it's a little bit of an emotional or sentimental thing, but I think it should be discouraged. They're birds, not little baby people or anything, and you need to speak to them and not shove stuff in their mouths that might not be good for them even. Definitely, I think that needs to be sorted out, with what they do eat, and whether or not we should be feeding them at all, which I don't think we should.

6: I think the Zealandia policy is not to feed them, even though I give them the old almond now and again, especially the one that's been coming for five years. But when they first appeared we used to give them almonds, and they were quite keen on that. But then it got to be too much, so we stopped.

O: Whether you or your neighbors feed them, have you noticed an increase in either how domestic they are, or how often they come to your property? Do you think feeding them attracts them to a particular home, or just to the area in general?

5: I think it's the area. We used to feed them a bit, but they don't often come around anymore. They've got plenty of other food around so they don't bother.

6: They wander around, and you notice that there are certain trees that they go to. There're a couple trees that I haven't gone up to have a look, but I don't know why they go to those trees. They seem to be creatures of habit. They do their circuits, and they go out to a certain spot, and a couple more will go out after, and then they all fly off. Who knows why they do certain things. But food, it depends. At five o'clock when they're all squawking around, I don't think food is a part of it. It's more of a social thing. There are different elements of behavior, and it would be good to know those sort of things. And I supposed if Zealandia could publicize perhaps if they



knew why they did certain things, it would be interesting for people who have to experience the noise. Which I don't mind, but I know other people probably do. As to why they're doing it, and things like that. All that sort of information is interesting for me.

S: So you think people would be more likely to deal with the damage if they knew the reasons behind it?

6: Oh yeah, yeah.

4: I think it's really interesting.

5: Some people do just think it's pointless vandalism, don't they?

2: I do think Zealandia has a responsibility, to the houses particularly surrounding it, to educate and advise. I've had all the nails torn from my roof and had to replace them. It's the old-fashioned roof, with the lead-headed nails.

6: Well that's no good for them. You need to replace that anyway.

2: They're persistent. They come back night after night, creatures of habit. But like I said, I do think Zealandia should be listening and responding.

5: They might actually be attracted to lead.

O: Lead has a sweet taste, and they're attracted to that. Some birds have gotten very sick from it.

6: I've got the lead lining on some of the roof, and they haven't shown any interest in that. But they go onto the railing and they pick bits of that. I've found that they get a couple of bits, but they don't seem to do too much damage.

S: Something interesting we found in the survey was that more property damage was reported by people who fed them. Do you think if people knew that feeding them could potentially attract them, they might not feed them?

5: Well that's definitely something to mention, because people do complain about property damage.

S: Because we're not sure how receptive people will be to changing their habits of feeding them. Some people really enjoy interacting with them like that.

1: Yeah. But if they know it's harmful to the birds, I think they should be informed if there are consequences, and to their neighbors too. I mean, it won't necessarily solve it, but at least people will know what they're doing and can make better choices.

S: Some of the problem is that people are feeding them inappropriate foods just because they don't know better.

5: Yes, that's definitely something to tell them about.

O: With the information about what foods are proper and what foods are not, I think one of the concerns is that encouraging the proper foods to be fed might seem like you're saying it's okay to feed them.

6: Rather than saying what's appropriate, I think just say what's not. Say these foods will damage them. And let them eat the apples off your apple tree.

2: Well it's equivalent to the zoo, isn't it? I don't think they encourage people to feed animals at all.

S: Zealandia is meant to keep predators out, it's not a bird cage, so the kaka are coming out and it's an urban environment with people and pets, and just the property itself. It's very dynamic, so they're coming out and going to interact anyway and we're trying to analyze ways that Zealandia can find a happy medium. People really like these birds and want to help, but they're not educated as to how.

3: The whole point of Zealandia breeding birds is so that the birds would then go out and start nesting in other places. And they're going to run into these risks. It's just part of living in a non-predator-free area. But that's the whole point. If you breed enough birds that they'll spread, like for example with the tui.

2: I'm not sure whether they're breeding them to release them in this urban environment. They might be breeding them to release somewhere else where it's more of a natural habitat.

6: They're just beginning to overflow, I think.

3: Yes. But if we had many sanctuaries throughout New Zealand, then we could repopulate the birds and we could get that dawn chorus again.

6: The deafening dawn chorus. It was. You read reports of when Europeans first landed, the dawn chorus was deafening. There's another sanctuary that's got kaka in there, with different bands on them and everything, and they're doing the same thing. They're surrounded by farmland, but they'll overflow eventually.

2: I thought the function of Zealandia was to create a place for visiting all these rare and endangered species and actually seeing them, but actually walking through Zealandia on a Sunday afternoon you're pretty lucky to see anything much.

3: I was going through on Saturday and I saw a bunch of saddlebacks, and a few kaka.

2: Actually, you'd see more birds if you came to my place.

S: Going back to Zealandia's mission, is there ambiguity around what they were designed for? Just in our own research and touring and working with people, it's more that they have a 500-year plan of recreating the mature forests and the natural environment. But it's designed for the birds, not for people. So it's not to keep the birds in and have a place where people can go and see what it looked like a long time ago. It's more to have a safe haven for the birds and allow them to repopulate and let them expand outward. It's a happy problem in the sense that they're succeeding, but there are new problems they're running into with their expansion.

6: Wellington was stripped of 95 percent of its native forest, so what it must have been like before. It must have been quite amazing. Then you see people getting upset about a few windmills, destroying natural landscape.

5: Yeah, it's not the natural landscape.

6: You look at the place and it's pure industrial landscaping. It's all just for the production of animals and food. There's nothing there. So in 500 years, it might be what it was like before the Europeans got in. And there are other pockets developing. I've planted a few native trees that 20 years on are four or five meters high. Another hundred years and maybe it will be decent. It's a long-term thing. It's going to take a long time. And you just hope that with the Council debate about, "Can we afford to do this?" it's just got to continue on. Nobody's going to stop it. I think the main problem is finance, just keeping it going.

1: But if they built more community support, that might help the finances too.

2: It's very hard to capture the imagination of the people around here when it's all so dead serious.

3: My favorite bird used to be the tui, and then I found out about kaka. And the kaka are now absolutely hands down my favorite bird.

## **Focus Group 2 – February 12, 2013**

R: Hi everyone. Obviously we're talking today about the kaka and just any interactions you have with them. Maybe how often you see them. It's very informal, just supposed to be a discussion just so we get more of an idea of your guys' actual perspectives because over a survey it's like really hard to get actual personal interactions.

1: What do you intend to do with the information?

R: We're hoping to give Zealandia suggestions on how to improve relationships with the community and with kaka. Help them distribute information maybe eventually, if that's something that comes up. Anything that you would like to know from them, anything we can help with the kaka, Zealandia and the community better.

E: So, I'm sure you've seen kaka a lot. Quite frequently. Do you see them about every day? Every once in a while?

1: I see them every day. I don't know whether we're supposed to or not, but I feed them, and so they come. Hopefully every day, but not two times a day. Otherwise, they don't get anything if they come twice a day. And I give them nuts and honey.

2: We see them, we're up in [street name] along the sanctuary fence, along there, just up there. We see them reasonably regularly, but I was just saying to [name] coming up the hill, but just lately, I'm not sure why, maybe because we're not feeding them or we're keeping different hours. We feed them peanuts, raw peanuts, and that's all we feed them. We do also throw some bread to the birds and they grab some bread. And if we're having a barbeque, they'll grab some bread that's on the table. And if we were feeding them regularly, we see them regularly. They

often come up in the morning, there are 3 cats there and 2 kaka outside the door, we come home at night there are 3 cats waiting to be fed and there are 2, 3 or 4 kaka on the roof.

3: Waiting to be fed as well.

2: Yes, waiting to be fed as well. But as we have done for wee while, they seem to have disappeared, I don't know where they go but why they don't come around. We haven't seen them in the last couple of weeks. But as I said, we've been keeping different hours and I haven't seen them quite so much. But usually many times a day, sometimes on the weekend they're flying over all the time. Visitors to the house love to see them and will bring their cameras and take photos. I enjoy interacting with them. I love the way they change colors all the time. That's fascinating.

1: They seem to be extremely intelligent birds.

3: Do they feed out of your hand?

1: They will, but I'm a little bit worried because they also nip fingers. Quite sharp beaks.

2: They feed out of my hand. I've got one that will sit on my wrist and feed. They're generally quite shy. As soon as you go to make a move towards them, they back off.

3: I've always avoided feeding them. We live on [street name], so they'll occasional come and land on the rail around the deck in the front and that's when I've been tempted to feed them but thought probably best not to. I've seen them flying every day. They do aerobatics.

1: They do seem to keep extraordinarily long hours because they're sometimes screaming around 4 dawn and late at night too. When it's dark you can still hear them, so they don't sleep very much.

2: I can tell a story about the middle of the night. We've got a big deck and the wind would blow the furniture around and we woke up one night and we heard bang and there's another bang. It wasn't a windy night. This was about 2 o'clock in the morning, so I went out and I went upstairs to the where the lounge and the deck are and everything. And at that time we had these big macrocarpa railings, deck railings. Still couldn't tell where this noise was coming from, and we've got the second story conservatory. And I turn on the dining room light and there's this head peEg in the window with little eyes. This kaka was stripping big strips of macrocarpa and dropping it down on the conservatory roof. And there were big strips of macrocarpa on the conservatory roof.

1: That can be a problem with people's fruit trees, I gather, or trees generally because they'll strip the bark off trees to get the grubs underneath. It's what they're looking for probably.

R: You guys mentioned that they're a little bit destructive sometimes. Do you know overall are people upset about this or are they more they're here, they will be here kind of wrecking?

2: If they were pulling my house apart, I probably would be.

1: They haven't bothered our trees at all but all the fruit trees, we've got a couple of fruit trees, plum tree and a tamarillo tree and they haven't gotten fruit. But it doesn't bother us too much because they just knock it off and we pick it up off the ground

E: Have you noticed any other damages aside from the trees? Is there any damage to your houses? Or neighbor's houses if you're aware?

3: One had a go at an umbrella, deck umbrella, and it started pecking at it and screeching at it, it only happened once. And apart from going all over the windows which they do every time I clean them, but other than that, no other damage.

2: Had my macrocarpa deck railing been new, and hadn't needed replacing anyway, I probably would've been. Generally all the positives outweigh the negatives.

3: They're quite comical aren't they?

2: Yeah, they are.

O: You mentioned that you have cats. Have you ever noticed?

2: Cats. Cats do, I hate to say it, they do catch the odd bird because we feed the birds as well. But they catch lots of rats so, there was one on the landing the other night, inside on the stair landing. They kill the rats. The cats are just too bothered by the size of the bird I think, they'll come and sit right below them if they're feeding, the parrots are here. They'll be sitting down there looking at them but they won't, they've never, but any other bird they have, it's just the size of it.

1: That's the same with us. We've got 2 cats and they watch the kaka. I've never seen them try to go after one. But another benefit of the kaka eating is that when they're eating the nuts they drop crumbs all over and we get lots of other little birds coming to finish up, which is a benefit.

2: As soon as the kaka appear, the little finches start appearing as well and other birds. Even the food is put out kaka will land on the fence railings and all of a sudden the little birds will be there as well.

3: So how many visit you when they come?

1: The highest count I've ever had was 18.

3: 18?!

1: That was in winter. The number has dropped off somewhat in summer because I presume they find fruit elsewhere. This morning I think there were 8. How it started, about 18 months ago actually, I put out some honey water for the tui, and a kaka came along and started eating it and I thought, you like it too. So I started putting out more, and more and more kaka came. But, even the tuis are quite bullies normally with other smaller birds, but they can't dislodge the kaka. It's quite funny watching a tui.

2: Tuis seem to have taken off, do you think so? Since the kaka really took hold, cause for a while there, about two or three years ago, the tui were just everywhere.

1: Yeah, they probably have.

2: The tui seem to have taken off once the sanctuary sort of got underway, and now the kaka are around, we don't see quite so many tui. They're still around but they're not in such numbers.

1: You're probably right. They certainly do come for the honey water, until the kaka sort of set off.

2: They sit on the ridge and pull it until they're fed. One really clever one generally takes one peanut at a time. Another always takes two. So this guy's got two in his hand at once.

1: Do you know how far afield they go? Because I've heard of people down in Island Bay occasionally see them, so they probably come from here I would think. They probably go quite a distance.

S: They're really strong flyers.

R: They're very strong flyers, they've been, I don't remember which neighborhood they've gone down to, but they've gone pretty far away from the sanctuary.

O: A lot farther than you would expect.

1: I don't know why I've always thought of parrots, maybe caged parrots are not very strong flyers, so when I saw these chaps tearing around like rockets, I was quite surprised.

2: We've got a close line as well, I enjoy watching them on the close line, on the wires, and they swing around on the wires.

1: When is their breeding season? They've have some chicks already, haven't they?

S: It's between September and March, but I'm pretty sure kaka will nest at different times so you'll have different clutches fledge at different periods. But it's usually sometime between September and March.

1: Oh, well, we noticed one slightly smaller this morning and it had no bands, and it wasn't as steady as the others. You know the others have a clever about standing on one food and eating, but this one was a bit clumsy so we thought he must be just a baby, just a fledgling.

E: It probably was.

R: I think Zealandia has their one last fledgling that's about to go out of the nest soon, or maybe it has already, but they're just at the end of their fledging season.

3: So what brings them back to the sanctuary?

1: Food. They are fed here.

S: A lot of it is that they are running into predators while they are nesting and so people won't even see where their nests are. And cats are actually getting into them, or rats or stoats. Zealandia has the predator free enclosure, so they'll typically nest there, but as they're finding other food sources, they are starting to nest around other places too.

E: There aren't very established forests around here. And Zealandia, they're still working on trying to build up the native pine trees, but they have nest boxes so not only is it safe, but they have a place to nest already, so they'll just go back there to nest.

1: Doesn't make much effort at this point.

2: What's behind the color change all the time? Why do they get really red?

E: Color change, I'm not quite sure actually, do you know anything about the color change?

S: I might just be camouflage, change in seasons.

E: Sunlight.

S: One thing that I've kind of noticed about the feeding. It seems that it's pretty important part of your interactions with them. How informed are you? Or are you interested in being informed about appropriate types of food or if there is anything harmful for them?

4: That would be great.

S: So you think in general, that residents would be interested in finding out more information about that?

1: I think so. There was something in the green zone, a Dominion Post document months ago, talking about what not to feed them and I thought well, now I'm not feeding them the right thing, because apparently bread shouldn't be fed to them because it does something to their metabolism so it's not appropriate. So as I said I feed them just nuts and variety, and raw nuts, not cooked or anything like that, and honey and sometimes fruit. I wonder if that's right or if I should not be feeding them this.

E: Do you have any ideas of how the best ways to bring out or let this information be known? E-mail updates or website or flyers?

1: I think it might be on the website already, quite a lot of stuff on the kaka.

4: There may be a lot of people that don't or wouldn't go to the website. Maybe some flyers or just something in the mail, because I live in Karori, just so people know because if there is stuff that harms them then.

1: We should know.

4: I know a lot of people who see them every day, and I know a few that do feed them.

3: Now I've just assumed that you shouldn't feed them. I'm not sure why. You're not allowed to feed them in the sanctuary are you?

E: I don't believe so.

S: Do you think other people would be inclined to stop feeding them or not feeding them? In general?

4: I think you've got about a 50-50 split on those who do and those who don't. And we feed the sparrows, so kaka could be getting the stuff that we throw out for them

2: I think from my point of view, I mean I feed them all the time, obviously, but if we got something from you guys saying "please don't feed the kaka" we wouldn't do it.

4: I think most people would comply.

2: And I think throughout the community, most people are on E-mail these days. And there's two E-mail groups in Highbury, and we're in both, so we'd see it in the E-mail groups. Most people read their E-mails rather than going to websites

4: And once one person knows on the street, it will get around the whole street.

R: Ok, so as we mentioned before, cats sometimes prey on, usually not the adult kaka it doesn't sound like, but a lot of the fledglings. We know there are a lot of people with outdoor cats, but how willing would residents be in general of keeping their cats indoors, or keeping them indoors for just the fledging season? What do you guys think about that?

2: We have three cats. Our cats are outdoor and indoor cats, and that would be very difficult. Even if we agree with principle, it would be really difficult.

4: We only get the adults.

2: I've never seen birds that are obviously young.

4: I live on [street name] and we only get them flying past. I assume that they are older to be flying

S: What happens before they fledge they get out of the nest and the babies are on the ground for a period of time. And this happens in the woods or in people's backyards and you don't even see them. So Zealandia thinks that this is when they're most, well they're obviously most vulnerable at this time, but when they are getting attacked by cats where people don't even realize. Do you think if people were more aware of the fledging and had that information would they be likely to make changes? Or is it kind of just too difficult?

2: It's just too difficult. I agree with you now, but it's just too difficult.

R: That's understandable.

3: You can't explain to the cat, can you? Stay in for the next three months.

1: Belling the cats helps, of course.

4: When is the actual season? Fledging season?

S: It's between September and March when they're breeding and fledging, but each clutch varies with the particular time.

E: I think for about a month they will all begin fledging and end fledging.



O: It's usually around January.

4: Which is probably when the cats are out the most because of daylight savings. Because you probably get people who put their cats inside at night but during the day, I don't think it would happen.

E: Do you think people, I don't know if either of you put bells on your cats, but if people would prefer to keep them outside because it is difficult, do you think people would be receptive to putting bells on their cats to try to prevent that?

2: Our cats can't seem to keep their bells on. That's our problem.

E: Back to property damage, while I'm thinking about it. Zealandia has informed us that a lot of the kaka are getting lead poisoning from the roofs with lead headed nails. They'll be pulling the nails out of the roofs. Have you heard about that or completely unaware of that?

4: I haven't heard of it, but we've just had our roof redone and the lead was pulled off. And when they do it they just rip the sheet out and pop they head off, so the lead head went everywhere. So you'd find most of them, old houses in Karori, have lead.

2: We don't have any nails, but it doesn't surprise me at all.

4: They'd be easy to pop off for the birds. We used to get probably one a week that would pop off the roof.

3: So the birds swallow them will they?

E: They'll chew. You know how they have really strong beaks? They'll chew on them because the lead has a sweet taste. I don't know if you've heard that children will chew lead paint because it tastes sweet. And I know in some places they've banned lead paint because of children getting infected with lead poisoning. But they've noticed some kaka are getting lead poisoning and they're bringing it back to their chicks because they're eating the lead, which is dangerous for everybody.

1: Well I suppose that they could get into other sorts of poisons too, if they try everything. Berries are poisonous. I haven't really thought about the lead, oh goodness.

4: What about the possum bait?

R: It doesn't seem to affect them, not that we've seen.

O: We haven't heard of any cases of that. I'm not sure if the poison just doesn't affect them or if they just aren't attracted to the bait, I'm not sure.

4: I suppose if they're running around on the roof, it's easy to grab the shiny nail. Especially since it's soft metal as well, they can chew on it quite easily.

O: You brought up a good point about the berries and things like that. With native versus exotic plants, would people who do have a lot of exotic plants, do you think again, if more information were given out, how receptive do you think residents would be to not necessarily replacing all of their plants but to reintroduce more native?

1: And also watching to see if they do eat all sorts of berries, which they do I suppose. I'm not sure if whether people would be receptive to changing their vegetation, but worth keeping it in mind as something to suggest.

4: Some people, well probably quite a few people, may not know the difference between the native and non-native.

1: Sometimes other birds do eat other things that we know are poisonous but it doesn't seem to affect them, like nightshade. A lot of birds eat nightshade berries which are poisonous to us, but they seem to cope with.

R: Going along with the plants, have you guys heard or have any of your neighbors complained or do you have any feedback on the birds actually eating your plants? Or is it mostly fine just because they need food? Do people care, or have you heard anything about that?

2 & 3: no

4: Just let them go for it. They pull branches off the trees, and we're just like watching them do it. We don't mind.

1: I actually haven't noticed anybody else complaining about them. I haven't noticed them sort of settling on anybody's property apart from neighbors a couple doors away they also feed them, but they haven't complained.

O: Have any of you had a chance to go inside the sanctuary at all?

4: No.

S: Do you feel like you're aware of Zealandia's mission or in general are you familiar with the website? We're trying to analyze how they engage with the community, and what better way than to talk to actual residents.

4: I know I've never been, because of the price and of course the kakas come out. But yeah, there's enough bush around like Johnson's Hill, and I can go walking there. So about the sanctuary, I've never actually been in it.

2: It's price for us really. We've never. We just live on the fence. But also we get a free show all the time. We have referred visitors to it and they've always found it fantastic.

3: I've been once.

1: I've been a foundation member so I've known about it. I must say I don't visit very often apart from having visitors to bring. And I occasionally bring my little granddaughter here. She enjoys the bird sounds and such things.

2: I used to run all the way through there for free, so I was injured a little bit. But the benefits of the bird life is fantastic.

1: It upset my two sons, who were at that stage they were teenagers when they put the fence around and they'd do things in the neighborhood. Sometimes they'd set off with ropes and axes and things. I've never asked what they did.

2: I know lots of blokes who resented losing their running tracks.

4: My father-in-law is the same. He used to run through here all the time. They could walk right through right from the house, right across the top and through and out and do a circuit around. When the fence was around I think that was the last time I ever came through this way.

S: Do you think a lot of people kind of share that? Not necessarily negative but detached from the sanctuary? I mean you live right next door to it.

4: One of my biggest complaints is the price.

2: Detached is a good word. All our neighbors apart for a couple of them are foundation members. Detached from them is a kind of a good description for it. We love telling people we live beside the sanctuary fence, you know right beside the sanctuary. We advertise it that way. We don't pay attention to Zealandia, apart from funding issues and so on.

E: Can you think of any way Zealandia could improve the decreased amount of detachment that the residents are having with it?

4: Well, that free day they had, you couldn't get out of Karori because everyone came. And so, if there's more of them, you get people to go in for free, who might return and might pay to go in and have a look around.

1: Yes, it would be interesting to see. That's a good idea.

3: How much is it to go in?

4: The last time I looked was a couple years back.

1: Well yes the price went up quite a lot, a few months ago, maybe a year ago, simply because they were short on money so they raised the prices up. One of the benefits of being a member is that you don't pay, you get in for free. Membership helps.

R: Is there any way, do you think that Zealandia could increase community involvement even if you couldn't or didn't want to go in the sanctuary at all?

1: I supposed one of the problems is that there is a limited budget and they can't spend too much on advertising. E-mails and that sort of thing can be sent around. Quite often I think some of the things we hear in the newspaper about Zealandia are quite negative. We hear about the lack of money or sponsors not coming to the party or quarrels with the WCC about the money they are willing to cough up so some of the publicity is unfortunately negative.

4: We have, my work, we get a paid volunteer day every year so everyone gets out of work and I'm sure other companies do it as well. So you could get a volunteer group going there. Down at the zoo, I went in and did some stuff there, and of course took the family in to show them what I've done, so yeah you could get people involved by getting businesses to actually send their workers along for free.

3: Most people probably wouldn't be aware of what there is to see when you come in. You know there's birds. How often these do you need to see these birds? You might go once, but

you won't keep going back every weekend, so it's quite an uphill task to be financially sustaining by attracting visitors. It's a small place.

1: Yeah sure, and it often struck me that birds, very often in the middle of the day are not very visible there. They are morning and afternoon creatures and they are flying around and doing what birds do. But if you go in the middle of the day often they are having a nap or something.

3: And New Zealand birds aren't quite as interesting to see as the ones you'd see in South America or places like that.

1: I've certainly thought, because we live quite close, not right on the fence like you, but we do see, now a days, some species that I haven't seen before and we've lived there for about thirty years. But we've noticed bell birds are occasionally in our garden and hihi. I got quite excited when I saw hihi, about just a few months ago for the very first time. And of course, as we mentioned, there are lots of tui but they have diminished somewhat in number.

3: Were tui once endangered?

1: I don't believe they've been endangered.

2: They took off when the sanctuary went in.

3: When I was a kid it was a big thing to see a tui, and now I'm used to seeing them all the time.

1: Yeah all the time.

2: I don't know what there is to see in here and I've lived here since it was built. I don't know if I came in here what would see.

1: They've done some improvement. Like I said my granddaughter likes, they put in a separate area that has little posts around and you press a button and get the bird song and there's some kind of transmitter up in the trees so you press this. And there're pictures of the birds on the post. And then you hear the birds up in the trees and she loves it. And the tuatara too, little tuatara, but you've got to know what you're looking for.

2: All our visitors say it's great. We've never asked them what they actually saw. If you want a bush walk, we can go anywhere up the hills up here and do a bush walk for free, so that might be useful to do sometime.

E: Is the fact that you're not sure what to see in Zealandia, have you been to their website or are they just not?

2: We've gone on the website, not recently. Visitors will see what the hours and cost are.

E: So it's more that, they're not marketing it, or is it that they're not saying what you can see?

2: I don't know really. The sanctuary does quite a good job at getting, well it was one day, not for a while, promotional type photos in the paper. There is always something to read in the paper something being released, something happening. Haven't seen anything for a while, but my guess is that whatever is in the sanctuary is something I can see out here, which is probably what

my thinking is. Tell me there's something different and I might come, or if I come at night can I see the kiwi? I can hear them, but can I see them? Just informing me what's there.

3: Are there kiwi there, are they?

2: I can hear kiwi calls, yeah. We hear the kiwi and weta at night.

S: As far as the website goes, there's actually information on there on feeding, I think we mentioned that a little while ago. But, is that something that you found accessible or would you think to look there for information on feeding?

2: I probably would now, but I still think that if you were a little more proactive and E-mailed the surrounding residents that would be really interesting, I'm sure.

S: So you think that it's more the sanctuary should reach out to people instead just of providing it and expecting people to get it?

2: I do.

1: One thing that I quite like about it is that if you don't get to see much birds, that there are notice boards that give you a lot of information about the birds that are here, and some of the little fish in the water that you can't see. But the information is good. That's one reason to come here, you get information on native species.

R: And this is a little off track, but I don't know if you guys noticed but the kakas have bands on them as well. Do you guys know about, just giving out information, did you guys know that there was a place that you could actually report the banding if you see them on your property? No idea?

2: I think I was aware of it but I didn't know how to go about it. I knew you guys were wanting to record it, but it's a shame that I didn't know how to go about it. I do recognize the regular ones.

1: Lots of information came out some months ago about telling about what the banding means, but I don't have much notice to them unfortunately.

3: There are a series of bands, there's more than one?

1: Yes, there's one on one leg and two on the other. I can't remember which is which. The wide band is on the right leg.

2: And two on the left.

R: If you had more information about where to put that information, would you be willing to do it?

4: Absolutely.

1: That would be interesting.

2: It'd be really interesting.

4: If you get the kids involved doing it, I'd be out there supporting them, making the parents do it.

2: Especially if you gave some feedback such as this bird is such and such, that would be really interesting. That's one of the oldest birds here or that's a new one.

1: Alfie is the oldest bird here.

4: If you could identify the bird and then go search for it and find out its age, its name, everything, that would be quite interesting.

1: Personal information.

3: What, do you identify the color of the band? Or you couldn't get close enough to read things written on it, could you?

1: I don't think there's anything written on them because there are colors, quite distinctive colors.

O: They are identified by their colors

E: I've been thinking about it and I don't think there are any numbers on them at all.

O: Yeah, I'm not sure exactly what the colors mean, but I believe it's the first color indicated the year of fledging, so each year cohort is a different color, from a certain year. So the yellow cohort is from a certain year and the violet cohort is from a different year. I'm not sure the exact specifics but each band does have a meaning.

1: I suppose one would tell the sex, wouldn't it?

R: No

O: I think they keep a record of each bird and say L O V is lime orange violet, so they would have a record of that bird and where they've been reported and the gender, female for that one. So I think that's all in their records. Do you think that would be something that would be interesting for residents to see, a database with the birds?

2/4: Yeah, definitely.

R: I think we've heard that from a couple other people.

S: And you think the best means, a lot what they're interested in with outreach is the medium by which people communicate, the best way to get in contact with people. I guess E-mails and flyers seem to be the most receptive way.

R: We know that Highbury has a group but does Karori have any E-mail groups at all?

4: There would be different groups, like there's the arts and crafts group, they probably have one. We have one for table tennis and the churches. There will be lots of different groups, it's all about finding them?

R: Do you think people would be willing to put stuff, here is some information, would people be interested to use the E-mail groups like that? Or would they be more hesitant?

4: I know that we get through the mothers groups, my wife does, she'll get information about things that are happening, even stuff that isn't in Wellington. All you need is one person to start sharing stuff and it will keep going. Has the sanctuary ever been into the schools to do education things?

E: I'm not sure. I think they do have things for the children to do. I believe they have tours, I think I saw it on their website.

O: Yeah, I do remember seeing something on their website about education. I'm not sure if it's a weeklong thing or a day where it's specifically geared towards children, but I don't know if they go into schools. That might be a good way to reach out.

4: Get them young and you've got them for life. It's nice if you start with the kids and as the kids grow up you've got them as adults and of course, it keeps the flow. And of course, I know my daughter, she'll drag me to things I don't want to go to.

R: If we did more of an adult educational program too, would people be willing to go to that do you think? If they just had either an information session or something like that?

1: I think there quite a lot of that done already, educational things. They have weta days and tuatara days, it's a matter of just people noticing it. I think the publicity is reasonably good for that kind of thing, it's a matter of people taking notice and going to the educational sessions.

4: I know with myself, they open up the British embassy every year and it took me 5 years of going "I must remember to go to that" before I actually remembered on the day. You always pencil it in and a week after it happens, go, oh I missed that.

S: So you think it would be better to outreach by the E-mails or pamphlets or something instead of trying to get people to come?

4: Of course, yeah. And Facebook and that, once someone's friended the sanctuary on Facebook, if it's constantly updated daily there will be something up there, then that's a good way.

O: I think we've covered the all the topics we hoped to. We have some refreshments so if anyone wants tea or coffee, you can just stay around and chat if there is anything else that you would like to bring to our attention, related or unrelated.

### **Focus Group 3 – February 13, 2013**

O: So we just want to have a casual discussion about interactions that you've had with the kaka, your feelings towards them and just experiences that you've had regarding the birds.

2: Sometimes I walk from Birdwood St. steps to Campbell St. and a couple times its come really close. He has hopped onto a branch quite close and I've stopped and talked to him and he's kind of stayed on that branch but he's quite inquisitive that's quite cool I like that.

1: Very curious aren't they? I live directly in line to the sanctuary. We're probably one of the first things they hit when they fly outside of the sanctuary and we have had a few experiences with them. We had some friends building a shed for us, we've got cage birds, we've got canaries and cockatiels. [Name] was standing on the grass lawn talking to me and he got dive-bombed by a kaka twice. Obviously it didn't want him there, I don't really know why because we've never had any trouble before but they congregate and talk to our cockatiel and he thinks it's wonderful, they just love it. We get them often in the tree at night when they going by and I whistle and they whistle back at me. I'm sure one of them talks. I think one of them says pretty boy because I called it a pretty boy and I heard it back on several occasions. I mean being a parrot they'll talk anyway. We got a camellia tree and they got drunk on the nectar one day on the camellia. And I ran into one of the DOC rangers down here and he said, "Well how close are you?" and I said "Ah they're just out my window." and he said, "Well, can you do something for me?" and I said, "What's that?" and he said "Lean out the window and read the numbers on their leg bands." And I said, "Are you mad? There's more of them than me and I'm not going there." And he said, "Yes, they're pretty vicious, the claws will do you a bit of harm." and I said, "Well that's the answer then. No, no, no." but I've had lots of meetings with him. And when I've been out walking the dog down the steps coming down towards the tunnel and there was one of them guarding something in the trees and I wouldn't be surprised if it was a nest and it wasn't very happy with the dog or I. So we went backed up again and left it alone it was really agitated. But apart from that they've been very nice and friendly. They sit up in the wires up above and just watch.

3: I'm a little bit further away over on [street] which is about three or four streets away. I think there could be a nest in the big tree, not on my property but the one behind. Because they come from there but I see them all on the fence, walk against the fence and there are a couple on the tree outside and always screeching over, so that's in the flying line.

4: Yes, well we'd be a bit similar as we are on [street], which is again, pretty close to the sanctuary. And we are on that pathway that goes through. I've certainly seen fourteen of them in the cofly up on Messine Rd. all feeding at the same time. Because I work and volunteer in Zealandia, which involves feeding the kaka. At one stage we were putting almonds at feeding time to try and encourage them. Well, we're not supposed to hand feed them, but in fact I've had kaka that are so anxious to get the almonds, that you're standing there you know, and they take the almond out of your hand before you got the chance to put them in the. I've also been, because I walk in there fairly frequently, walking along Route Valley View Track and Alfie, it would have been, has landed on my head. He preened the hair and he'll stay, you know, I got tired of waiting for him to move on. I think he's probably the one most likely to do that, he was one of the originals that was raised in captivity. So and I do know that he's done that before, he's certainly done tat to beards. We once had a summer visitor who had sunglasses on and he flew off with the sunglasses. Um, I have them in our garden, not enormously frequently but certainly landing in a tree and having a look around. We've got apples in the tree and certainly



see them quite a lot [indistinguishable] up in the tree and as see them feeding on the ground. I've seen them drive off the falcon, three of them together. Driving off the falcon

1: We had a falcon in our sarintara tree and I thought it was a kaka but it wasn't.

4: They're gorgeous aren't they?

1: Oh, they're beautiful.

4: I have never found them aggressive. But you can see them chasing a falcon.

3: They're more aggressive, I think, on Kapiti, where they have been longer.

4: Yeah that's right, because you can't eat your lunch there, can you? Without them landing.

3: No, no. I was there with a friend who was having her lunch and the kaka was there on her shoulder. She couldn't eat her lunch because the kaka wanted it.

[Laughter]

5-Well that has happened to us down at the bottom, down at the landing area. Down at where you get that talk and they hop around, land on you. Further up I've only heard them not seen them. Around here, they fly over towards a house on our street where they get almonds and water. They used to go, well they're a bit quieter at night now, but flocks go over about 6 something any time it's been quiet and at 7 at night. And once a year they have a big party and they just swoop around the water and they just hang around and land on the chimney and squawk and carry on for ages. But it's only about once a year. The first time I knew they were around because I had just moved in I hear this noise outside and thought it was some kids and some you know electronic music. And it's going on and on, and I thought, "Well that's strange." And I went outside to have a look and it's birds. I've fed them almonds, not with the skin on, and they took that out of my hands and they went to and they didn't touch my fingers. I don't think they're vicious at all. I wouldn't be worried actually now because I've done it and I'm the biggest scaredy cat around. I don't think they are vicious.

3: How long do we think we've seen them around here? Has it been 4 or 5 years? It's not been long has it?

4: Well they were released here in 2002, but there were only 14 of them. We banded over 400 chicks total.

2: Really? Cool.

4: Yes, they are really doing very well.

2: I see flocks fly over early in the morning, and then back again late at night. And also I can hear them out at night when it's dark sometimes early in the morning.

1: Sometimes you can hear them through the night.

3: Where do they go to when they are napping?

5: I don't know where they go.

1: Perhaps to the Botanical Gardens. Over that way, I don't know.

4: One of the originals flew to Mount Blue. Yeah, but came back again, with his girlfriend.

[Laughter]

2: Like it up there.

4: Well you know how it is. No place like home, but when you get back it's changed.

1: I know if I put apples out for the birds, you know, the little birds, black birds and things, I know when they come into the garden the nonnative birds all disappear, they melt into the bush and disappear.

4: Well except tuis will take them on.

1: Never seen one. I'm sure they would take one on, they're cheeky. The woodpeckers just move aside and watch, but they're too lazy. But the cat disappears under a fern. The dog goes on the porch and just looks. Then he gets bold and goes out and goes, "Woof!" Nothing's ever happened yet but we'll see.

5: Have dogs ever attacked kaka?

1: I don't think they would!

4: They will, and so will cats. Kaka are ground feeders as well, so they're at risk.

3: But usually dogs are on their lead if they're out.

1: I've never seen a kaka on the ground on our place because we'll feed fruit to the little birds but it's on a table so they'll land on that but I've never seen one on the ground.

4: Well karaka berries you see fall right on the ground.

1: They would. On the walking track, there are kaka everywhere.

O: One of the concerns now as well as being ground feeders, is that if they are nesting outside of the sanctuary, they tend to nest low to the ground as well. And there's a period of time once the chicks fledge where they don't fly and will be on the ground for a week or two before they can fly, so they are very vulnerable to predators at that time. So that's one of the concerns that's

been raised as they're expanding beyond the fence. Where Zealandia is their safe breeding area, but as they go out they are not protected from predators.

4: Of course in cavity nests that's true. So yeah and I mean they're in the nests for so long that they are really vulnerable to weasel and rats. Once they're down in that cavity they can't get out.

1: How long are they in their nest for?

4: Two months.

1: That's a long time.

4: Three weeks incubation of the eggs and then two months in the nest and she's the only one that feeds them.

1: How about the man? Does he bale out?

4: No, no, no. He keeps working.

1: Oh, he's bringing her the food.

4: He feeds her and she feeds the chicks and he'll feed the chicks as well, but only once they are out of the nest. In fact she could be laying her next clutch of eggs and he's feeding her and the first ones. He's hard working.

1: Such a good lad. How many eggs at a time?

4: Usually four, sometimes five and the fifth one will be the weakest. This is Alfie [shows binder of kaka information].

1: He's quite cheeky isn't he? Oh isn't he cheeky!

4: Here are the chicks, and as they age, there's them at 2 months!

1: Cute aren't they? Isn't that sweet.

4: Feel free, feel free to read the book.

1: There's Alfie.

4: And did you know that the Maori, that they would tame one and then tether it to a pole to lure the others. Remember, they only had birds for food!

S: So it seems that everyone is really interested in information and pictures about them. Do you guys feel like you have access to information about things like their diet or habits or nesting? We are trying to assess how Zealandia is interacting with the community also and if you feel

informed or would like to get more information and the best way to reach out and get the information flow.

5: If there was a leaflet about the kaka of what you are saying here would be interesting to have at the library or here and also saying what food they eat.

1: There's a little booklet that I've picked up and birds and food for birds.

5: But that's only for tuis isn't it? I think it's just too much cooking for a bird. They never really land in our yard so I don't know what they like.

1: We get the hihi in our garden and the bellbirds

S: So do you feel like if you were to receive information in the mail or a pamphlet, or would you go to a website to try to seek out information?

3: I guess I could go on the website if I wanted that.

1: I think there's plenty of information available, if you want it.

5: If they wanted to do a leaflet they should only do a small number and only hand it out locally so it keeps the costs down. But not everyone wants them, so don't print out a whole lot of them.

1: How endangered is the kaka?

4: Well it's on the endangered list. But they do appear in the wild mainly up north in pretty isolated forests. There are a few more South Island ones than North Island ones. But there's a huge gene problem, there's plenty of males, but because the females are the ones that are in the nest they can't escape.

S: One thing you mentioned was that more up north they are in the protected forests and here we've noticed that, because this is an urban environment and the sanctuary isn't designed to keep birds in, they're naturally going to keep expanding out. How likely do you think residents are to change their own habits or feeding or any types of plants in their garden or anything like that?

3: I think it's really, I think you've hit the nail on the head. I mean it's education of all residents and I don't know if you can gauge what people think about them. I mean educated people around here sort of like the birds and look after them. but you always hear those stories about the people who get angry because the bark's stripped off their trees and make noises. I don't know, but it's education really, isn't it and getting people environmentally aware all around the neighborhood.

5: I don't think there is a reason to need to know, is there?

1: If you are interested in birds it'll just come naturally and if you don't than they'll just see them as a pest.

5: Is there anything that you think we need to do to our property?

S: Well one thing that we've been kind of talking about is to plant native trees. That kind of goes along with Zealandia's mission is to get the forest back to what it had been. We don't know if people are uninformed or if they would be interested in getting more information about trees that are native and that certain birds do like or things like that.

3: I mean one thing that people don't understand are the pests, I mean the plant pests, that are actually destroying the bush. I mean people are like, "I love that Mexican daisy," or that plant is so cute, and they don't realize that they should actually get rid as much of the introduced pests as possible to let the native bush flourish. Really, there's a lot of ignorance about that. And if you go along the walking tracks along here they are absolutely covered in Wandering June, ghastly things! Everything that is actually choking our native bush.

4: And I think another thing is actually keeping control of animal pests under control too. For example we would regularly set up rat bait and we don't have a cat or a dog. That we are more interested in our native bird.

1: Our cat has caught a lot of rats.

4: Have you used rat poison? That works well.

1: We use it too.

4: I mean the argument that we need cats to control the rats is fallacious, isn't it? Because we do have other means of controlling rats.

O: So you are a cat owner.

1: Cat and dog.

O: With the cats, they do pose a threat but we realize that it is a residential environment. From our survey results, about 40% of the residents we surveyed do own a cat or dog. How receptive do you think people would be to potentially keep their cats indoors, just for the few weeks that the kaka are fledging?

1: I don't know you could always put it up to people. I know that ours stays in every night. Never out at night. Never caught a native bird.

5: Not all kaka are fledging at the same time. How are you going to make that work?

S: There would obviously be some that draw the short straw and are fledging outside of that, but I think it's typically in January that most of the birds are fledging so if we could isolate a few weeks during that month, then we could save more of the chicks that are fledging outside of the sanctuary than you would if people didn't put their cat in at all.

5: I can see a problem of making it January, unfortunately. Most people go away on holiday at least during that time and they might get other people to feed their animals and they're certainly not going to want to keep the cats locked up. I think you could suggest, but I don't think you can enforce.

1: Sometimes when it's warm they start reproducing earlier than January. So I don't know.

3: And it's not just night time, is it?

1: And you see it's not just cats, it's other creatures, stoats and weasels and young kids who think they're very smart, destroying little chicks. Sometimes kids aren't treasures, sometimes they're very naughty.

3: Well I also think, going back to how we can change things, I think the places like the sanctuary and all the education programs going through schools are doing a great job in making the next generation environmentally aware. I mean the kids who come through here are brilliant. They talk. They know. They care. I think that that's so valuable.

4: But the parents have to reinforce that. We actually lost a tuatara because kids were throwing stones at it and the mother was there.

1: Oh no.

3: That would certainly be rare now, wouldn't it?

1: That's ghastly.

4: But it just shows that the parents in fact have to hold those values as well.

1: Absolutely. And also make people aware that if they find a native bird, or any bird, on the side of the road struggling, that they can take it to a vet and it will be treated free of charge. They don't need to pay, it just gets treated, it's part of what they do. You don't need to pay to get a bird treated. That would be a good factor for them. And then they could be a bit more aware. They don't need to pay millions of dollars or hundreds of dollars or any dollars.

4: And that's a good point because they've found kaka in the gutter with lead poisoning and that bird got treated quite easily and released.

1: But people don't realize that if they find a bird and take it to the vet, that they don't have to pay a cent. Well our cat did catch a bird once.

4: There, there we go!

1: Well alright. Let's be honest. How many people have cats that caught birds? So anyway, I put it in a cage and took it straight to the vet. They treated it and they rang me and they said they let it go. You can only do your best.

3: Was it a native or introduced bird?

1: No, it was an introduced bird.

5: Warbler?

1: No, no. A young black bird.

3: Well we don't mind when the falcon picks off the black birds. It's when it when it picks off kakariki that we don't like.

1: Well they have to hunt and live too. If they're in the wild they have to hunt.

2: Well that's nature.

1: I know. I suppose it's native for the cat too, but you know if they get fed than they don't have to catch birds.

4: Yeah, another way of looking at it is that often those birds that they catch were sick.

1: They weren't going to make it anyway and that's why they're on the ground to be caught.

4: Except for when they are fledging of course.

3: But I think around this area too there are fewer introduced birds.

5: It's rare to see a sparrow in this area.

1: We do.

5: How long has it been since you've seen the magpie?

1: Not for years. I used to hear them a bunch in the distance, but haven't heard them for years now.

3: They used to dive-bomb the kids for their school lunches. They were dreadful, but I think it was the tuis that drove them away.

1: I hear the morepork almost every night.

4: One of them went into a kaka nestbox expecting kaka eggs once.

1: They sound gorgeous at night.

3: Oh they're lovely.

1: We must have a resident one, it moves around the garden. And you here it and the cat is just sitting at the window looking. But I've never seen one.

4: We got one, we have a lot of native trees, and it came past our place during the day. And it was because of the black birds. It got tired of them shrieking and shrieking.

1: Well I've had enough of their shrieking. The worst is the shriek of the starlings. I got out the other day and hosed one of them. It wouldn't shut up! It was going on for hours! Blasted starlings! We had the unfortunate experience of getting an exterminator to get rid of a nest of starlings under the tin of the roof. The cat was just sitting there going, "This is wonderful entertainment that you've provided me with." And then he was like, "How do I get to them?" He sat all night just looking.

O: You mentioned a while ago that the kaka can be very noisy as well. Does that ever pose a problem? Has it ever become a nuisance?

1: Lovely! It makes me smile.

5: The questionnaire seemed to be geared towards kaka being a problem. Is that because people have been complaining?

O: There have been complaints.

5: And what have the complaints been about?

O: Noise, property damage, tree damage. Something that they do is they will chew on the nails of the roof and tear the nails out of the roof which can actually be just as bad for the kaka as it can be for the residents because a lot of the houses do have the lead headed nails

R: I think we have had twenty percent of people say there has been damage of some sort mostly there seems to be half tree damage and half property damage. Most complaints are that the kaka rip the bark off of the trees.

O: All in all people do report the damage to both their properties and their gardens they still say that enjoy having the kaka on their properties which is a very interesting relationship. Only seven reported that they don't like the kaka on their property. There was still very positive feeling over all.

1: Who was the survey group?

O: Karori, parts of Kelburn, and Highbury next to the fence.

4: I think that the kaka that cause the most damage are the young males. The females are right nesting from the nest season. But the males have to be free. Well they'll get bored, teenagers you know. They're vandals! That's the trouble. You got these couples busy raising families and you got these gangs of teenage sprits, hoodlums.

3: Juvenile delinquents!



1: They are being creative, get them to work.

3: Cheeky devils aren't they.

4: They do the trees cause they want the sap and you can only get to the sap by pulling off the bark.

1: They're looking for bugs. One of our neighbors said that there were some trees that they had a go at. but I think she might have meant the trees in her neighbors place and they were nearly dead anyway.

3: Well they went at a cabbage tree, it wasn't plush, and I thought well it's probably on its way out.

4: Well the Botanic Garden were mad at them. Some of their very precious trees.

1: Well I can understand that. They'll have to sit and guard them.

3: Well they should really only be planting natives, should they?

1: It's some of their beautiful lilies and things that8 aren't natives, are they? But they're beautiful. Got to cater for all! Well I can understand the juveniles being destructive.

4: Well they're bored! They're intelligent and brilliant problem solvers.

1: Well set them some tasks to do.

4: Well we're trying to band the kakariki because they're very good at finding their own nests. But we have this cage up there with water so that the kakariki, so they can catch them. Well I've seen the young kaka sitting up there trying to undo the knot, to work it out of the cage, you know.

1: Very intelligent. Problem solvers. You can see them working things out.

2: They've done intelligent tests on kaka.

4: Yes they have.

1: See they're not dumb, that's the thing. I've got a cockatiel and he's of the same variety, sort of, but he's intelligent. He knows exactly what's going on. They're just sort of funny aren't they. They've got it all worked out. You just have to give them some mind games. They're very sharp creatures.

4: Well you know the feeding trays for the kaka, you have to be 400 grams to open up that feeding tray. Well tuis know that two tuis equal 400 grams, but it requires cooperation.

1: Well you even give a blackbird something and they'll work it out.

4: Sometimes they wait for the kaka, so that they can reach in while the traps open. And the Mallards are all at the bottom waiting for food to be dropped down.

1: They all depend on each other. But they do in the wild anyway.

S: One thing that we've found is that they put food out for little birds and the kaka would end up getting it anyway, but if they were feeding the kakas almonds or something, the little birds would feed off the crumbs. So it kind of relates.

1: They're so strange, but it all works.

S: Do you think people would be interested in kaka behavior, because you all seem to be accepting of it but with some of the property damage or tree damage, do you think if people knew the reasons why.

1: I don't know.

5: No. I don't think it would help knowing why those trees are damaged. I don't think it would necessarily help them.

1: It might be helpful to know why if you were to feed them, so that they would be feeding on something and not an old tree.

4: They actually prefer natural food.

1: Of course they do, that's what they get in the wild anyways.

2: Is it native trees that people have complained about?

O: It's been some of both.

3: They're doing our job for us if their destroying the nonnative trees, aren't they?

O: One of the other things is with the bands is that there is on the Zealandia website a place to report which birds they've seen. Is that something you were aware of?

Couple people: No.

1: I just have that guy that I ring up if I see one.

2: Do you need to know the numbers on the bands?

O: No. You just record the colors of the bands and it helps the sanctuary track where they've been.

2: Because I don't know if you could get that close to them.

1: Well that was my problem when I was leaning out the window, I was there but I wasn't going to figure out the numbers.

2: So the colors, you don't need the numbers?

O: Just the colors. Is that something that you would want to..?

5: Do they want them?

1: I didn't realize they were tracking them in that respect. I mean you see them flying around.

4: We are trying to figure out, if they move out of the sanctuary, where do they move to? Because as soon as they leave the sanctuary they're at risk, aren't they?

1: Well yes, of course they are.

5: Well they just go out for the day going back at night, which where we think they are.

4: Well there's only 150 in the valley and out of the amount that have fledged, we have lost a lot of birds.

3: But lost not as they're dead, but lost as they're somewhere else.

4: We have got some foreigners coming in. We have got some from Kapiti and from Mount Blue. We know because they're not banded.

O: What we've heard is that when the sanctuary loses track of them they have shown up other places but just haven't come back to the sanctuary and have just completely gone elsewhere. But that's one reason the banding is helpful, so they can see, well even though we haven't seen this particular bird, it's still out there and this is where they are and this and where they've been. It's very interesting to track where they are and where they've been.

5: At what age are they banded?

4: They're banded as chicks, if we have access.

2: Once they're walking on the ground outside, that's when they're banded.

4: If we can get them. We do know when they come to the feeders and they're not banded.

3: How do you know that you've only got 150 in the valley?

4: Well we got kaka counters at the feeders monitoring all the birds. Do you know how many there are in the valley?

O: No we don't know.

S: That's something we've actually run into. Some of the volunteers who do the counting want to have access to the databases and information also, they feel like they helped get this information and want to find out more about it.

1: Maybe there should just be a freshen up in the paper or something to remind people about things such as what we're talking about.

4: Do you see the article [name] writes once a week?

5: I think the summaries of these researchers here would be quite nice to read in the paper. One thing is that you can get a bird treated at the vet for free. What's the other one? The reporting thing. And how to stop the birds from damaging the camellias. You should perhaps plant natives.

1: They weren't damaging the camellias, they were just drinking the nectar.

5: Just not damaging the trees.

3: The thing is about this area is that if we just look around we should have heaps and heaps and heaps of native bush around this area. I don't think we should worry about domestic gardens, because we have all this.

1: Plenty to occupy those delinquent teenage birds.

5: The thing about the tree thing is that they do need bigger trees and with newer houses they're cutting all of the bigger trees down and that's everywhere. When I see a tree being taken down in Wellington I think that's another bird problem. As properties get smaller, they don't want to have a big tree next to their house. So I think it's up to the council to plant big trees and put them somewhere that they aren't going to shade somebodies house.

1: That's right, at the end of the street or somewhere it doesn't matter.

3: There are a bunch of trees in the western suburbs, but none in the eastern ones.

2: With the birds going out, they should keep that in mind.

1: I've never seen a kaka in the eastern suburb ever.

O: So that's all that we hoped to cover. Thank you all for participating. We really appreciate it.