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**The Value of Native Birds in New Zealand:
Results of a Waikato Survey**

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Abstract

Several New Zealand studies have placed a value on recreation. Very few have placed a value on native birdlife. In this report, we make a contribution to this deficiency in the literature. In December 2007 and January 2008, we conducted a phone survey in the Waikato Region of New Zealand. In total, 207 people took part in answering our 13 question survey on native birds. While this information has given us a great deal of insight into the values Waikato residents place on birdlife in the area, some of the most important things we have learned are as follows: 97% of respondents enjoy having birds in their area. The things they enjoy include listening to them, watching them, and that they are part of nature. The tui seems to be the most important bird respondents either see currently, or if they do not see it now, they would like to see it in the future. If there were a greater variety of bird types in their area, respondent well-being would significantly increase.

There are several programs in the Waikato Region that are either directly or indirectly linked to an increase in the native bird populations including Maungatautari Ecological Mainland Island, pest control, and the Hamilton Halo Project. Sadly, only 45% of respondents had heard of even one of these projects. According to this survey, only 23% of our Waikato respondents had heard of the Maungatautari project and only 6% had heard of the Halo project. When asked whether respondents would pay an extra amount in their rates each year to support a native bird project within the Waikato Region, most were willing. Towards the end of the survey, we gave respondents a general overview of the Maungatautari project and 100% of respondents believed it was important. We believe these results can be applied to future policy making decisions.

Keywords

contingent valuation
native birdlife
conservation programmes

JEL Classification

Q2, Q51, Q57

Acknowledgements

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Introduction

The aim of this study was to gain insight about the values Waikato residents place on birds in their region. To achieve this goal, a phone survey was created and administered during the months of December 2007 and January 2008. The survey comprised of thirteen questions: the first eight questions referred directly to birdlife in the Waikato Region, while the final five were demographically related.

Prior to administering the survey, seven Waikato residents were asked to participate in a pre-test to refine the survey questions. We discovered that the questions themselves were all found to be clear and easily understood; only slight changes to question wording and the style of delivery were made.

To construct an appropriate sample for the survey, potential participants phone numbers were drawn at random from the White Pages telephone directory for the Waikato Region. Calls were then placed between 6:45 pm and 8:45 pm Monday to Friday and between 10:00 am and 4:00 pm Saturday and Sunday. Participants who answered the phone were offered the opportunity to participate in the study, which would take approximately five to ten minutes to complete (Table 1).

In total, 486 Waikato residents were called. Of these, 309, or 63.6%, answered their phones and were offered the opportunity to participate in the study. A total of 200 participants, or 64.7%, agreed to participate in the survey. 199 participants who agreed to take part completed the survey and one person presented himself as being hostile and only answered some of the questions, even though he technically completed the survey.

Table 1. Waikato Bird Valuation Response Rates

| | No. of Residents | Percent of Previous Total |
|---------------------------------|------------------|---------------------------|
| Number of phone numbers dialled | 486 | |
| People who answered phone call | 309 | 63.6% |
| Agreed to participate | 200 | 64.7% |
| Completed the survey | 200 | 100.0% |

The 13 Waikato bird survey questions

1. Do you ever see or hear any birds around your home?
2. Would you say that the area that you live in is a rural area or an urban area?
3. How long have you lived in your current home?
4. How long have you lived in the Waikato Region?
- 5a. Do you enjoy having birds in your area?
If no, then What is it that you do not like about birds? **Go to Question 6**
If yes, then What is it that you like about birds. **If no, go to Question 6.**
- 5b. Are there any specific types of birds that you enjoy having in your area?
if yes, What are they?
- 5c. Are there any birds that are not in your area now that you would like to see?
If yes, What are they?
- 5d. Would it make you happier to see more birds in your area?
- 5da. **If yes** Is it more important to see the number of birds in your area increase or would you rather see more different kinds of birds, or both?
- 5e. If we use a scale of zero to ten where zero means you are unhappy and ten is the happiest you could be, how happy would you be if there were more birds in your area?
- 5f. Using that same zero to ten scale, how happy would you say you are now?
- 5g. Do you do anything to encourage more birds to come to your property?
If yes, then what do you do to encourage them?
6. Have you heard of programs in the Waikato Region that want to increase the number of birds, or bring back birds that are no longer here, to the area?
If yes, then which ones have you heard of?

- 7a. Maungatautari is a large area of bush near Cambridge. They have put a fence around the bush and have gotten rid of all the pests, such as goats, mice, and possums. Since the pests are gone, they are now able to bring birds back to the bush that has not been there for many years. They hope these new bird populations will increase. Do you think that having Maungatautari in the Waikato Region is a good idea?¹
- 7b. **If yes**, then Are there any types of birds that you think would be important for Maungatautari to have?
- 7c. **If yes** then, which ones would be good?
- 8a. If part of your annual rates were dedicated to support a programme to increase native bird populations or reintroduce native birds into the Waikato Region, would you be willing to pay an additional \$ _(refer to number below to put here)_ in your annual rates? Please note that all funding would go towards this programme and not administrative fees. (((Note: 30 people will be asked \$1; the next 30 people will be asked \$10, then \$30, \$50, \$100, and \$200. The last 20 people will be asked \$500.))
- 8b. **If no**, Is there an amount you would be willing to pay?
If yes, then what would that amount be?
9. Are you Male or Female?
10. Which age group do you belong to? (Under 30, 30-44, 45-69, over 60)
11. Which ethnic group do you feel you identify closest to?
12. Which bracket did your household income fall into last year before tax?
(Under \$30000, \$30 to \$59,999, \$60 to \$89,999, \$90 to \$119,999, or over \$120000)
13. Do you have any other comments you think might be helpful to my project?

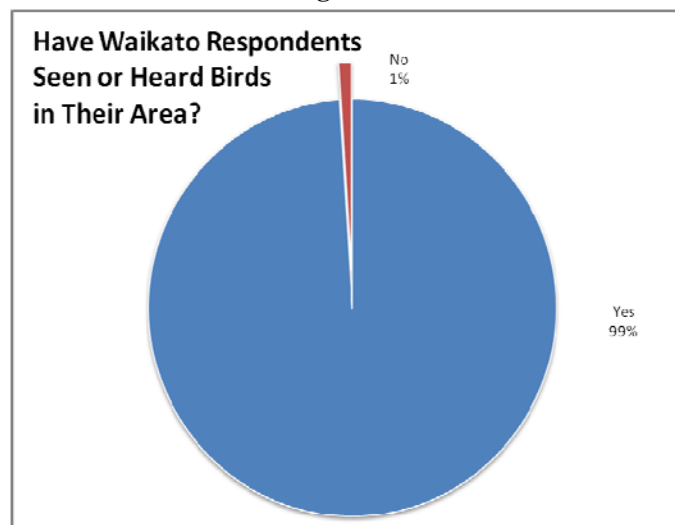
¹ While it is true that most of the pests within the fenced area of Maungatautari Ecological Mainland Island have been eradicated, there are a few survivors left. However, we did not feel that was significant for this question.

Survey Results

Bird Related Question Section

The results from all survey respondents (7 pre-test participants and 200 finalized survey participants), provides a great deal of insight into the values of native birds in the Waikato Region. We began the survey with a simple question asking participants if they saw or heard birds around their home. We had expected 100% of respondents to say yes to this question, and our results were not far off. 204 of our respondents, or 99%, said that they saw or heard birds around their home. Only 3 respondents (1%) did not see or hear any birds in their area (Figure 1).

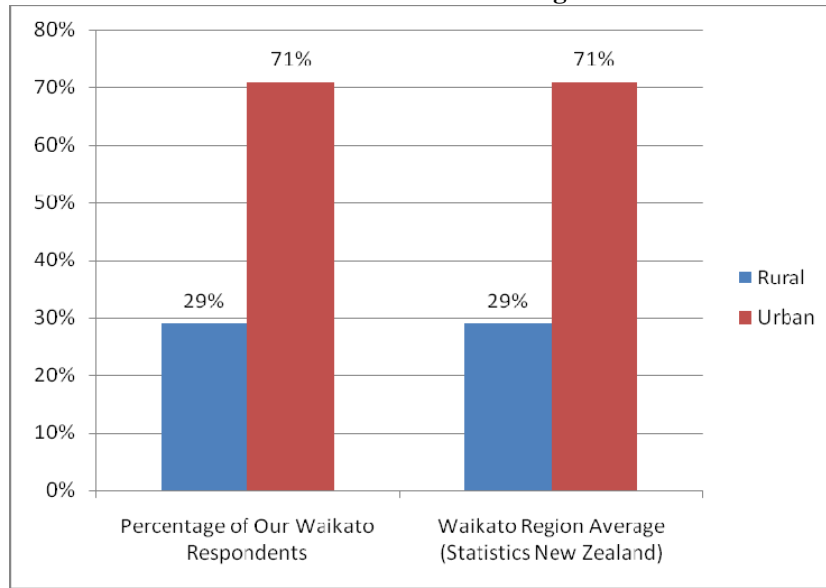
Figure 1.



Question 2 asked respondents whether they lived in a rural or an urban area (Figure 2). During the pre-testing process, respondents felt that they did not need these terms to be explained. Therefore, we did not provide definitions for the terms 'rural' and 'urban' to respondents during the phone interviews.

According to Statistics New Zealand, a main urban area contains a population of 30,000 people or more. In the Waikato Region, the main urban centres are Hamilton, Cambridge, and Te Awamutu. Statistics New Zealand has reported that 70.8% of people in the Waikato District live in an urban area, while 29.2% live in a rural area (Statistics New Zealand, 2006; Statistics New Zealand, 1999). Our survey results match these values almost exactly. Of the people that were contacted, 28.99% lived in a rural area, while the rest (71.01%) lived in an urban area.

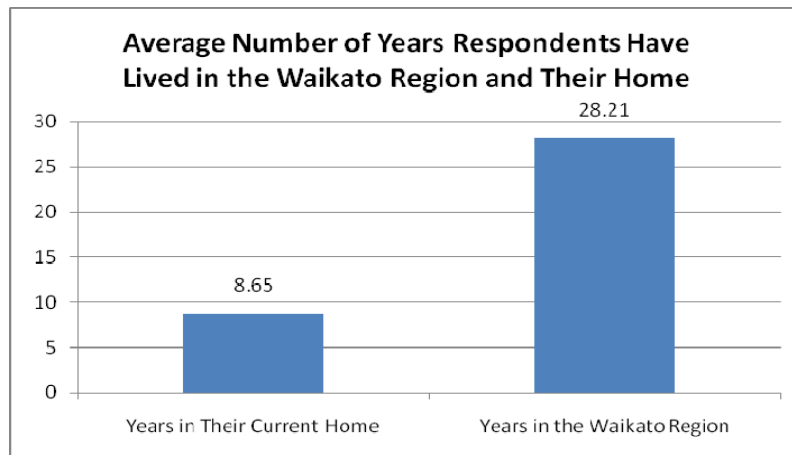
Figure 2. Percentage of rural and urban residents in our sample and in all of the Waikato Region



Sources: Statistics New Zealand

Question 3 asked respondents how long they have lived in their current home, while Question 4 asked respondents how long they had lived in the Waikato Region. On average, people lived in the Waikato Region (28.21 years) longer than at their current home location (8.65 years). This is shown in Figure 3.

Figure 3.



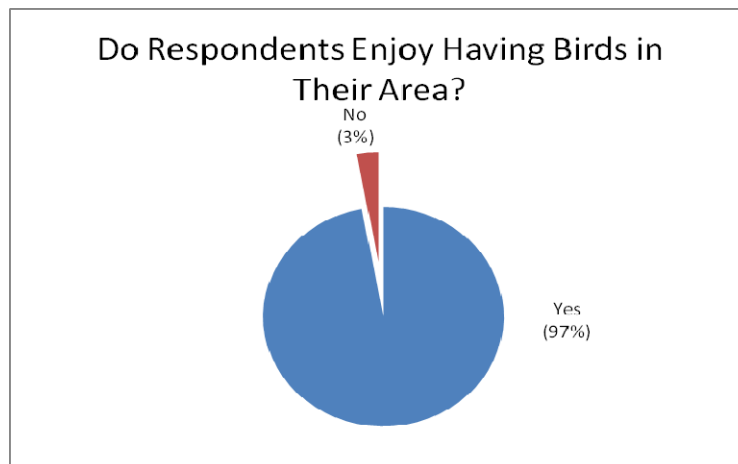
Building upon the results of Question 4, we find that the longest a respondent had lived in the Waikato Region was 73 years, while the longest a respondent had lived in their current home was 38 years (Table 2). Since our sample of respondents has lived in the Waikato Region an average of 28.21 years, we believe that our respondents are very knowledgeable about the Waikato Region and therefore, are ideal candidates to answer our questions due to their familiarity with the area.

Table 2. How Long Respondents have Lived in their Home and in the Waikato Region

| | Average | Median | Mode | Minimum | Maximum | Standard Deviation |
|-------------------------|---------|--------|------|---------|---------|--------------------|
| Years in Home | 8.65 | 7 | 2 | .12 | 38 | 7.04 |
| Years in Waikato Region | 28.21 | 25 | 23 | .5 | 73 | 16.85 |

Question 5 was a multi-part question. The first part asked respondents if they enjoy having birds in their area. If they said yes, then they were asked an open ended question as to what they like about having birds in their area. If they said no, then they were asked an open ended question as to why they did not like having birds in their area. Of our 207 respondents, 201 people, or 97.1%, said that they enjoy having birds in their area; while only 6, or 2.9%, said that they did not (Figure 4). Of the three people that said that they did not see any birds around their home, only one person did not enjoy seeing birds in their area. Perhaps this person did not see any in their area because they do not like them and therefore, may not look for them. However, some respondents who said that they did not see birds in their area, did not seem to interpret the question as it was designed, either by narrowing their definition of birds to only include birds they care about, or interpreting seeing or hearing relatively few birds as seeing or hearing no birds.

Figure 4.



Of the 6 people that did not like having birds in their area: 3 did not give a reason why they did not like birds, 2 said that it was “nothing in particular”, and 1 person said it was because “they exist.”

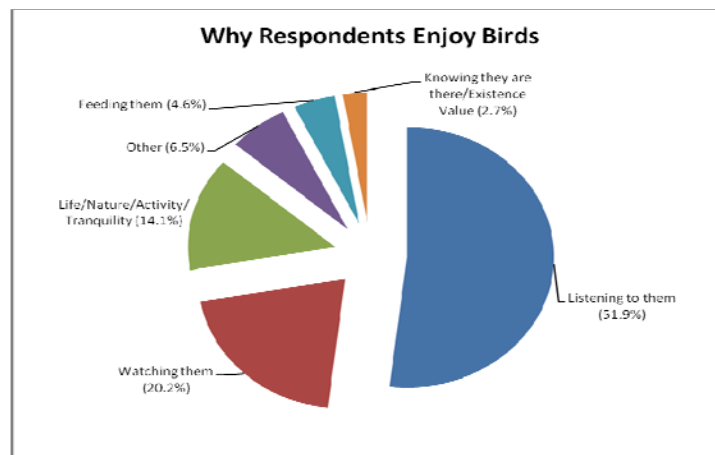
Of the 201 people that did like birds in their area, 197 out of 201 gave at least one reason for liking birds. As this was an open ended question, people were permitted to provide as many reasons as they wished for enjoying birds in their area. The maximum number of reasons that a respondent had given was four; however, a majority of respondents only gave one reason (Table 3).

Table 3. Of the respondents that enjoy having birds in their area, how many reasons did they give for liking birds?

| How Many Reasons Did They Give for Liking Birds | Number of Respondents | Percentage of Respondents |
|---|-----------------------|---------------------------|
| 0 | 4 | 2% |
| 1 | 143 | 71% |
| 2 | 46 | 23% |
| 3 | 6 | 3% |
| 4 | 2 | 1% |
| Total | 201 | 100% |

In total, there were 262 reasons given for enjoying birds in their area. By far, the most important reason was to listen to them and hear their song (51.9%). The second most popular reason was to watch them (20.2%), followed by life/ nature/ activity/ tranquillity (14.1%). It was also encouraging to see that some people had an existence value for birds, in which they said it was just important knowing that they are there (2.7%). The other reasons included: interacting with them/providing company (1.9%), good for kids to interact with them positively (1.1%), having birds around is a sign of a healthy environment (1.1%), nest building (0.8%), artistic reasons such as drawing them (0.4%), natural alarm clocks (0.4%), part of New Zealand heritage (0.4%), and that they were a benefit in moving from Auckland to the Waikato Region (0.4%). These values are summarised in Figure 5.

Figure 5.



The third part of Question 5 was asked to people who said they enjoy birds in their area. These respondents were asked if there were any specific types of birds that they currently enjoy seeing. Of these, 121 of the 201 (60%) respondents said yes and provided names of at least one bird species. On average, people provided names of two types of birds; however, one respondent listed 12 types. The 7 most popular birds people currently enjoy seeing and hearing include the tui, blackbird, sparrow, silvereye/ waxeye, pukeko, fantail, and thrush (Figure 6).

Figure 6.

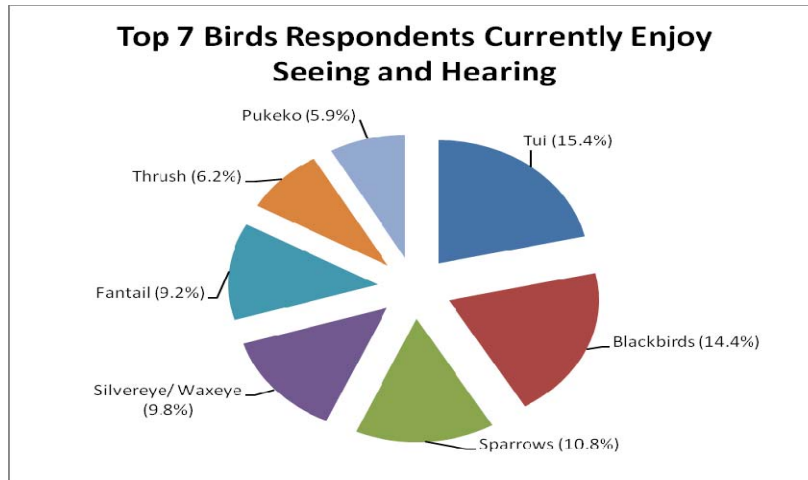


Figure 6 represents the top seven bird types respondents enjoy seeing. However, a full list is presented in Table 4. Many of the birds that people enjoy seeing are native (tui, fantail, morepork, and the kereru), but there were also many introduced species (chicken/chook, starling, and thrush) that people also enjoy.

Table 4. Types of birds respondents currently enjoy seeing and hearing (full list)

| Bird Type | N | Percentage |
|---------------------|----------|-------------|
| Tui | 47 | 15.4% |
| Blackbirds | 44 | 14.4% |
| Sparrows | 33 | 10.8% |
| Silvereye/Waxeye | 30 | 9.8% |
| Fantail | 28 | 9.2% |
| Thrush | 19 | 6.2% |
| Pukeko | 18 | 5.9% |
| Starling | 10 | 3.3% |
| Morepork / Ruru | 9 | 2.9% |
| Finch | 8 | 2.6% |
| Ducks | 7 | 2.3% |
| Pheasant | 6 | 2.0% |
| Heron | 6 | 1.9% |
| Kingfisher | 5 | 1.6% |
| Rosella | 4 | 1.3% |
| Goldfinch | 3 | 1.0% |
| Hawk | 3 | 1.0% |
| Songbirds | 3 | 1.0% |
| Yellowhammer | 3 | 1.0% |
| Cuckoo | 2 | 0.7% |
| Magpie | 2 | 0.7% |
| Natives | 2 | 0.7% |
| Chooks/ Chickens | 1 | 0.3% |
| Colourful Birds | 1 | 0.3% |
| Garden Birds | 1 | 0.3% |
| Godwit | 1 | 0.3% |
| Grey Warbler | 1 | 0.3% |
| Kakariki/Parakeet | 1 | 0.3% |
| Kereru/ Wood Pigeon | 1 | 0.3% |
| Lark | 1 | 0.3% |
| Lorikeet | 1 | 0.3% |
| Seabirds | 1 | 0.3% |
| Seagulls | 1 | 0.3% |
| Small Birds | 1 | 0.3% |
| Spoonbill | 1 | 0.3% |
| <u>Swallow</u> | <u>1</u> | <u>0.3%</u> |
| Total | 306 | 100.0% |

Next, we asked those respondents that enjoy seeing or hearing birds which bird types they would like to see that they currently do not see. 124 respondents (of the 201) named specific bird types they would like to see in their area. Of those, 65.3% named one bird they would really like to see in their area in the future, while 26.6% named two birds. Only a few named 3, 4 or 5 bird types (Table 5).

Table 5. Of the respondents who enjoy having birds in their area, how many different types of birds did they specify that they would like to see in the future in their area.

| How many types of Birds not seen now but would like to see in the Future | Number of Respondents | Percentage of Respondents |
|--|-----------------------|---------------------------|
| 1 | 81 | 65.3% |
| 2 | 33 | 26.6% |
| 3 | 8 | 6.4% |
| 4 | 1 | 0.8% |
| 5 | 1 | 0.8% |

In total, 180 types of birds were named. The top six types of birds people would like to see are the tui, fantails, kereru/ wood pigeons, and the silvereye/ waxeye. Therefore, the tui is, by far, the most popular bird that Waikato residents would like to see. 41.1% that do not see them now would like to see them in the future and 15.4% of them see and enjoy them now. Therefore, over 56% of the Waikato respondents are interested in seeing tuis.

In discussing birds that respondents would like to see, many people gave a bird type generalization instead of naming a specific bird. For example, they would like to see more natives and more colourful birds. As the native population of New Zealand birds is generally not very colourful, this might mean respondents are suggesting the introduction of Australian birds such as parrots? However, we did not go into greater detail with the respondents on this and cannot make a definite conclusion about that. Figure 7 provides a summary of the top six types of birds that respondents would like to see in their area which are not currently there.

More specifically (Table 6), we see that tuis are, by far, the more desired bird type (41.1%) with fantails following a distant second (11.7%). From the results, it seems that respondents are knowledgeable about their area and are aware of what could possibly return to the area or be seen in their area more commonly. As tuis, fantails, kereru, silvereyes, kingfishers, and morepork are currently in the Waikato Region, it could be very possible, with a little bit of work on invasive plants and animals, that these birds could commonly be seen throughout the region. Surprisingly, only one respondent wanted to see kiwi in their area. Again, maybe this is because our respondents were of a practical type, and know it would be more difficult to see kiwi in their area in the near future, especially with the current population of non-native mammals such as cats, rats, possums, and stoats that have a direct effect on native bird populations.

Figure 7.

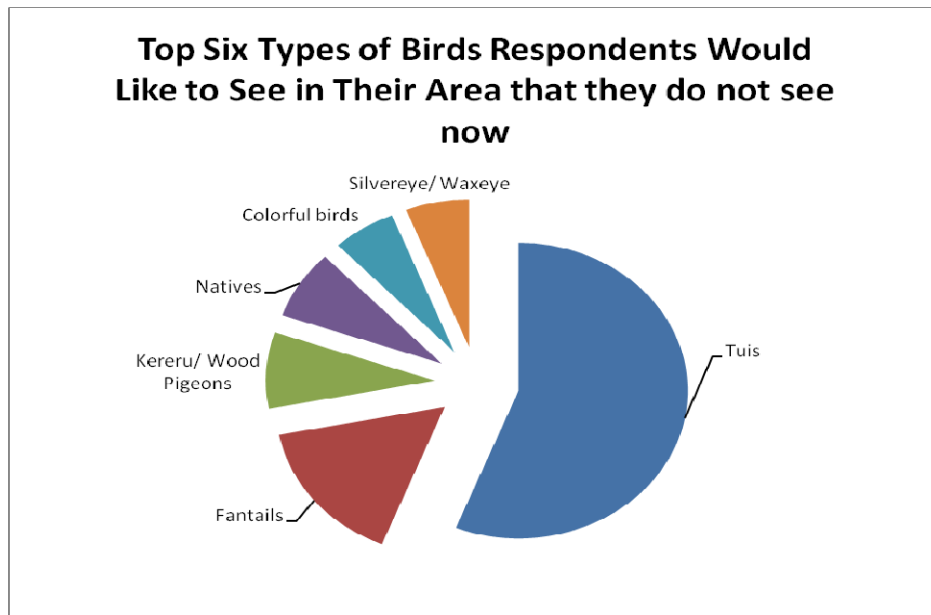
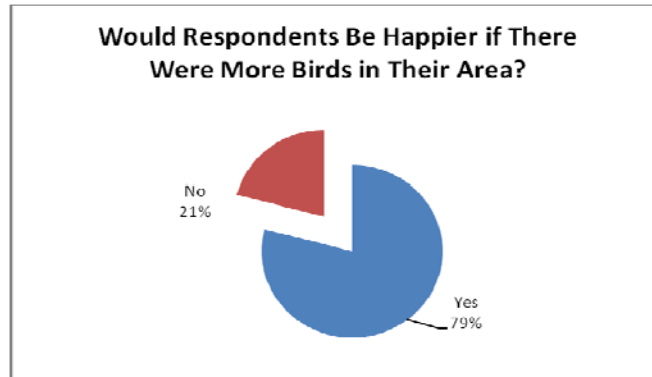


Table 6. Of the respondents who would like to see more birds in their area, what types of birds would they like to see that they do not see now (full listing).

| Bird Types | Total | Percentage |
|--------------------------------|-------|------------|
| Tuis | 74 | 41.1% |
| Fantails | 21 | 11.7% |
| Kereru/ Wood Pigeons | 11 | 6.1% |
| Natives | 10 | 5.6% |
| Colourful birds | 8 | 4.4% |
| Silvereye/ Waxeye | 8 | 4.4% |
| Finches/ Goldfinch/ Zebrafinch | 6 | 3.3% |
| Kingfishers | 6 | 3.3% |
| Rosellas | 6 | 3.3% |
| Bellbirds | 5 | 2.8% |
| Kakariki/ Parakeets | 4 | 2.2% |
| Morepork/ Rurus | 4 | 2.2% |
| Hawks | 3 | 1.7% |
| Robins | 3 | 1.7% |
| Pukekos | 2 | 1.1% |
| Endangered Birds | 1 | 0.6% |
| Hérons | 1 | 0.6% |
| Kiwi | 1 | 0.6% |
| Lorikeets | 1 | 0.6% |
| Magpies | 1 | 0.6% |
| Pied Stilt | 1 | 0.6% |
| Royal Spoonbills | 1 | 0.6% |
| Songbirds | 1 | 0.6% |
| Swallows | 1 | 0.6% |

In Question 5c, we asked respondents if it would make them happier to see more birds in their area. The large majority (79.1%) said that they would be happier with more birds in their area, while 42 (20.1%) said they would not be happier, but could be equally as happy with more birds in their area (Figure 8).

Figure 8.

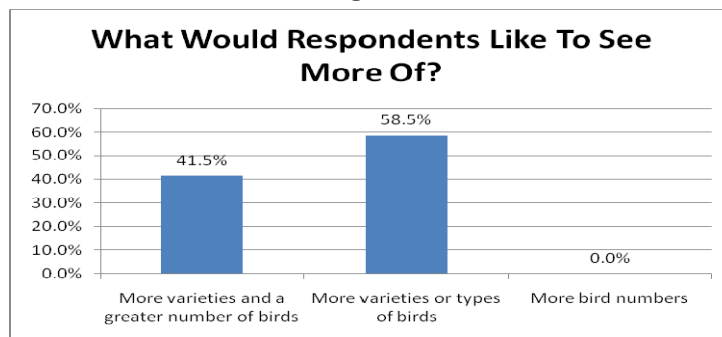


If respondents said 'yes' to being happier with more birds in their area, they were asked the second half of that question. This next question asked respondents what they would prefer to see more of:

- a. A larger number of birds.
- b. A greater variety of birds (more bird types).
- c. Both greater numbers and variety.

It is noteworthy that of the 159 respondents that answered the question, none of them chose "a larger number of birds." As shown in Figure 9, 58.5% of respondents (or 93) were interested in a having a greater variety of birds in the area. However, 41.5%, or 66 respondents, were interested in both a greater number of birds and a larger variety of birds in their area. Since no one selected the first option (a larger number of birds), we know seeing a larger variety of birds in their area, overall, is important to them.

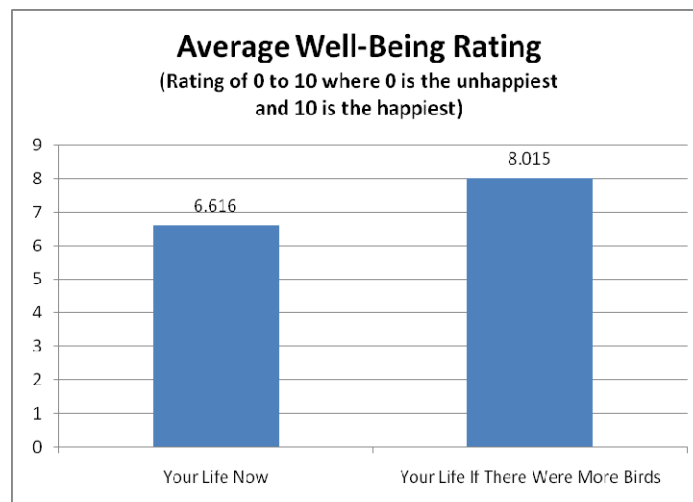
Figure 9.



The next two questions were well being questions. In these two questions, we asked respondents to select a number on a scale from zero to ten where zero means you are the unhappiest that you can be, while ten represents the happiest you can be. The first part of this question was in relation to birds: if there were more birds in their area, what would their well being rating be on the zero to ten scale? The second part of the question was in relation to where they are now in life on the zero to ten scale.

In relation to their life now, the largest number of respondents chose the value of 7, while 4 was the lowest and 10 was the highest. However, if there were more birds in their area, we found that the most commonly chosen value was 8, with a low of 5 and a high of 10. Looking at the averages (Figure 10), we find that the average person living in the Waikato Region would feel happier about their life if there were more birds in the area around their home.

Figure 10.²



In the last part of Question 5, we asked respondents whether they did anything to encourage more birds to come to their property. We discovered that over half (65.2%) of the respondents did do something to attract birds to their area. See Figure 11.

^{2 2} It is possible to use our data to conduct a thorough analysis and determine which variables have an effect on well being values. However, this is beyond the scope of this report.

Figure 11.

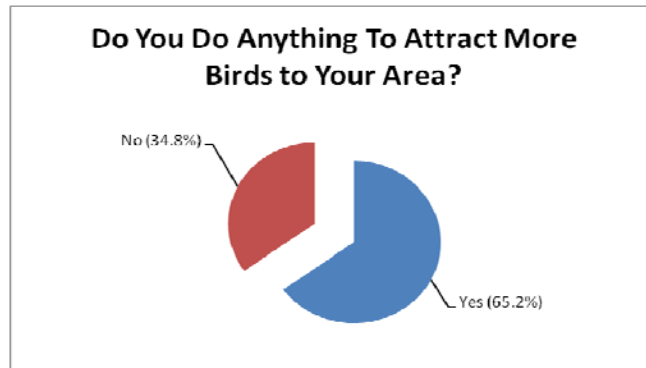
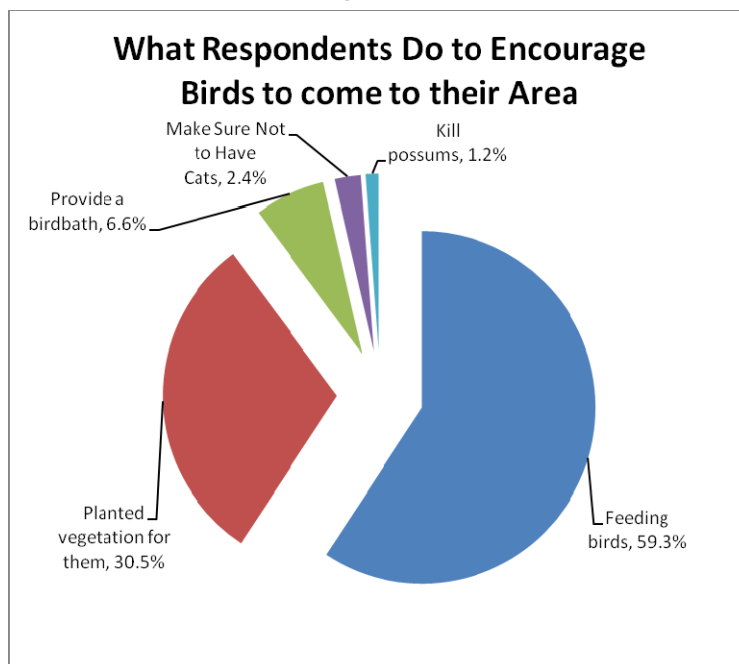


Figure 12 provides a summary of the ways in which respondents indicated they attract birds to come to their property. Feeding birds was the most popular method of attraction indicated by households (59.3%). While most respondents that feed birds said it was a regular activity, they stated that it was an informal activity. It seemed that the food they give to birds was regularly described as scraps or mouldy bread, with relatively few people purchasing seed or food designed specifically for birds. Many respondents (30.5%) indicated that they used plants to attract birds. These plantings were discussed as gardens, plantings or hedges, established trees, native trees, or crops and fruit. Other methods discussed by respondents were maintaining birdbaths, choosing not to have a cat, and killing 'pest' animals such as possums.

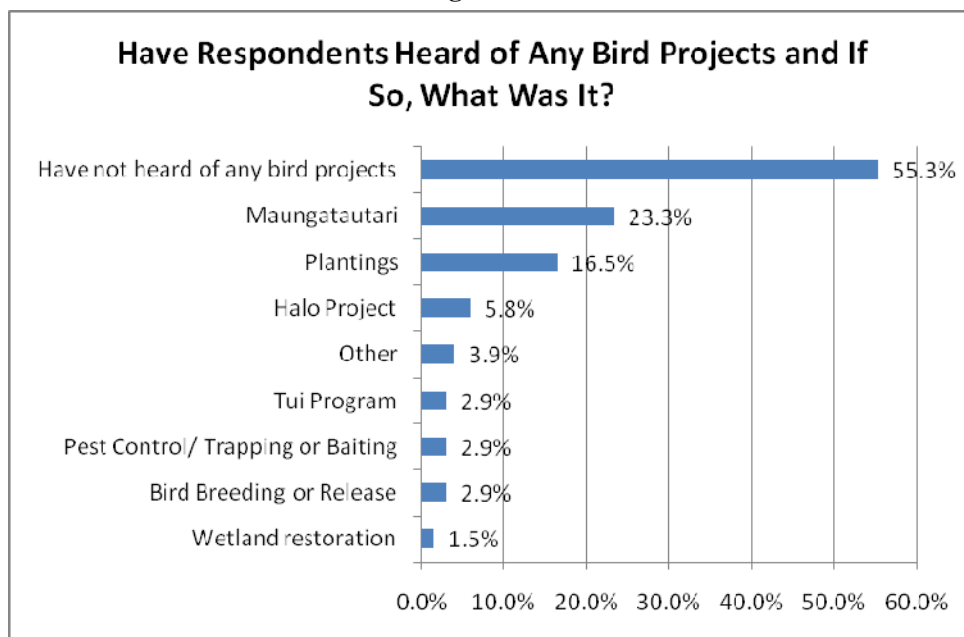
Figure 12.



For Question 6, we asked Waikato residents if they had heard of any programs in place in the Waikato Region whose goal is to increase the number of birds, or bring back birds that are no longer here. Over half of the respondents (55%) had not heard of any projects. This was disappointing to learn, as this means that projects like Maungatautari and the Hamilton Halo project are not common knowledge to the residents of the Waikato Region (Figure 13).

In general, Maungatautari was known by 23% of respondents. The next most popular project known by respondents was plantings, whether they are gully, stream, or river plantings (17%), and only 6% of respondents had heard of the Halo project. However, 3% of respondents had heard of a Tui Project, some stated this was the Tui 2000 Project, but others did not specify, so it is possible that 9% of respondents had heard of the Hamilton Halo Project. It is also worth noting that a lot of respondents felt they could not remember any “off the top of their head”, and results may have been more encouraging if they were asked if they knew of specific programs. However, we chose not to do this as we did not want to bias the results of the survey.

Figure 13.



In Figure 13 we report that 16.5% of projects people have heard of are plantings. In Table 7, details of these plantings are listed (i.e., gully and stream plantings (8.7%), kowhai plantings (1.9%), Waikato river planting (1.9%), river planting (1.5%), Rototuna plantings (0.5%), Hamilton plantings (0.5%) and valley plantings (0.5%).

For Question 7, we described the Maungatautari project and then asked people if they believed this project was a good idea. We described the project as follows:

*Maungatautari is a large area of bush near Cambridge. They have put a fence around the bush and have gotten rid of all the pests within the fence, such as goats, mice, and possums. Since the pests are gone, they are now able to bring birds back to the bush that has not been there for many years. They hope these new bird populations will increase. Do you think that having Maungatautari in the Waikato Region is a good idea?*³

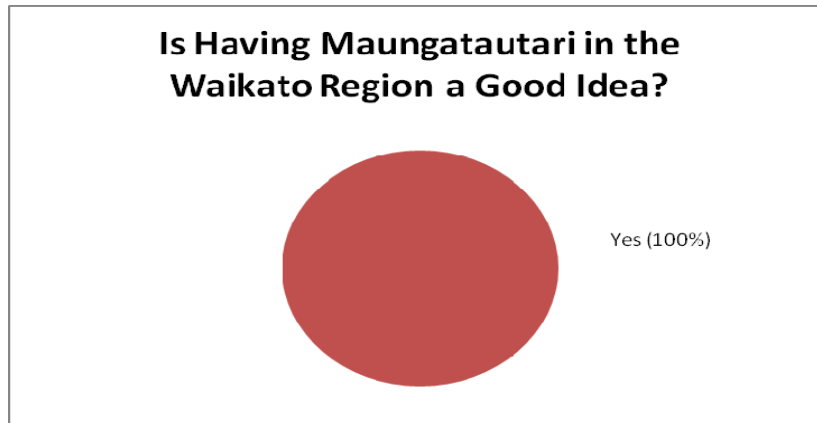
The answer to this question represented in Figure 14 was a unanimous yes (100%). We do note that there was one hostile respondent at this point in the questionnaire, and he did not answer the question.

Table 7. Bird related programmes that respondents have heard about in the Waikato Region.

| Programs Respondents Have Heard Of (If Any) | Responses | Percentage of Total Respondents |
|---|-----------|---------------------------------|
| Have not heard of any bird projects | 114 | 55.3% |
| Maungatautari | 48 | 23.3% |
| Gully and Stream projects/Plantings | 18 | 8.7% |
| Halo Project | 12 | 5.8% |
| Pest Control/ Trapping or Baiting | 6 | 2.9% |
| Tui Program | 6 | 2.9% |
| Kowhai plantings | 4 | 1.9% |
| Waikato River Planting | 4 | 1.9% |
| River plantings | 3 | 1.5% |
| Wetland restoration | 3 | 1.5% |
| Blackrobins released | 2 | 1.0% |
| Fantails in Hamilton | 2 | 1.0% |
| Rototuna plantings | 2 | 1.0% |
| Dotterel Breeding Program | 1 | 0.5% |
| EW donated plants via "Cleanstreams" | 1 | 0.5% |
| Fixing up lakes and rivers | 1 | 0.5% |
| Hamilton Gardens | 1 | 0.5% |
| Hamilton plantings | 1 | 0.5% |
| Hawk/Falcon Release | 1 | 0.5% |
| Lake Rotokauri | 1 | 0.5% |
| Mt. Pirongia conservation | 1 | 0.5% |
| Mt. TeAroha | 1 | 0.5% |
| Otorahonga | 1 | 0.5% |
| River Walk | 1 | 0.5% |
| Valley Plantings | 1 | 0.5% |
| Waitua bush | 1 | 0.5% |

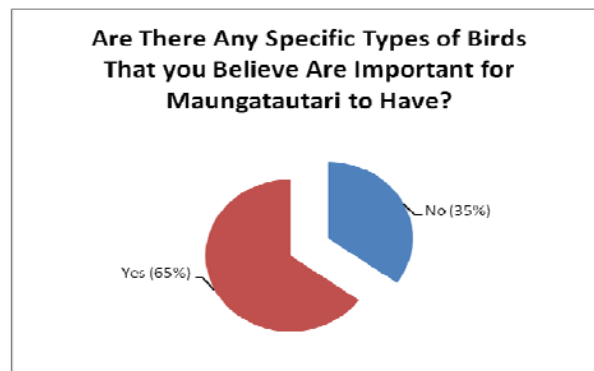
³ While it is true that most of the pests within the fenced area of Maungatautari Ecological Mainland Island have been eradicated, there are a few survivors left. However, we did not feel that was significant for this question.

Figure 14.



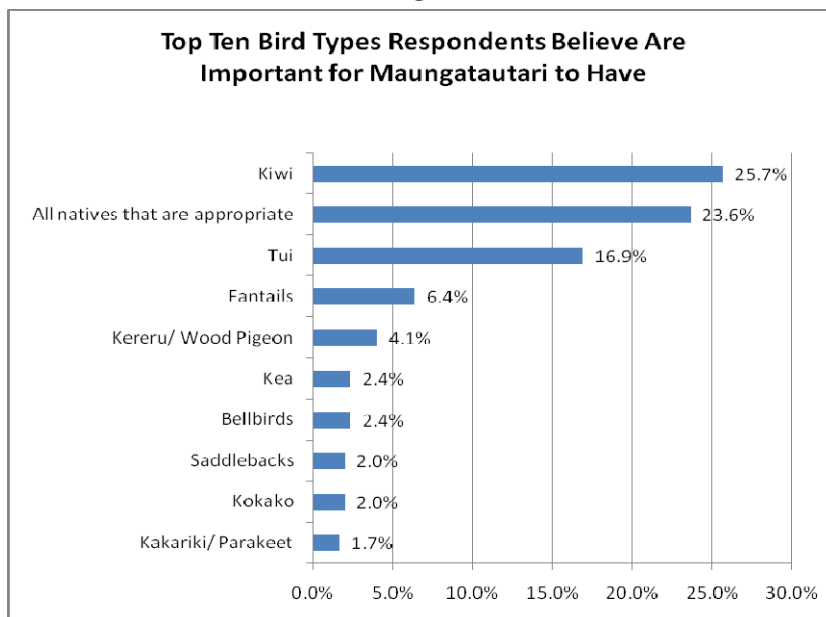
Since all respondents answered yes, we then asked them if there were any specific types of birds that they thought was important for Maungatautari to have. For this question, 65% of respondents said yes. See Figure 15.

Figure 15.



Finally, if they responded yes to the question on whether any species were important for Maungatautari to have, we then asked which species they would be. The results of this are surmised in Figure 16 and Table 8. Answers to this question were different than the answers to the question of which birds should be in their area. Here, 26% of respondents suggested that the kiwi should be in Maungatautari. This is another good indication that our respondents are knowledgeable about the region and its birds, because they are likely aware that kiwi require a protected area. 24% of respondents suggested that all natives that are appropriate should be at Maungatautari. Other birds they suggested include the tui, fantails, and kereru/ wood pigeon.

Figure 16.



The full listing of bird types that respondents believe are important for Maungatautari to have are listed in Table 8. As can be seen, only eleven types were mentioned by five or more respondents with only tui, all natives that are appropriate and kiwi being mentioned by 50 or more respondents.

Next, we asked respondents the following willingness to pay question:

If part of your annual rates were dedicated to support a programme to increase native bird populations or reintroduce native birds into the Waikato Region, would you be willing to pay an additional \$ _(refer to numbers below)_ in your annual rates? All funding would go towards this programme and not administrative fees.

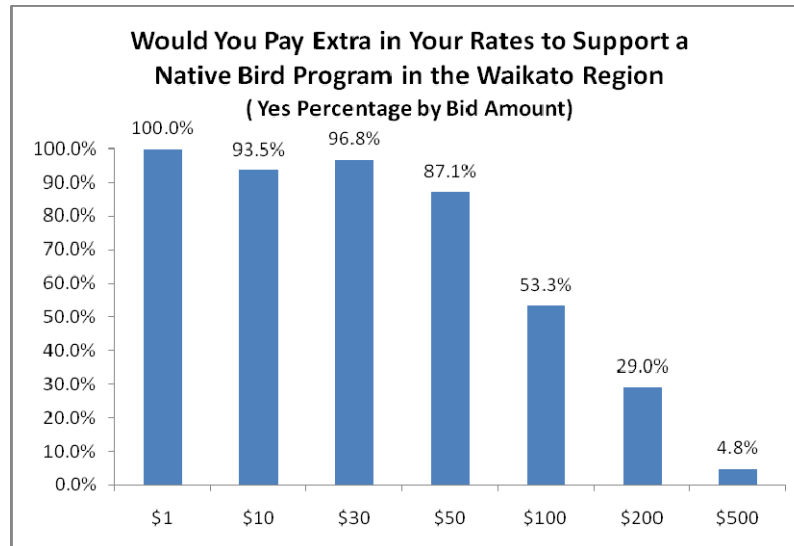
Where we say “refer to numbers below”, in the question was filled in as follows: the first group of 30 respondents were asked \$1 and the next group of 30 respondents were asked \$10. We continued in this fashion for the values of \$30, \$50, \$100, and \$200. The last group of people were asked \$500.⁴ Therefore, every respondent was asked a willingness-to-pay question with one value. As can be seen in Figure 17, we saw a definite pattern in the results to this question. We found that 100% of respondents were willing-to-pay \$1 annually in their rates. As the bid amounts increased, however, less people were willing-to-pay for the amounts. At \$50, 87% of respondents were still saying yes, while at \$500, only 5% were saying yes.

⁴ We conducted the survey in this way, so we would be able to use our data to conduct a thorough analysis and determine the mean willingness-to-pay values that can be used for potential rate increases. This analysis can also determine variables that have an effect on the values. However, this is all beyond the scope of this report.

Table 8. Full listing of bird types that respondents believe are important for Maungatautari

| Bird Types | N | Percentage |
|-------------------------------------|----|------------|
| Kiwi | 76 | 25.7% |
| All natives that are appropriate | 70 | 23.6% |
| Tui | 50 | 16.9% |
| Fantails | 19 | 6.4% |
| Kereru/ Wood Pigeon | 12 | 4.1% |
| Bellbirds | 7 | 2.4% |
| Kea | 7 | 2.4% |
| Kokako | 6 | 2.0% |
| Saddlebacks | 6 | 2.0% |
| Endangered Natives | 5 | 1.7% |
| Kakariki/ Parakeet | 5 | 1.7% |
| Black Robins | 4 | 1.4% |
| Takahe | 4 | 1.4% |
| Kakapo | 3 | 1.0% |
| Robins | 3 | 1.0% |
| Blue Ducks | 2 | 0.7% |
| Kaka | 2 | 0.7% |
| Kakapo | 2 | 0.7% |
| Morepork/ Ruru | 2 | 0.7% |
| Native parrots | 2 | 0.7% |
| All Varieties | 1 | 0.3% |
| Ground Birds | 1 | 0.3% |
| Hérons | 1 | 0.3% |
| Indigenous Birds Native to the Area | 1 | 0.3% |
| Kingfisher | 1 | 0.3% |
| Partridge | 1 | 0.3% |
| Silvereye/ Waxeye | 1 | 0.3% |
| Stitchbirds | 1 | 0.3% |
| Weka | 1 | 0.3% |

Figure 17.



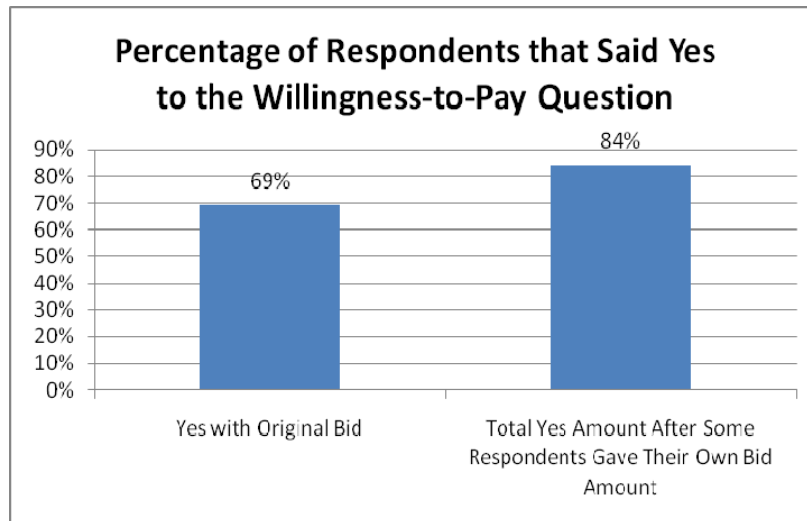
If people said ‘no’ their bid amount, we then asked them if there was an amount they would be willing-to-pay. If they said yes, their answers to how much they would be willing-to-pay was open ended (Table 9). Of the 64 people that answered this question, only 10 different bid amounts were suggested: \$0, \$20, \$30, \$40, \$45, \$50, \$80, \$100, \$150, and \$200. Approximately half of these 64 respondents said they would not pay anything (\$0), however, almost 25% of the respondents said they would be \$50.

Table 9.

| Original bid amount | Number of Respondents who said ‘No’ to the original bid amount | Amounts that respondents stated they would be willing to pay, if no to the original bid amount (open ended question) | | | | | | | | | |
|---------------------|--|--|------|------|------|------|------|------|-------|-------|-------|
| | | \$0 | \$20 | \$30 | \$40 | \$45 | \$50 | \$80 | \$100 | \$150 | \$200 |
| \$1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| \$10 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| \$30 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| \$50 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| \$100 | 14 | 7 | 2 | 0 | 1 | 1 | 3 | 0 | 0 | 0 | 0 |
| \$200 | 23 | 9 | 1 | 1 | 0 | 0 | 5 | 0 | 6 | 1 | 0 |
| \$500 | 20 | 8 | 0 | 0 | 0 | 0 | 5 | 1 | 3 | 1 | 2 |
| Total | 64 | 31 | 3 | 1 | 1 | 1 | 13 | 1 | 9 | 2 | 2 |

In reviewing the willingness-to-pay results overall, we find that at the initial bid amounts given to respondents, 69% of them were willing-to-pay the amount. When people that said no to the original bid amount were permitted to conduct their own bid amount, we find that 84% (or 15% more) respondents were willing-to-pay for the programme at different amounts. See Figure 18.

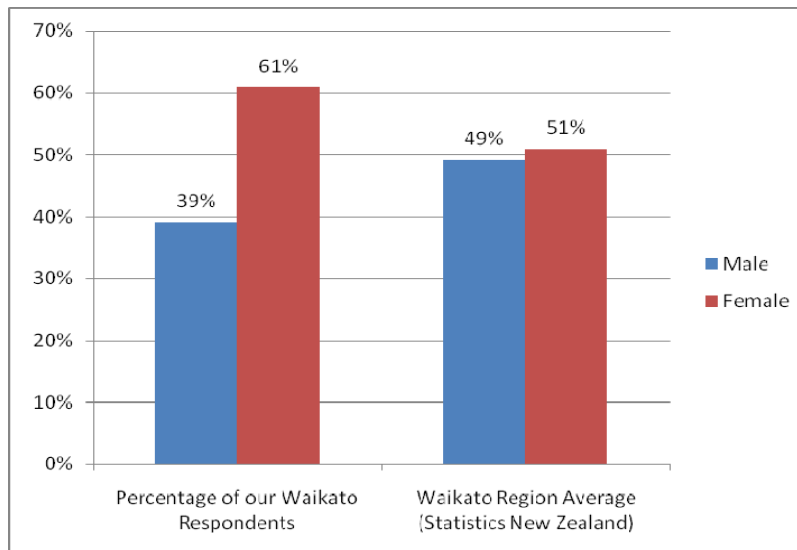
Figure 18.



Demographic Related Question Section

The next set of questions was the demographic questions. Our first demographic question asked respondents about their gender. See Figure 19. Here, we found that 61% of our respondents were female. This is slightly higher than the average number of females in the overall Waikato Region (Statistics New Zealand, 2006).

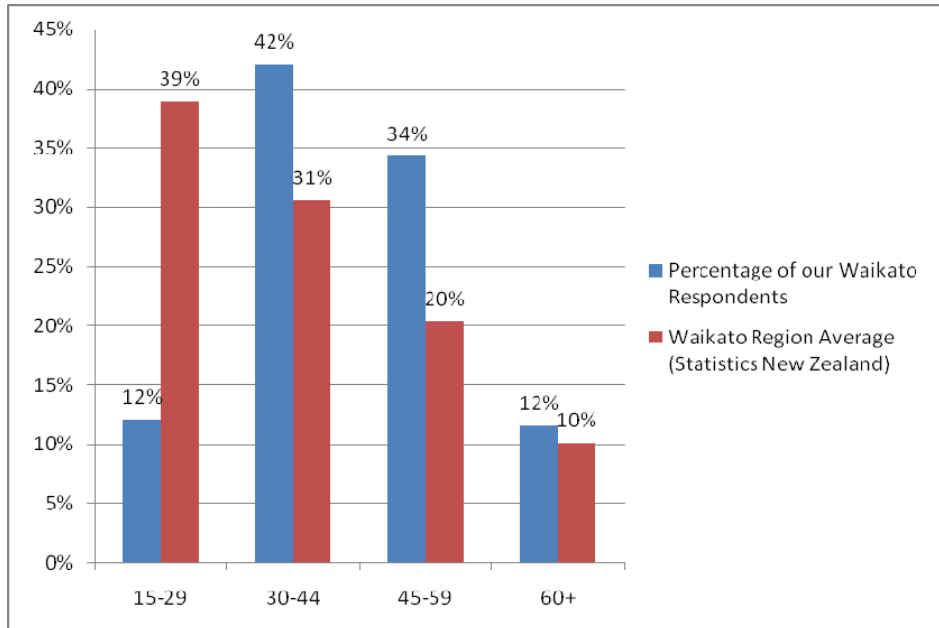
Figure 19. Gender ratio of our respondents and the general Waikato Population



Question 10 then asked respondents to indicate which age group they belonged to. These groups were: under 30, 30-44, 45-59 and over 60. As Figure 20 shows, our percentage for the under 30 age group was 12%, which is much lower than the Waikato average for this age

group. Our percentages for the 30-44 and 45-59 age brackets were greater than the Waikato averages with 42% and 34%, respectively. The percentage for the 60+ age bracket, however, was very close to the Waikato average at 12% (Statistics New Zealand, 2006).

Figure 20. Which age group do you belong to? (Under 30, 30-44, 45-69, over 60)



Question 11 asked respondents which ethnic group they felt they most closely identified. The percentage of respondents who identified themselves as European was surprisingly lower than the Waikato average at 70%. Meanwhile, the percentage of Maori, Asian and all other respondents were 21%, 5% and 4% respectively, relatively high compared to the Waikato average (Figure 21).

Figure 21. Which ethnic group do you feel you identify closest?

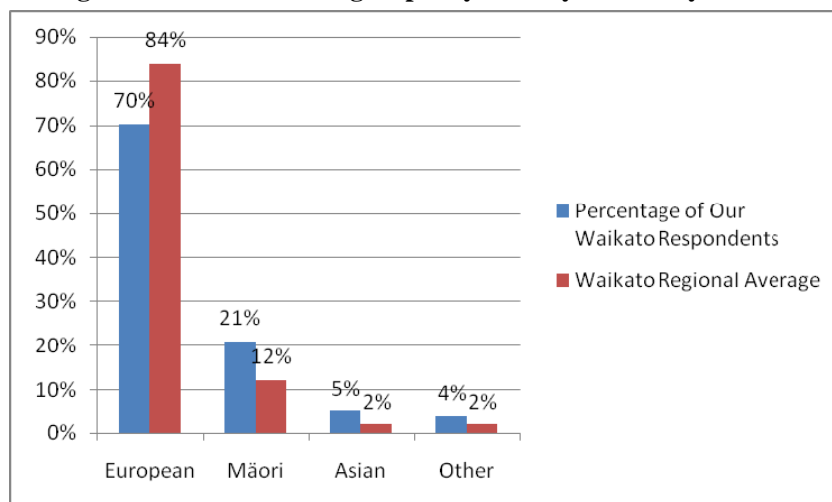
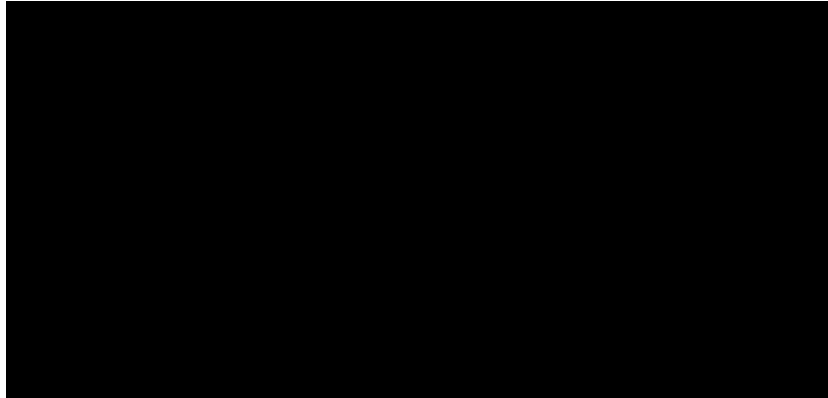


Figure 22 represents the results of Question 12, which asked participants what income bracket they fell into before tax. Only 2 of the 207 respondents chose not to answer this question. 7.73% of participants indicated they earned less than \$30k annually, which was surprising given the Waikato average of 53.06% (Statistics New Zealand, 2006). Almost half of our participants indicated they earned between \$30-\$59k and a further 34.78% indicated they earned between \$60k and \$89k. Around 10% of our respondents stated they earned \$90k to \$119k and just under 1% stated they earned more than \$120k.

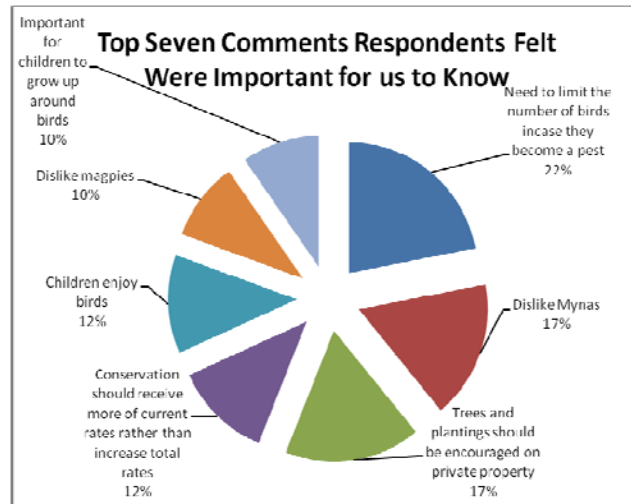
Figure 22⁵



Question 13 asked respondents to provide any other information which they felt may be helpful to our project. Respondents provided a wide range of answers to this question, and the top seven responses are presented in Figure 23. The most common comment was suggesting that the number of birds should be monitored and limited in case they become a pest (22%), particularly due to problems with droppings and nests. Many respondents indicated that they do not like Myna birds (17%) and Magpies (10%), primarily due to aggression with other bird species. The idea of providing incentives or encouragement for land owners to plant their properties appealed to a large number of respondents (17%), particularly plants which were native or attracted birdlife. Some respondents felt that rather than being asked to pay more for conservation, a greater portion of their existing rates or taxes should go towards conservation from other areas they felt were less important (12%). Birds were also identified as being particularly valuable and appreciated in regards to children (12%); some people felt that it was very important for children to grow up around birds, for educational purposes, amongst other reasons (10%).

⁵ Since our income ranges do not match those of the Waikato Region, we could not really compare them. However, we recommend investigating the Statistics New Zealand income ranges prior to conducting a survey in the future, so comparisons can be made.

Figure 23.



Conclusions

While there have been several studies in New Zealand that have placed a value on recreation, very few have placed a value on native birdlife. In this report, we make a contribution to this deficiency in the literature. In December 2007 and January 2008, we conducted a phone survey in the Waikato Region of New Zealand. In total, 207 people took part in answering our 13 question survey on native birds. While this information has given us a great deal of insight into the values Waikato residents place on birdlife in the area, some of the most important things we have learned are as follows: 97% of respondents enjoy having birds in their area. The things they enjoy include listening to them, watching them, and that they are part of nature. The tui seems to be the most important bird respondents either see currently, or if they do not see it now, they would like to see it in the future. If there were a greater variety of bird types in their area, respondent well-being would significantly increase.

There are several programs in the Waikato Region that are either directly or indirectly linked to an increase in the native bird populations including Maungatautari Ecological Mainland Island, pest control and the Hamilton Halo Project. Sadly, only 45% of respondents had heard of even one of these projects. According to this survey, only 23% of our Waikato respondents had heard of the Maungatautari project and only 6% had heard of the Halo project. When asked whether respondents would pay an extra amount in their rates annually to support a native bird project within the Waikato Region, most were found to be willing to support this. Towards the end of the survey, we gave respondents a general overview of the Maungatautari project and 100% of respondents believed it was important to the Waikato region. We believe these results can be applied to future policy making decisions.

References

- Statistics New Zealand. 2006. Regional Summary Tables. www.stats.govt.nz
- Statistics New Zealand. 1999. Regional Profile of the Waikato Region. 41pp.