



Cape to City project community survey short report

Pike Brown
Senior Economist & Capability Leader
Economics and Land Use Modelling

*Landcare Research, Gerald Street, PO Box 69040, Lincoln 7640, New Zealand,
Ph +64 3 321 9999, Fax +64 3 321 9998, www.landcareresearch.co.nz*



Purpose

A survey that was designed to measure changes in the awareness, knowledge, and behaviour of the general public resulting from the Cape to City project (<http://capetocity.co.nz/>) was conducted by Landcare Research in Hawke's Bay in November-December 2015. This short report provides an overview of the key findings.

Survey methods

The survey was conducted online and participants were recruited via personal contact through local schools. Surveys conducted online have several distinct advantages vis-à-vis surveys conducted face to face and those conducted via mail or telephone. Specifically, online surveys are cost effective (unlike face-to-face surveys), they allow for logic (unlike mail surveys), they eliminate data entry error (unlike face-to-face, telephone, and mail surveys), and they may be completed at a time that best suits the respondent (unlike telephone and face-to-face surveys). Two common criticisms are that online surveys are less representative than other survey methods and that they have lower response rates. However, the New Zealand government's Ultra-fast Broadband initiative and Rural Broadband Initiative are underway, and the Cape to City footprint and neighbouring areas have high levels of broadband coverage. Potentially low response rates were addressed by developing local partners.

Specifically, primary schools were selected to help with recruitment as they maintain email databases for broad cross sections of people living in the local area, databases that are otherwise unavailable to the research team. Ten schools were invited to participate and eight schools ultimately chose to do so. Among these eight, five (Huamoana School, St. Matthews School, Taikura Rudolf Steiner Te Mata School, and Waimarama School) are located within the Cape to City footprint and three (Napier Central School, Nelson Park School, and Te Awa School) are located 20-40 km from the footprint. Cape to City project staff had previously undertaken work with all five schools located in the Cape to City footprint.

Participating schools sent invitations to complete the survey to parents via email and newsletter in November-December 2015. Recipients were able to forward the survey to others in their social networks, facilitating a larger response base, some of whom did not have children enrolled in a given school. Both communications included links to the survey hosted at <http://surveys.landcareresearch.co.nz>. Participation was incentivised via a \$10 contribution to the fund of any participating school. Of the 594 respondents who started the survey, 591 completed it. Among these respondents, 47 affiliate with schools outside the Cape to City footprint and 544 affiliate with schools inside the footprint.

Survey topics included demographics, biodiversity, habitat restoration, involvement in environmental activities, motivation for becoming involved in environmental activities, reasons for not becoming involved in environmental activities, and sources of information and familiarity with environmental initiatives. Survey respondents also had the opportunity to respond to a series of qualitative questions regarding the meaning and importance of some of the above topics. The average completion time was nine minutes.

Results

Demographics

Because our sample is drawn from primary schools, most survey respondents are parents of school-aged children. Over three-fourths of respondents are female (Figure 1).

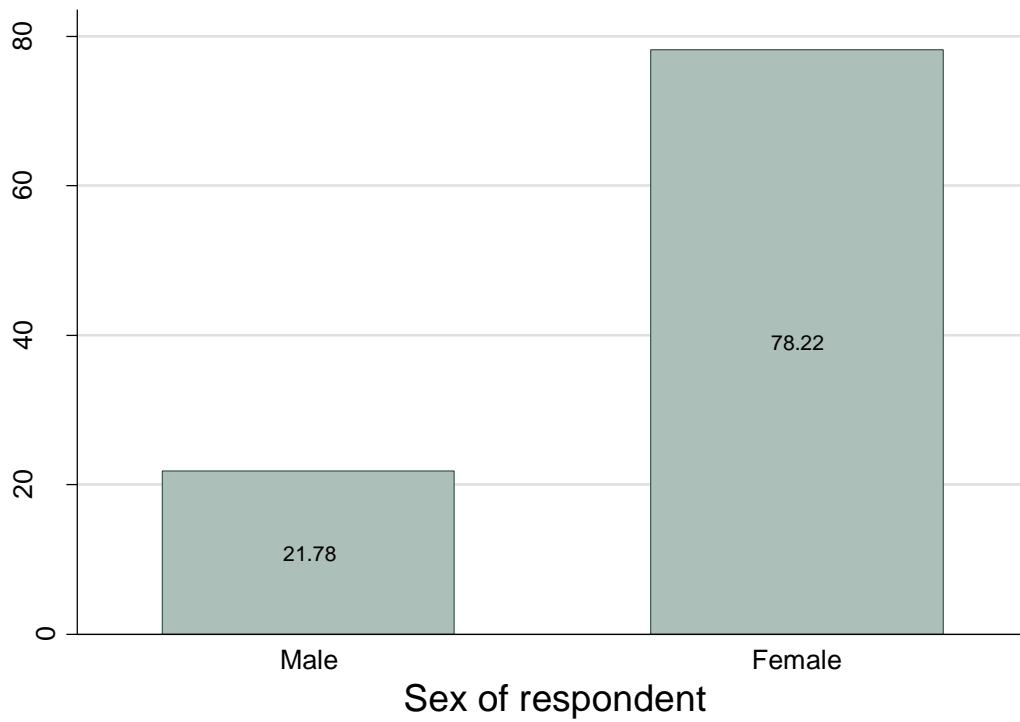


Figure 1

The median age of respondents is 40-44 years old (Figure 2). Respondents were invited to forward the survey link to others in their social networks, so the pool of respondents includes individuals who likely do not have primary-school-aged children.

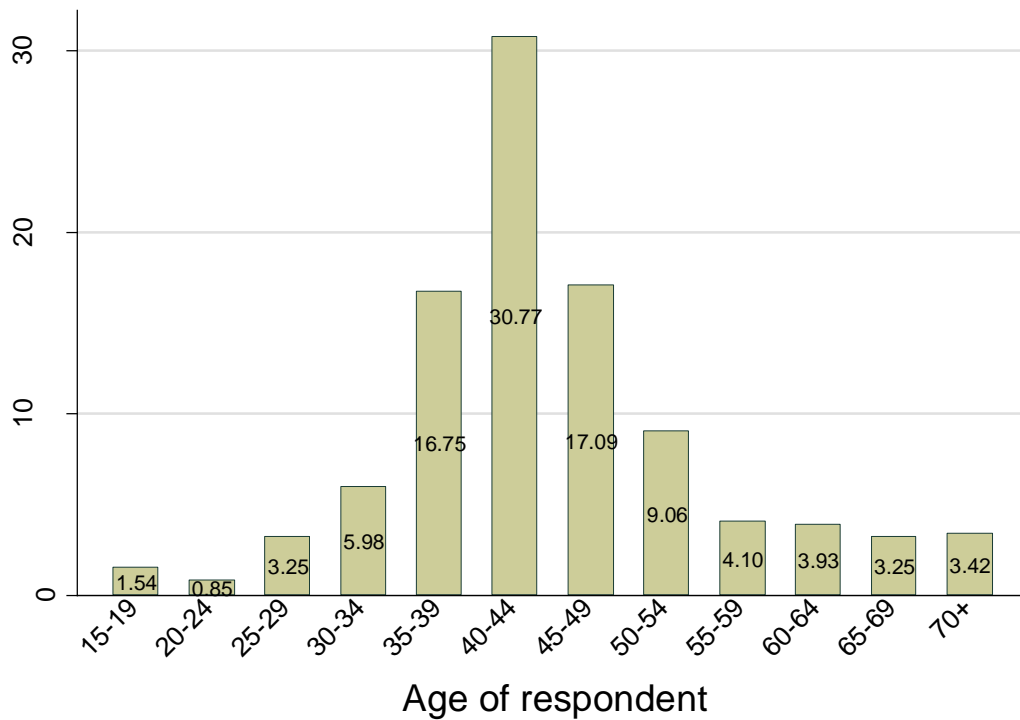


Figure 2

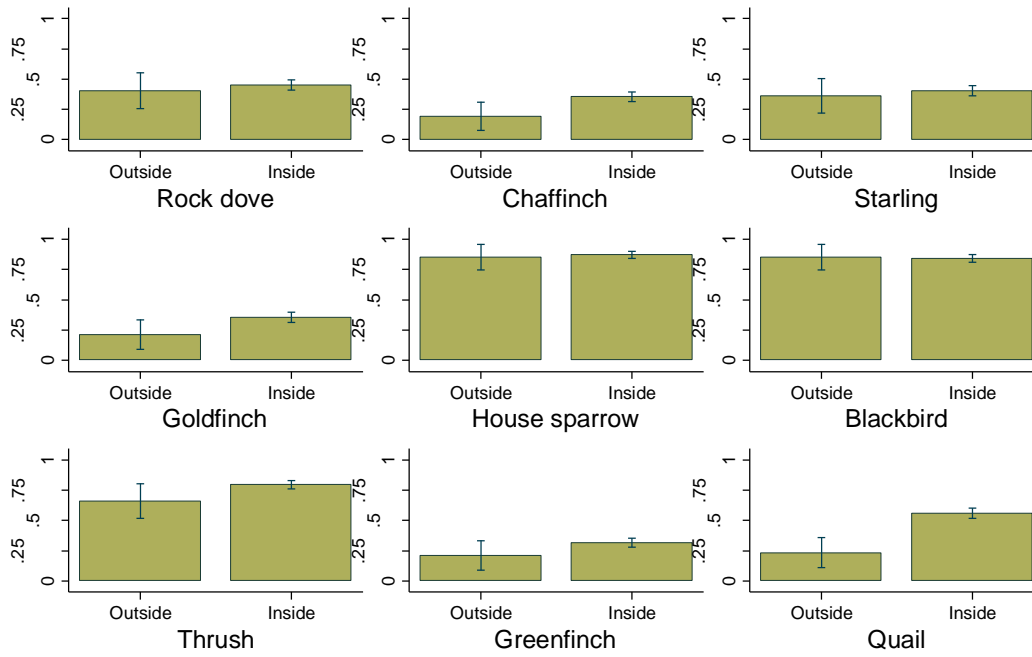
Biodiversity

In this and all subsequent reporting, respondents are classified as being “inside” the Cape to City footprint if they affiliate with Huamoana School, St. Matthews School, Taikura Rudolf Steiner Te Mata School, or Waimarama School are classified as being “outside” the footprint if they affiliate with Napier Central School, Nelson Park School, and Te Awa School.

Figure 3-Figure 6 show the share of respondents who report seeing various species during the previous 12 months. The 95% confidence intervals for respondents located outside the Cape to City footprint are wider than those for respondents inside the footprint, consistent with the smaller sample affiliated with schools outside the footprint.

Most respondents report having seen house sparrows, blackbirds, and thrushes (Figure 3). Respondents inside the footprint report having seen California quail, chaffinch, goldfinch, and thrush more than respondents outside the footprint (statistically significant at the 0.05 level or higher using a two-sided *t*-test), either because these species are more abundant inside the footprint or because respondents inside the footprint are more careful observers of exotic birdlife.

Reports having seen this species in the previous 12 months



Note: Outside/Inside refers to whether the respondent resides outside or inside the Cape to City footprint.

Figure 3

Figure 4 shows the share of respondents who report having seen 16 native bird species. Most respondents report having seen tui, New Zealand wood pigeons, and fantails during the previous 12 months. Respondents inside the Cape to City footprint are statistically more likely to report having seen silvereyes and moreporks (at the 0.01 level), tui (at the 0.05 level), and wood pigeons and bellbirds (at the 0.10 level). Again, this may reflect the abundance of these species inside the footprint, the interests of people inside the footprint, or both.

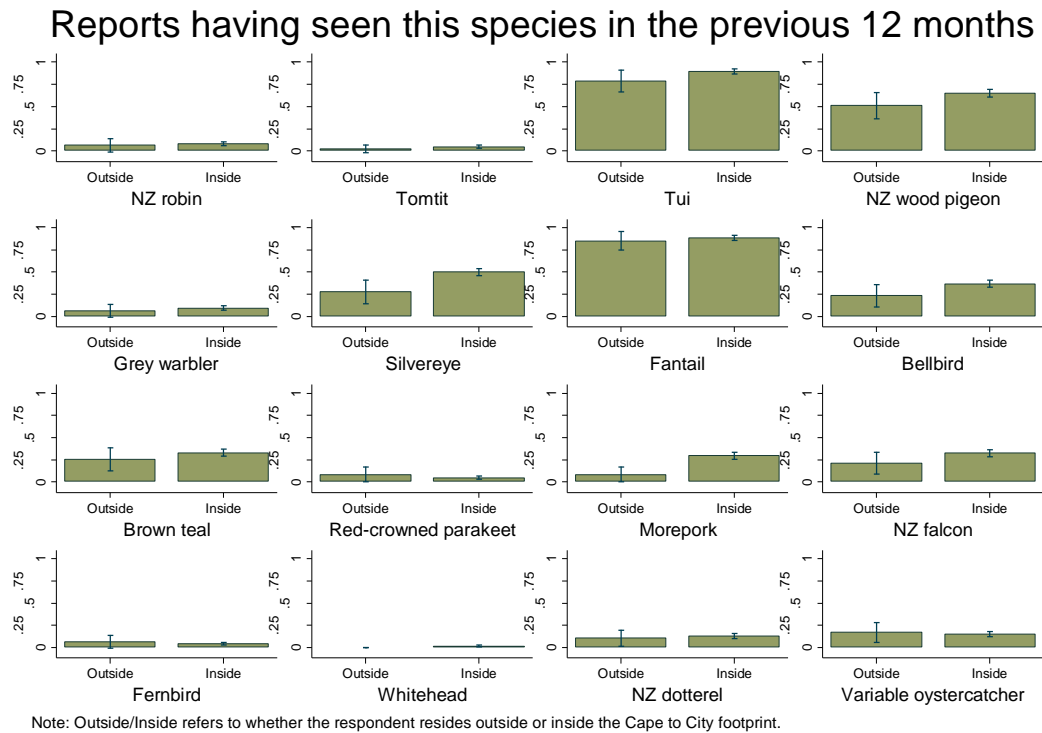


Figure 4

Few respondents report having seen reptiles in the previous 12 months (Figure 5), although statistically more respondents inside the Cape to City footprint have seen common skinks than respondents outside the footprint (statistically significant at the 0.10 level). Reported sightings of the three invertebrate species are low.

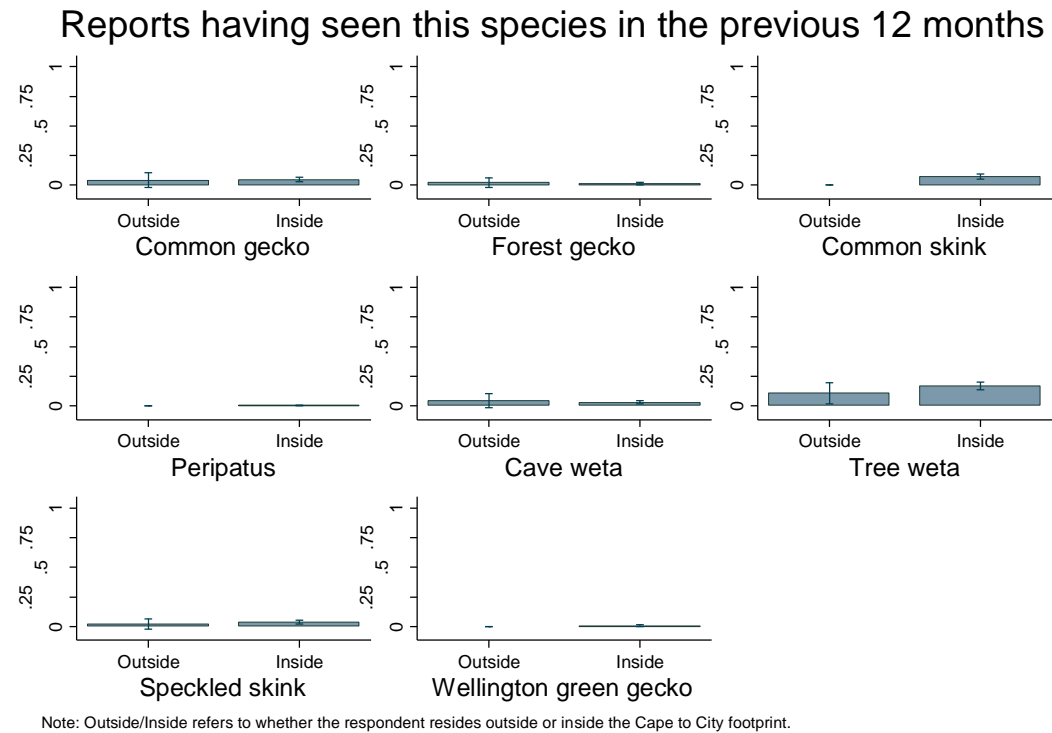


Figure 5

Figure 6 indicates the share of respondents who report having seen non-native mammals in the previous 12 months. The majority of respondents report having seen possums, rats, mustelids, mice, and rabbits, with sightings of possums, rats, and rabbits being especially common. The shares of respondents who report having seeing mustelids and rabbits inside the Cape to City footprint are statistically higher (at the 0.05 level) than the shares of respondents outside the footprint. The survey did not specifically ask about feral cats, but 40 respondents listed feral cats as an additional non-native mammal that they had seen; everyone who did so is affiliated with a school inside the Cape to City footprint.

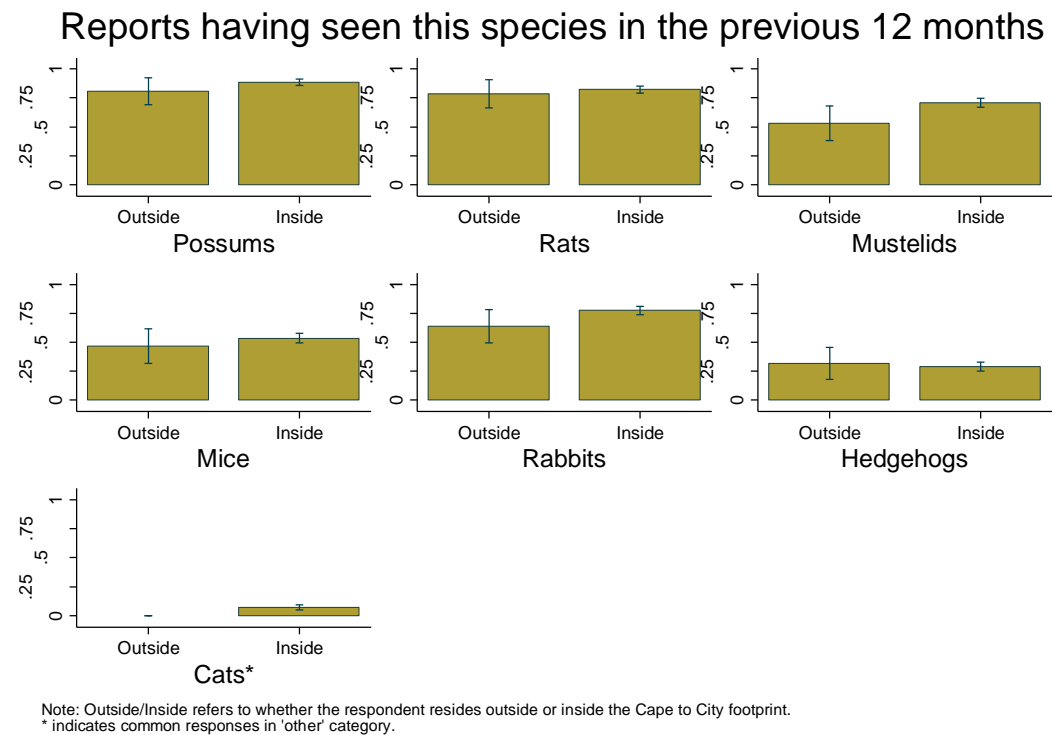


Figure 6

Habitat restoration

Survey respondents were asked whether they had visited sites in Hawke’s Bay that had undergone significant habitat restoration in the previous 12 months. Nearly 60% of the survey respondents report that they had visited the Ahuriri Estuary. Some 41% had visited the Pakapeka Wetlands and 29% had visited the Karituwhenua Stream Reserve. Only 10-12% of survey respondents report having visited Roy’s Hill Reserve, Dolbel Reserve, and/or Sturms Gully during the previous 12 months.

From a statistical perspective, more people inside the Cape to City footprint visited the Pakapeka Wetlands (significant at the 0.05 level) and the Karituwhenua Stream Reserve (significant at the 0.01 level) than people outside the footprint. Conversely, more people outside the footprint than inside the footprint visited Ahuriri Estuary, Dolbel Reserve, and Sturms Gully (significant at the 0.01 level).

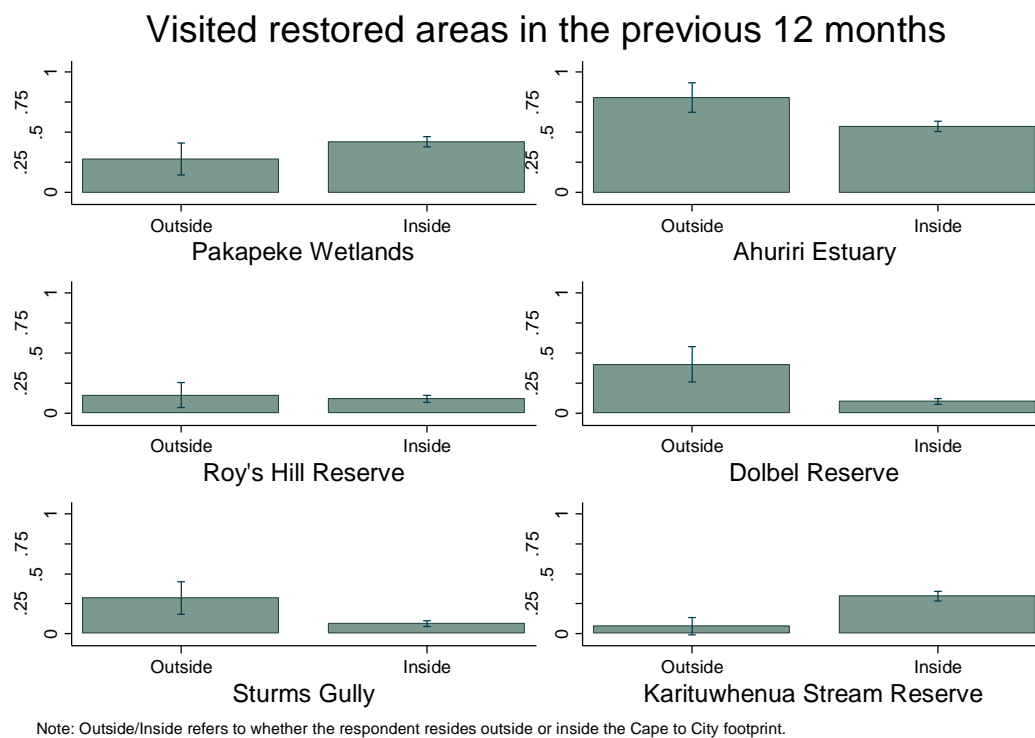


Figure 7

Values

Figure 8 reports the perceived impacts of non-native mammals on biodiversity, native habitat, and farm production. The survey asked about possums, rats, mustelids, mice, rabbits, and hedgehogs, although 40 respondents who indicated that they had seen feral cats were also asked about their impacts.

At least half of all respondents who consider these non-native mammals to have an effect report that possums, rats, mice, and rabbits negatively affect biodiversity, native habitat, and farm production. Among respondents who believe that mustelids, hedgehogs, and cats have an effect, the majority believe that they negatively impact biodiversity and native habitat.

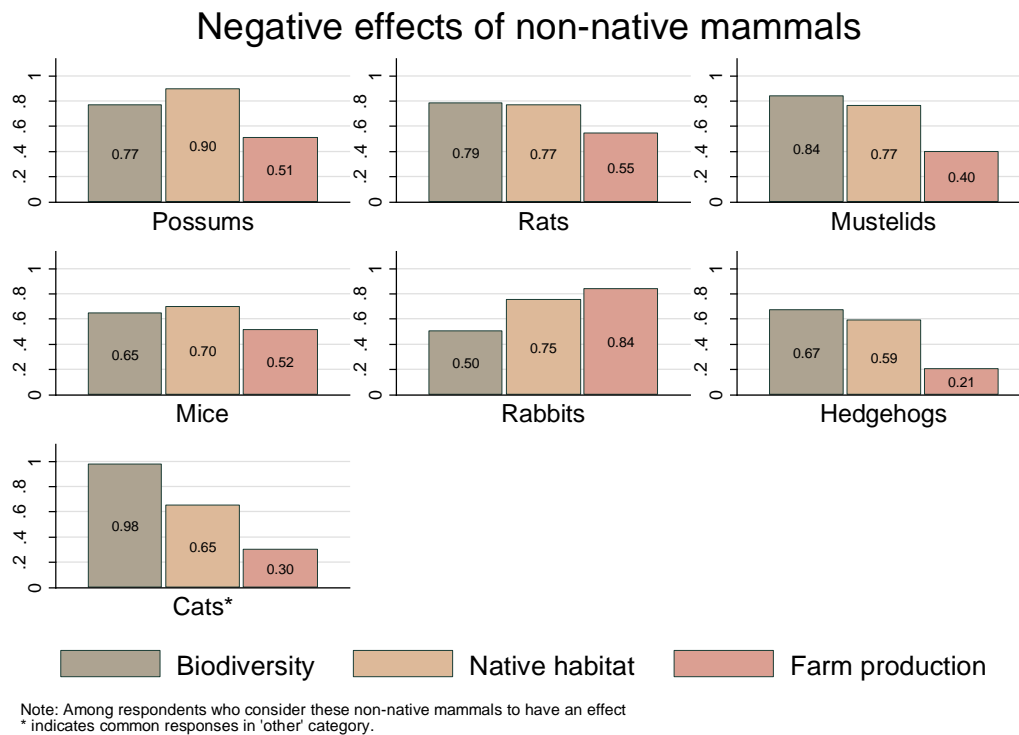
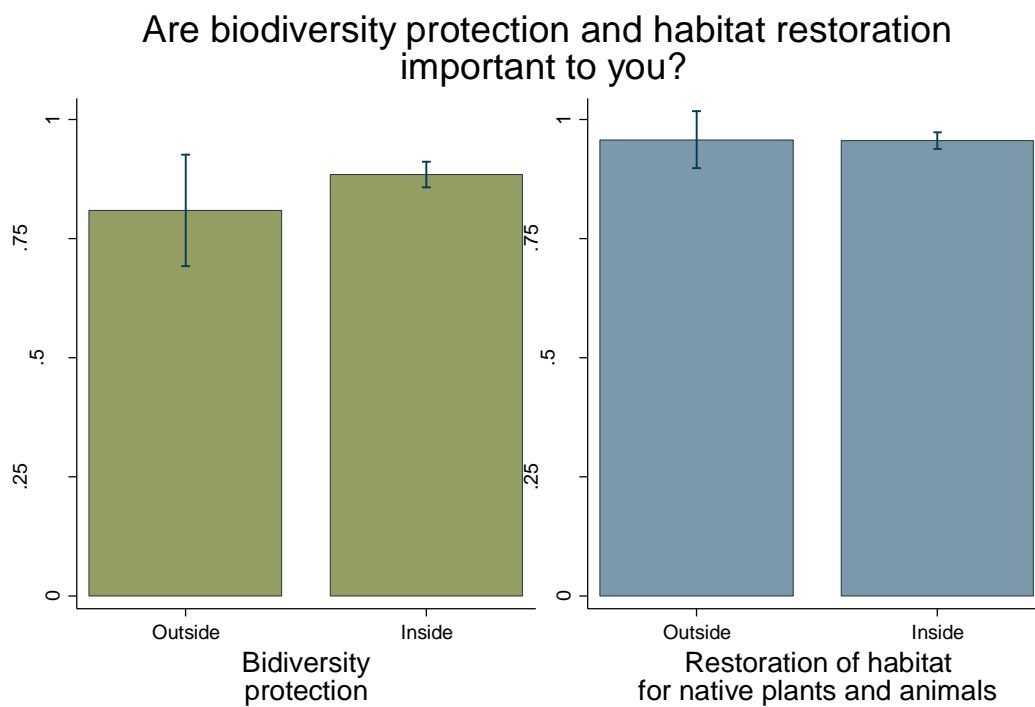


Figure 8

More than 87% of survey respondents report that protection of biodiversity is important to them. Fewer than 1% of respondents report that protection of biodiversity is not important, with the remaining 11% being uncertain.

Similarly, 96% of survey respondents believe that restoration of habitat for native plants and animals is important. Fewer than 0.5% consider habitat restoration to be unimportant, and 4% report being uncertain.

Combining responses who answer “no” and “uncertain” yields Figure 9. There are no differences between those inside and outside the footprint.



Note: Outside/Inside refers to whether the respondent resides outside or inside the Cape to City footprint.

Figure 9

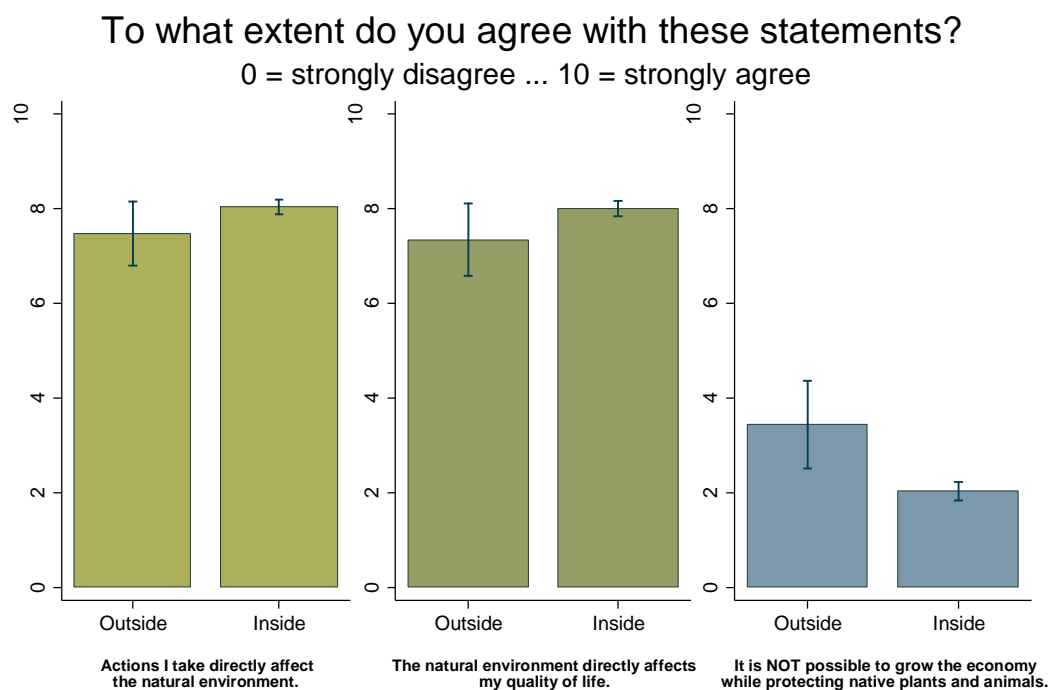
Respondents were asked the extent to which they agree with three statements, namely:

1. "Actions I take directly affect the natural environment."
2. "The natural environment directly affects my quality of life."
3. "It is NOT possible to grow the economy while protecting native plants and animals."

Responses ranged from 0 ("strongly disagree") to 10 ("strongly agree").

The mean extent of agreement to the first two questions is 8, indicating a high level of environmental affiliation. However, respondents inside the footprint are statistically more likely to agree with these statements than those outside the footprint (significant at the 0.05 level).

Similarly, most respondents disagree with the statement "It is NOT possible to grow the economy while protecting native plants and animals" with an average response of 2 on the 0-10 scale. However, respondents inside the footprint are statistically more likely to disagree with the statement than those outside the footprint (significant at the 0.01 level).



Note: Outside/Inside refers to whether the respondent resides outside or inside the Cape to City footprint.

Figure 10

Figure 11 reports who respondents hold responsible for protecting biodiversity and restoring native habitat, with choices including individuals, Hawke’s Bay Regional Council (HBRC), the Department of Conservation (DOC), volunteers, and iwi/hapū. At least 65% of respondents assign medium or high responsibility to each of the five groups: DOC and HBRC are attributed as having the highest responsibility at 48% and 45%, respectively, and the highest proportion of medium-to-high responsibility at 89% and 87%, respectively. Iwi/hapū are attributed as having lower responsibility than the other groups.

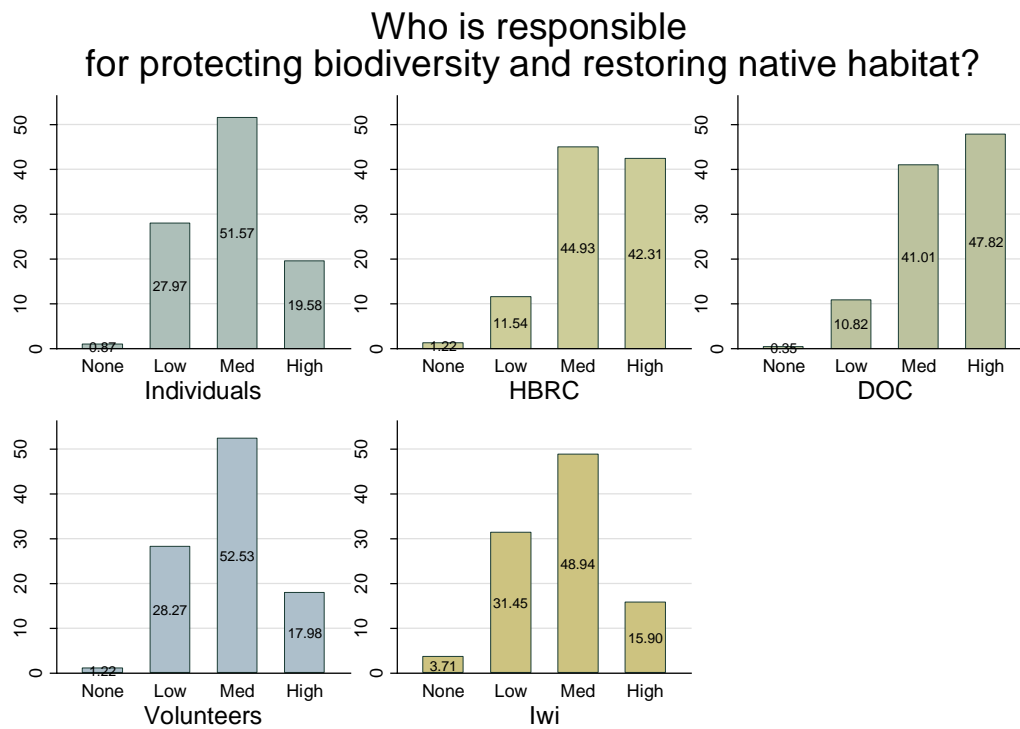


Figure 11

Involvement in environmental activities

Figure 12 reports respondents' involvement in environmental activities in the previous 12 months for respondents both inside and outside the Cape to City footprint. Virtually all respondents recycle, nearly two-thirds plant native trees in their gardens, and 45% control pests. On the other hand, just 2% of respondents report being involved in lizard spotting and only 9% of respondents have permanently protected private land.

Respondents inside the footprint are statistically more likely (at the 0.05 level or higher) to donate to environmental causes, to permanently protect private land, and to plant native trees in their gardens. They are also more likely (at the 0.10 level) to engage in environmental teaching. Interestingly, respondents inside the footprint are statistically less likely (at the 0.10 level) to participate in lizard spotting than those outside the footprint.

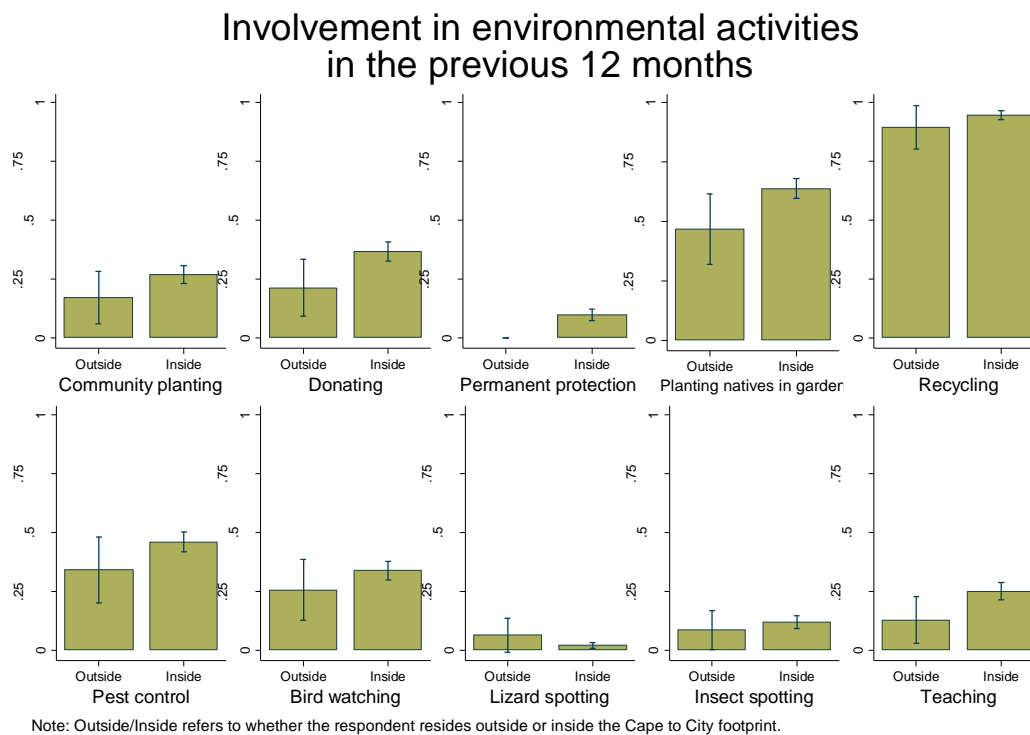
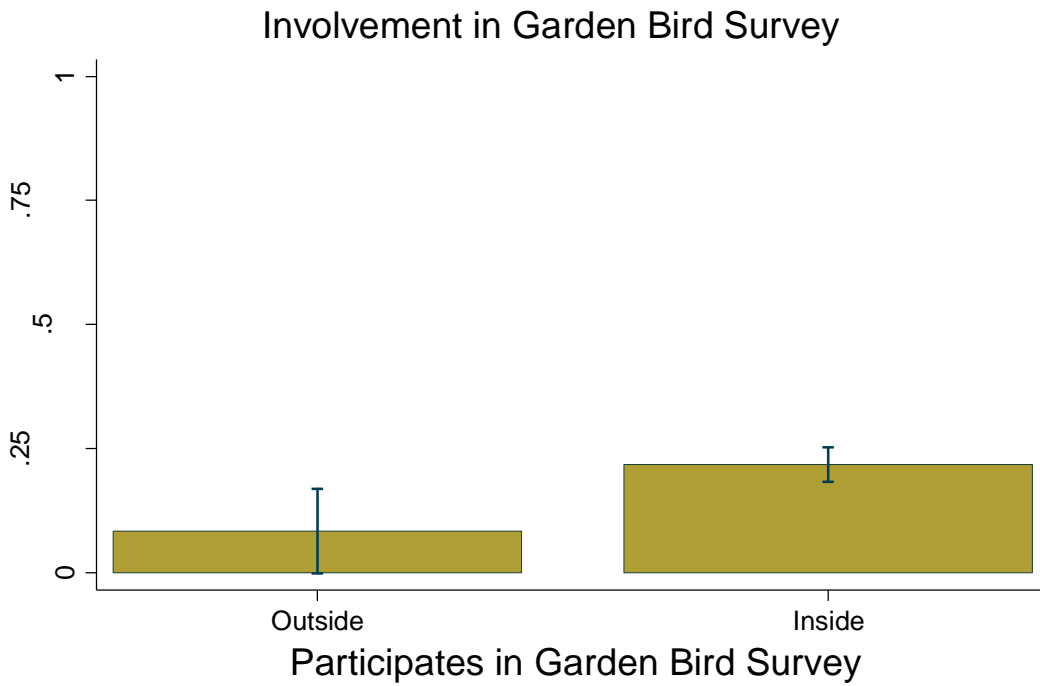


Figure 12

Among 196 respondents who are involved in bird watching, 21% participate in the Garden Bird Survey (Figure 13). Participation in the Garden Bird Survey is not affected (in a statistical sense) by whether the respondent is inside or outside of the footprint.



Note: Outside/Inside refers to whether the respondent resides outside or inside the Cape to City footprint. Among respondents who watch birds.

Figure 13

Of the 266 survey respondents who are involved in pest control, three-fourths are involved in controlling rats and/or mice (Figure 14), perhaps in and around their homes. Nearly one-third of respondents are involved in either possum control, rabbit control, or both, and respondents living inside the Cape to City footprint are statistically more likely (at the 0.10 level) to be involved in controlling these two species. Participation levels inside and outside the footprint in mustelid and hedgehog control are not statistically distinguishable from zero.

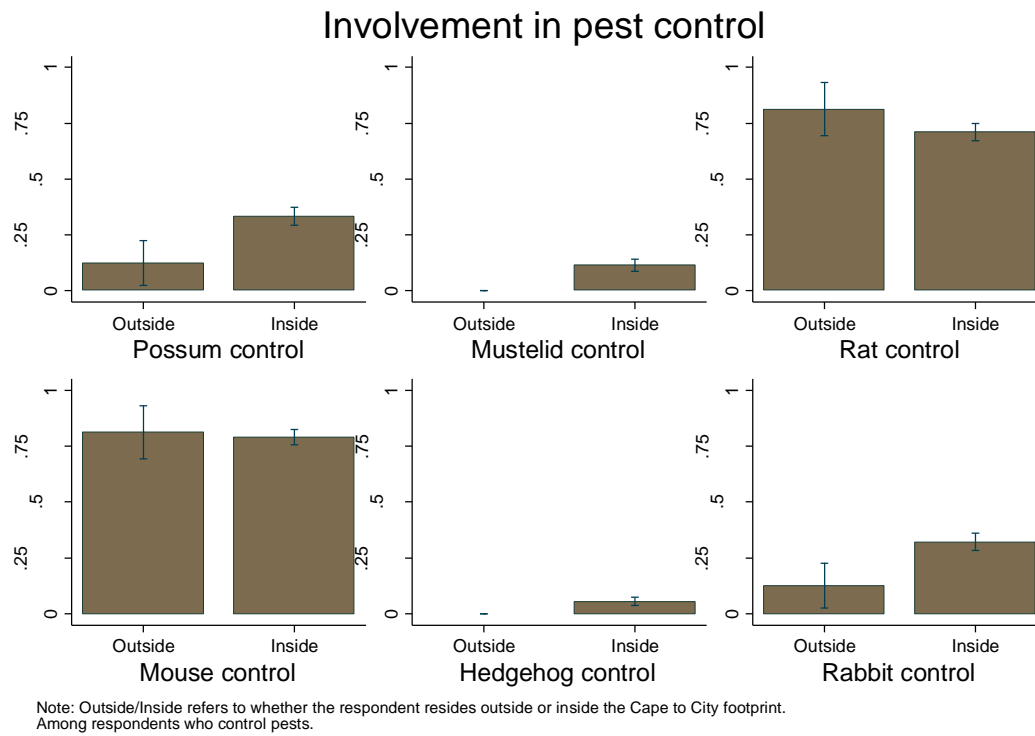


Figure 14

Motivation for becoming involved in environmental activities

The next portion of the survey sought to understand why respondents did or did not become involved in various environmental activities. Response options included participation in outdoor activities, the interest of children, media/news stories, protecting resources for the future, friends/neighbours, personal interest, and kaitiakitanga/stewardship. These answers are not mutually exclusive, i.e., a respondent may choose several motivating factors.

Of the 196 respondents who are involved in bird watching, 79% report personal interest as a primary motivator (Figure 15). Children’s interest is also a common motivator, with 63% of respondents selecting this category. Protecting resources for the future, outdoor activities and kaitiakitanga were less commonly selected.

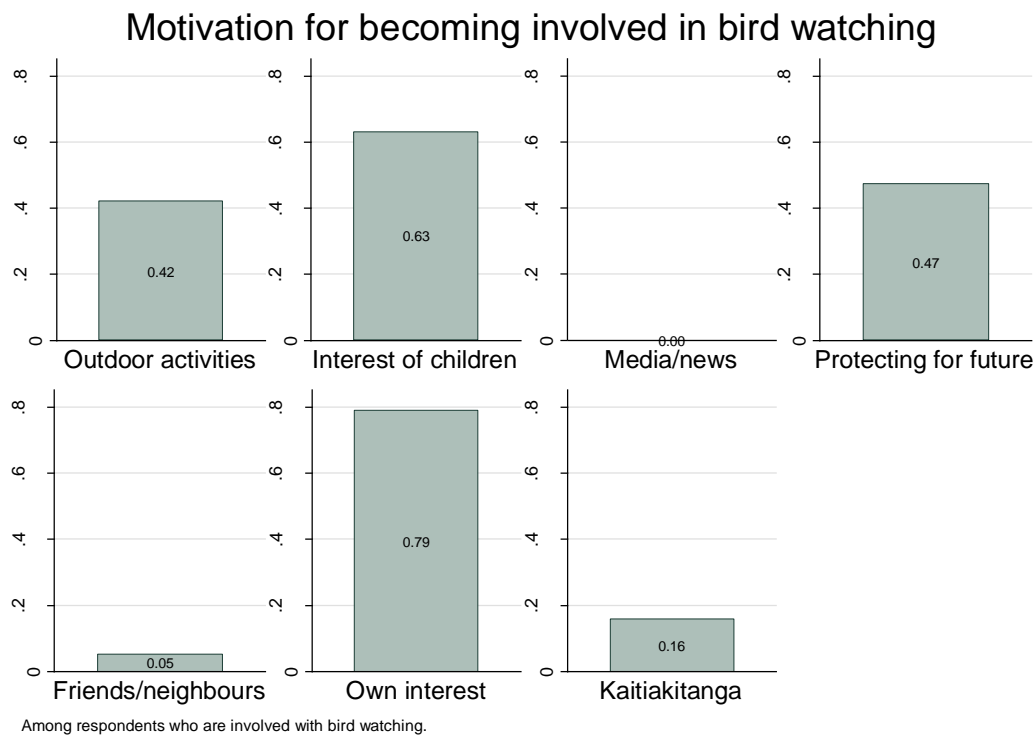


Figure 15

Of the 266 respondents who are involved in pest control, 47% report protecting resources for the future as a motivating factor and 45% report personal interest for doing so (Figure 16). Children’s interest and kaitiakitanga are less commonly selected answers.

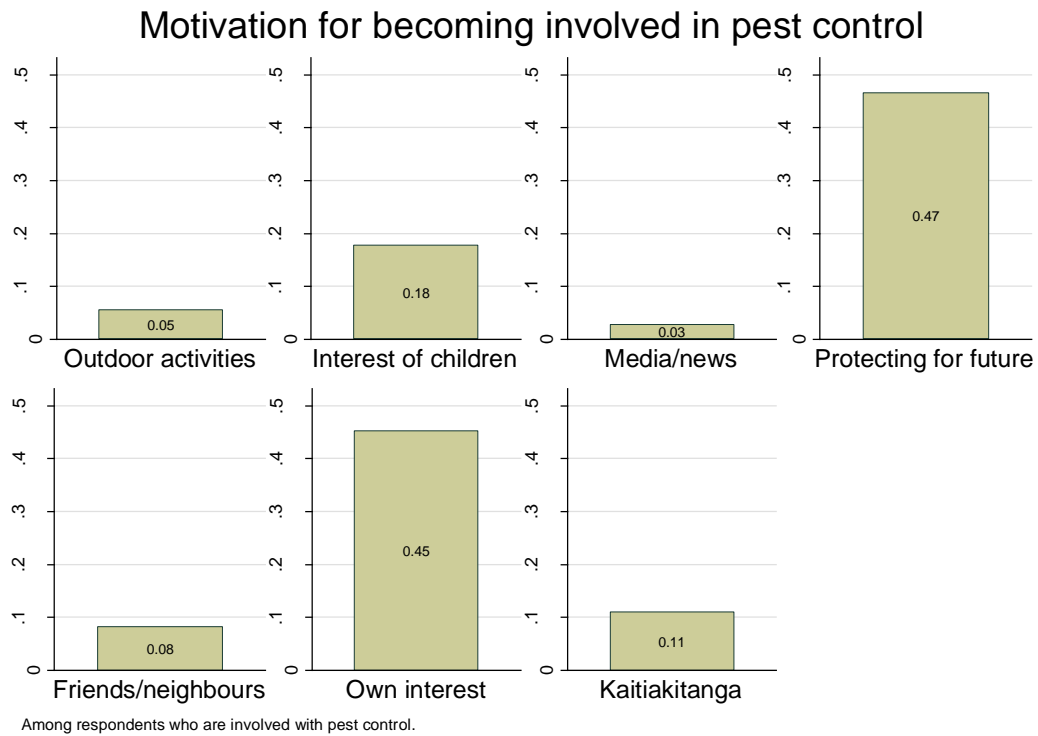
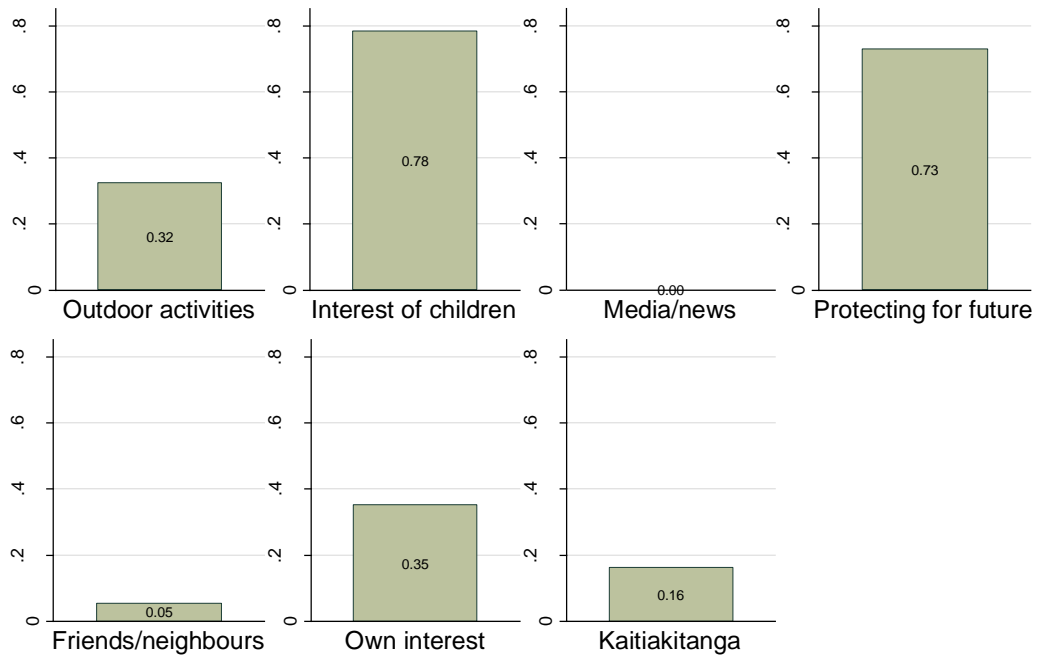


Figure 16

Among the 154 respondents who are involved in community planting days, children’s interest is a motivation for 78% and protecting resources for the future is a motivation for 73% (Figure 17). Personal interest and participation in outdoor activities are less commonly selected.

Motivation for becoming involved in community planting days



Among respondents who are involved with community planting days.

Figure 17

Some 209 of the 591 respondents who completed the survey donate to environmental causes. Among them, 89% do so to protect resources for the future (Figure 18). Nearly two-thirds donate to environmental causes out of personal interest and 47% donate due to participation in outdoor activities. A further 47% donate out of children’s interest. Kaitiakitanga/stewardship is identified as a reason for 17% of respondents.

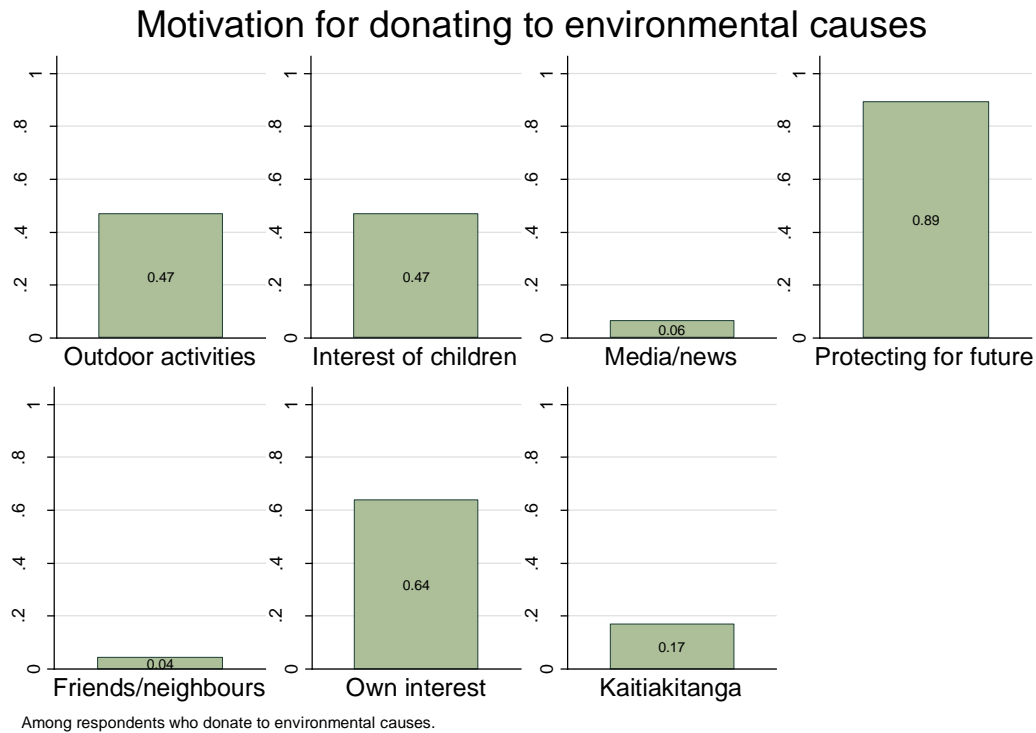


Figure 18

Among the 53 respondents who have permanently set aside land for protecting native plants and animals, 69% identify protecting resources for the future as a motivation and 69% identify self-interest as a motivation (Figure 19). Nearly half of these respondents selected kaitiakitanga/ stewardship as a motivation and nearly a quarter selected involvement in outdoor activities as a motivation.

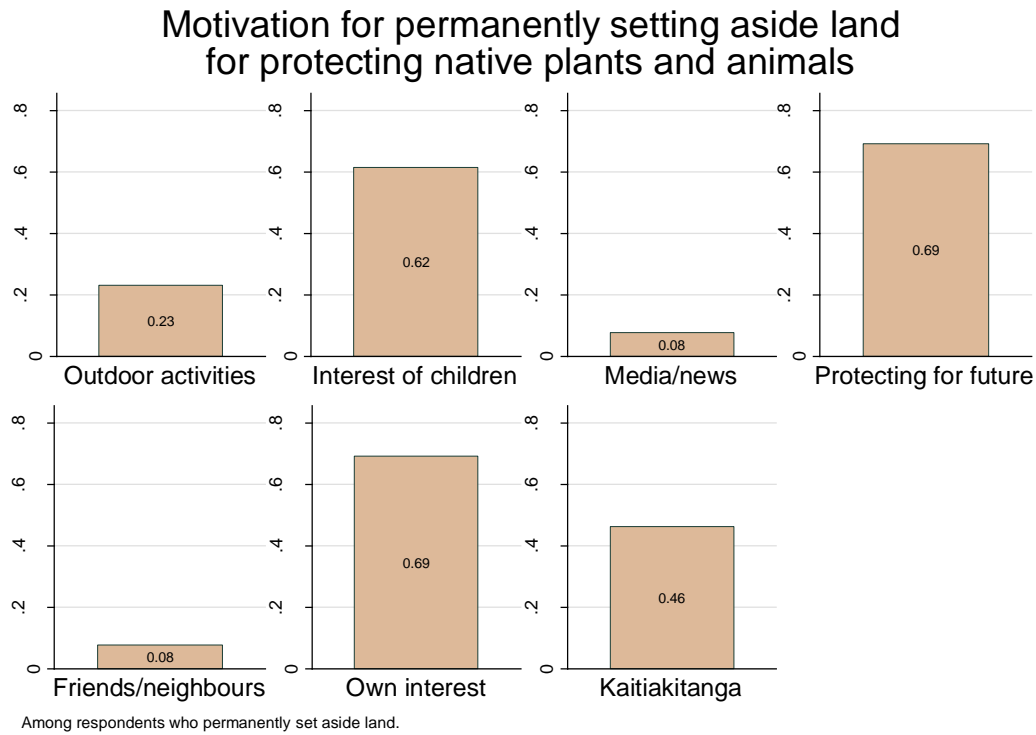


Figure 19

Among the 371 respondents who have planted native plants in their gardens, two-thirds report doing so out of own interest (Figure 20). Over half do so to protect resources for the future, 16% do so for reasons of kaitiakitanga/stewardship, and 14% report doing so due to involvement in outdoor activities.

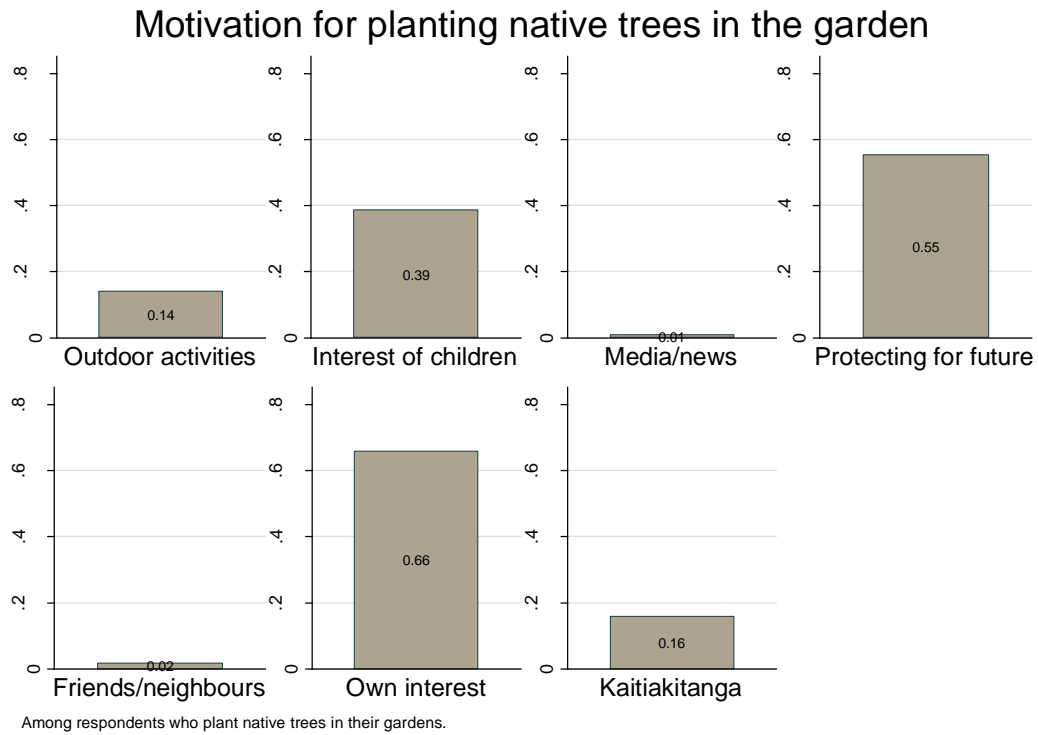


Figure 20

Nearly all respondents report that they recycle. Among this 94% of the sample, 85% report that protecting resources for the future is a motivation (Figure 21). More than 60% of respondents recycle out of self-interest and 35% of respondents report doing so in the interest of children. More than 20% of respondents choose kaitiakitanga/stewardship as a motivation for recycling. Note that the questionnaire did not include participation in outdoor activities as a motivation for recycling.

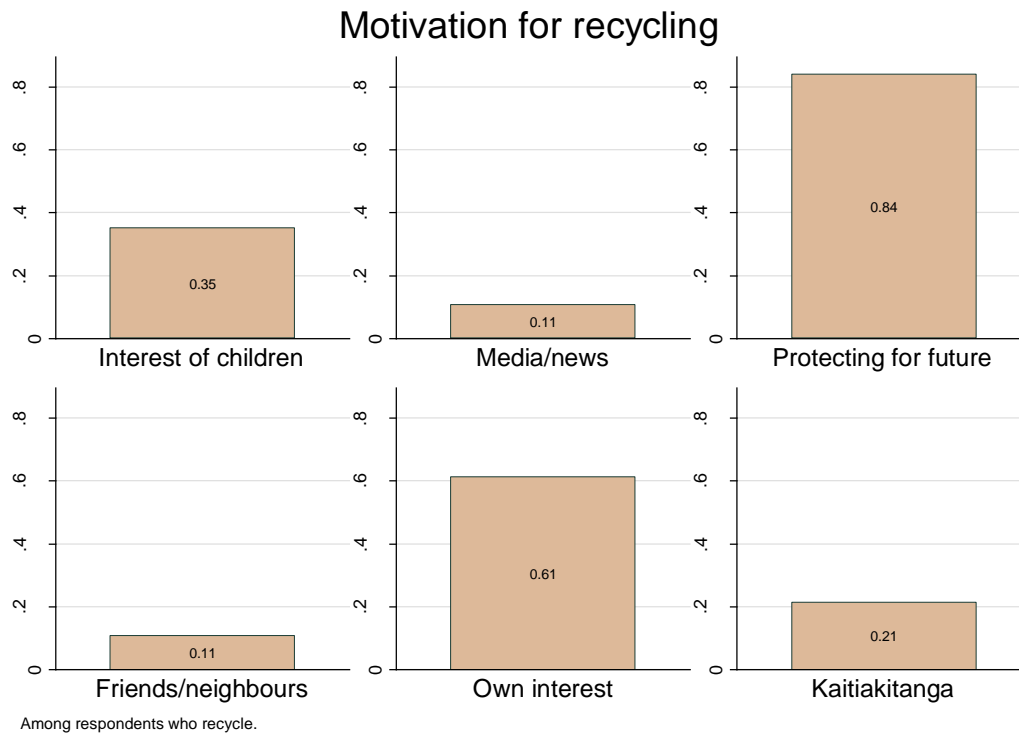


Figure 21

Figure 22 and Figure 23 report the reasons for which the 14 respondents who spot lizards and the 69 respondents who spot insects are involved in those activities. The majority identify the interest of their children a motivation. Participation in outdoor activities and own interest are also commonly reported motivations.

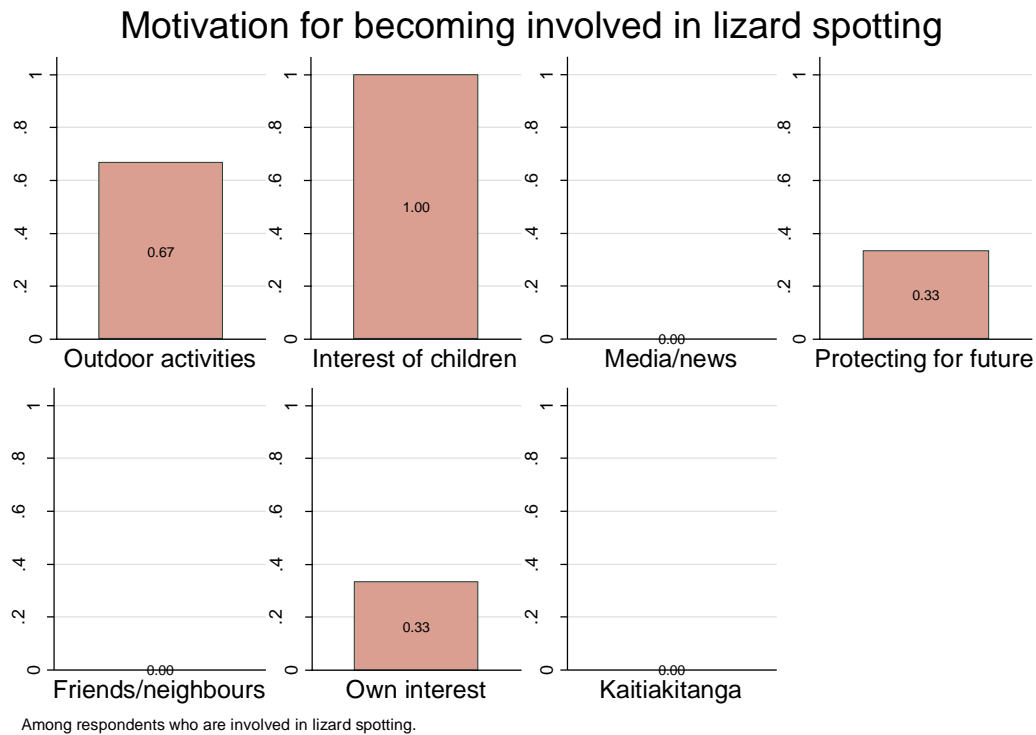


Figure 22

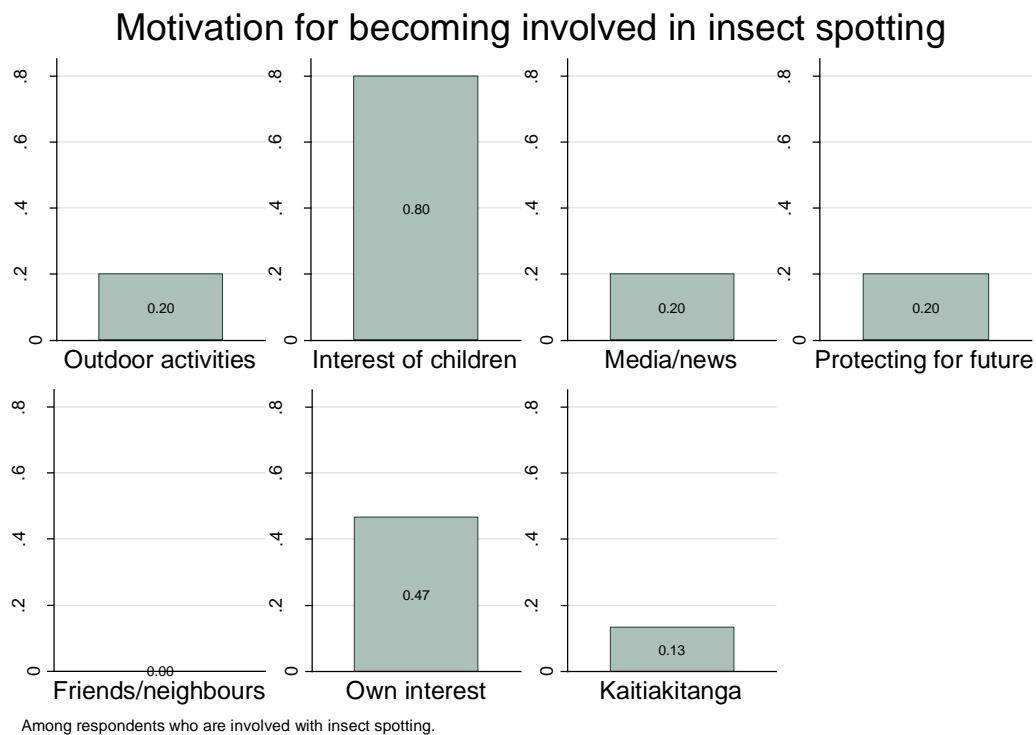
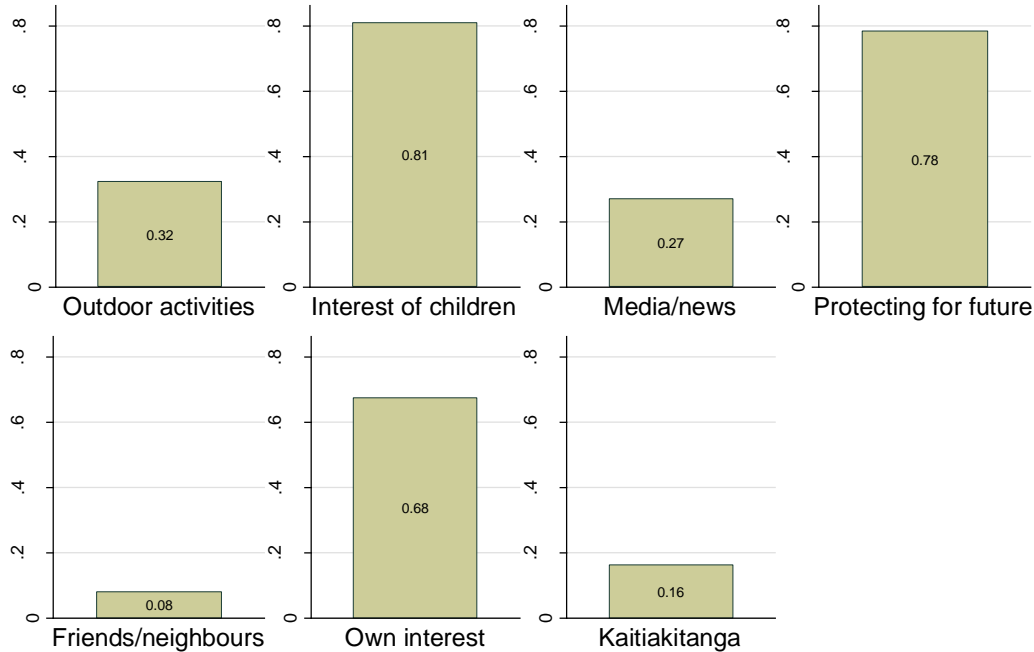


Figure 23

Figure 24 reports the various motivations for becoming involved with environmental teaching among the 143 respondents who are involved in this activity. More than 80% do so due to the interest of children and nearly as many do so to protect resources for the future. More than two-thirds of these respondents are involved in environmental teaching out of self-interest.

Motivation for becoming involved with environmental teaching



Among respondents who are involved with environmental teaching.

Figure 24

Thus, the interests of children, protecting resources for the future, and own interest are the most frequently cited motivations for participating in given environmental activities among participants. Kaitiakitanga/stewardship and participation in outdoor activities are also motivating factors, but media/news and friends/neighbours have little influence on the decision to participate in these activities.

Motivation for not becoming involved in environmental activities

Respondents who are not involved in bird watching, pest control, community planting days, planting trees in one’s own garden, recycling, lizard spotting, and insect spotting were asked why they choose not to participate. The answer set included lack of interest, being too busy, lack of information, inconvenience, expense, lack of transportation to locations in which given activities occur, and physical limitations/mobility concerns. Lack of transportation was not included as an option among reasons for not planting native trees in one’s garden. However, an additional option was included for not participating in pest control, namely, a dislike of killing animals. As above, respondents were able to select multiple reasons. Respondents who do not participate in more than one of these activities were asked about the decision not to participate in one activity chosen at random.

Being too busy and lack of interest are the most commonly reported reasons for not participating in bird watching (Figure 25). Lack of information and being too busy are the most commonly reported reasons for not participating in pest control (Figure 26) and community planting days (Figure 27). Being too busy is the most common reason for not planting native trees in one’s own garden (Figure 28), followed by the expense and lack of information. The handful of people who do not recycle commonly attribute being too busy as a reason (Figure 29). Lack of information, being too busy, and lack of interest are frequently cited reasons for not participating in lizard spotting (Figure 30) and for not participating in insect spotting (Figure 31).

Inconvenience, transportation, and physical limitations/mobility concerns therefore are not major hindrances to participation in these activities. With the exception of planting native trees in one’s own garden, expense is also not a major barrier.

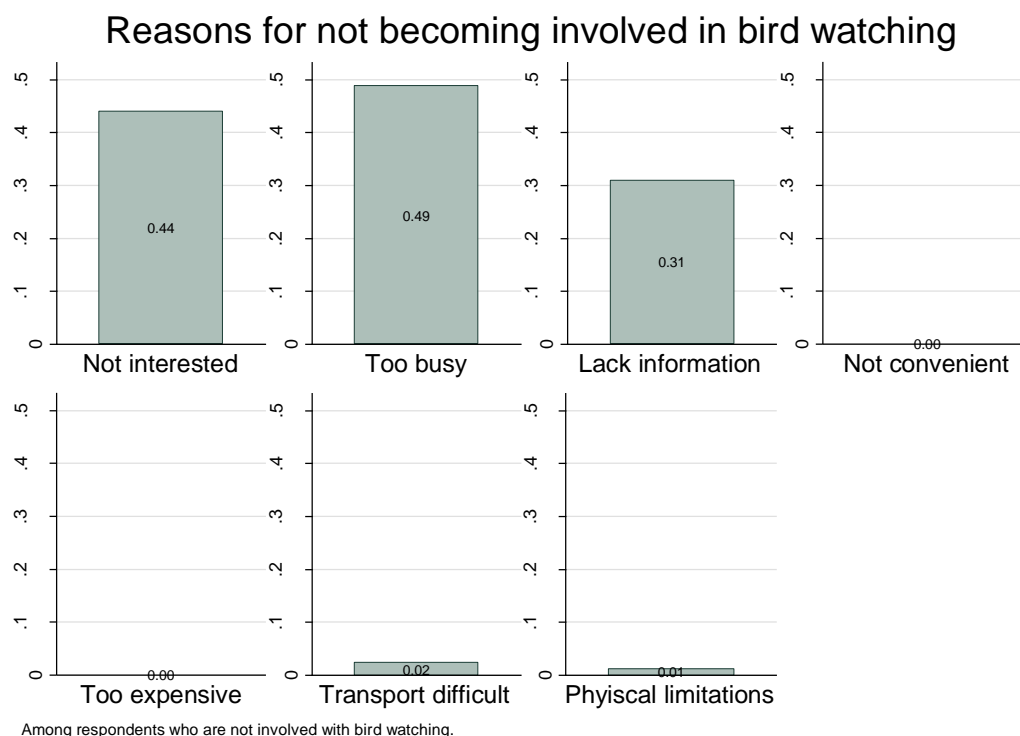
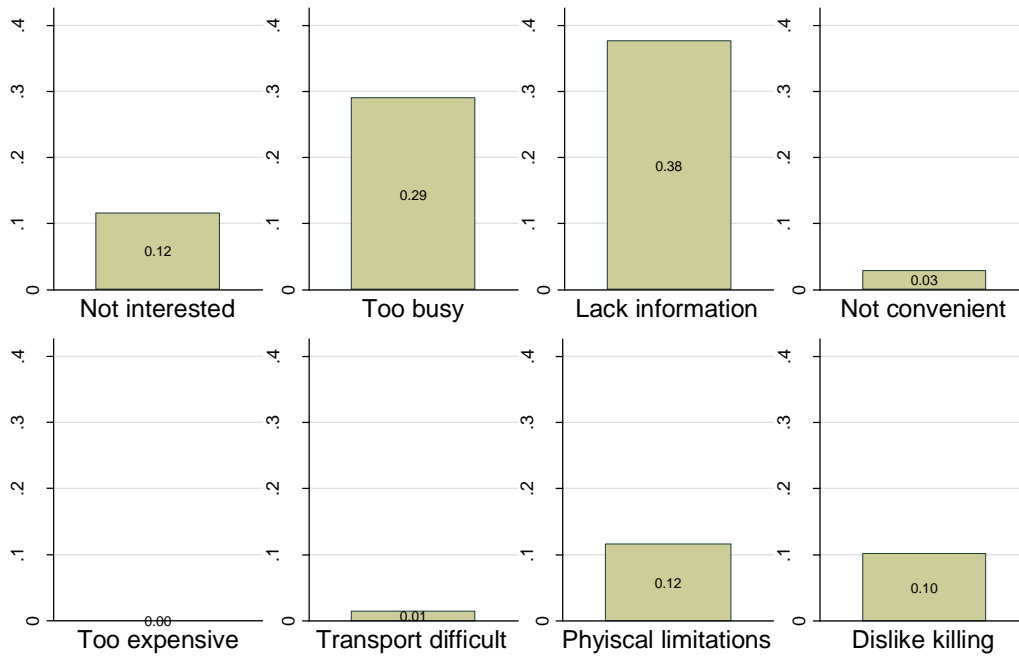


Figure 25

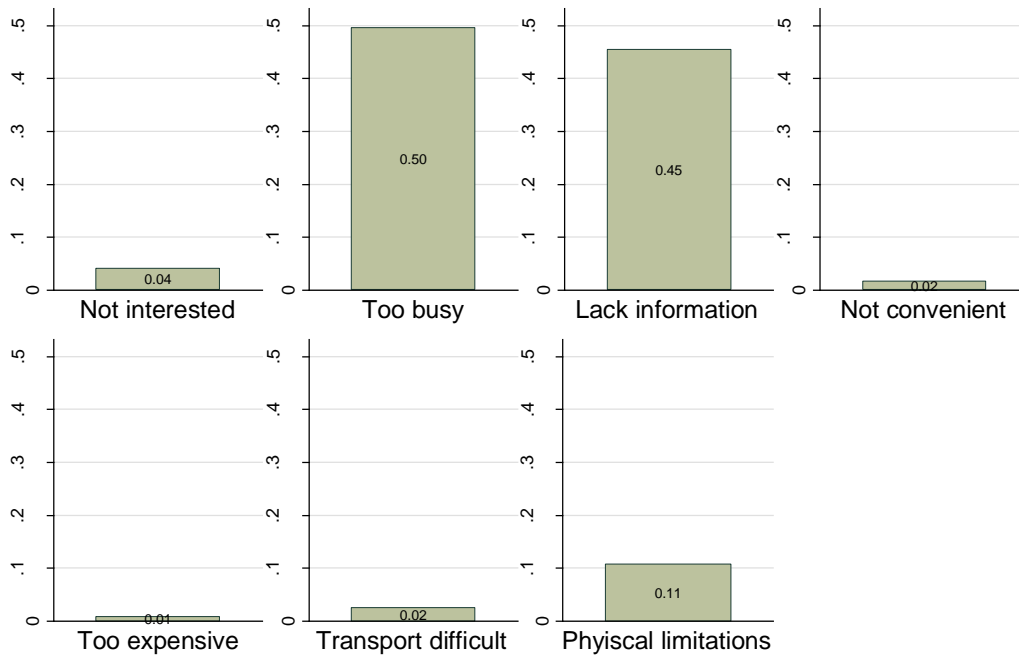
Reasons for not becoming involved in pest control



Among respondents who are not involved with pest control.

Figure 26

Reasons for not becoming involved in community planting days



Among respondents who are not involved with community planting days.

Figure 27

Reasons for not planting native trees in the garden

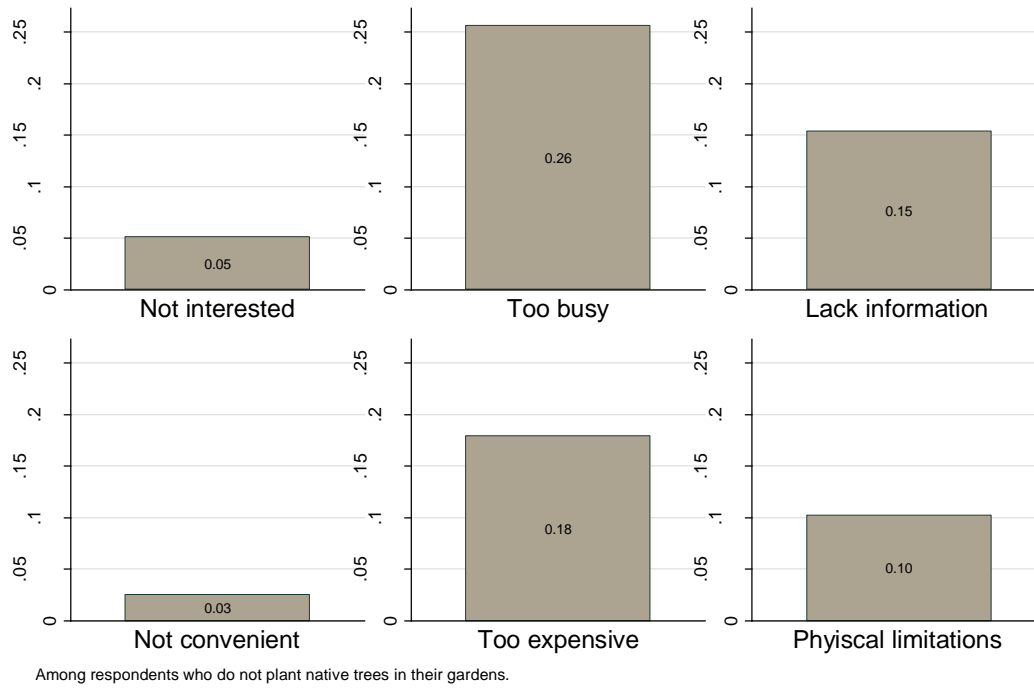


Figure 28

Reasons for not recycling

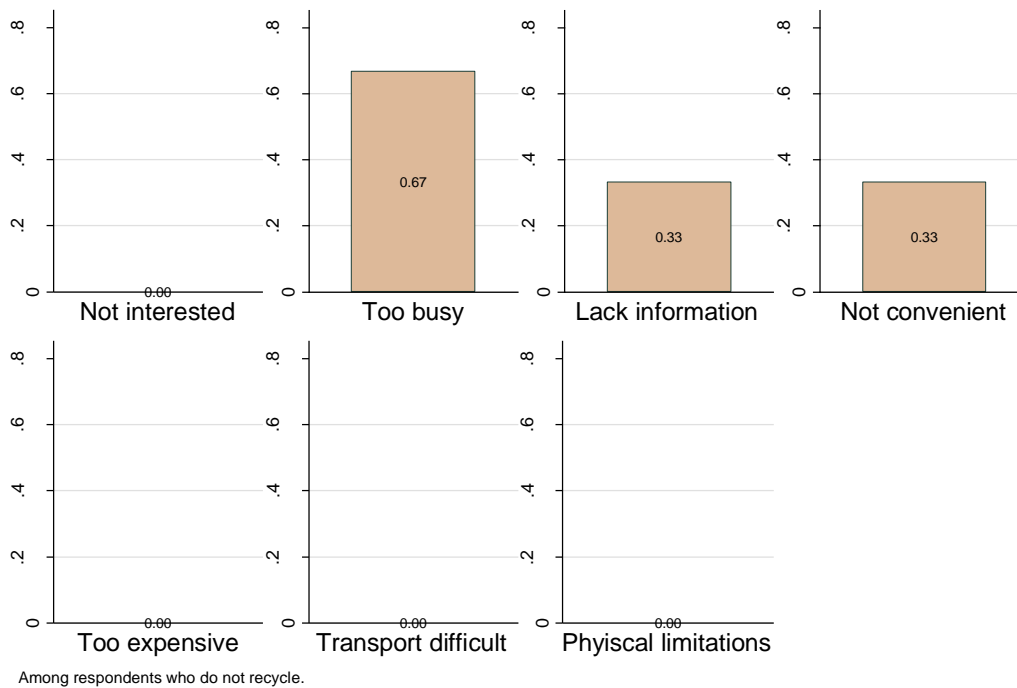
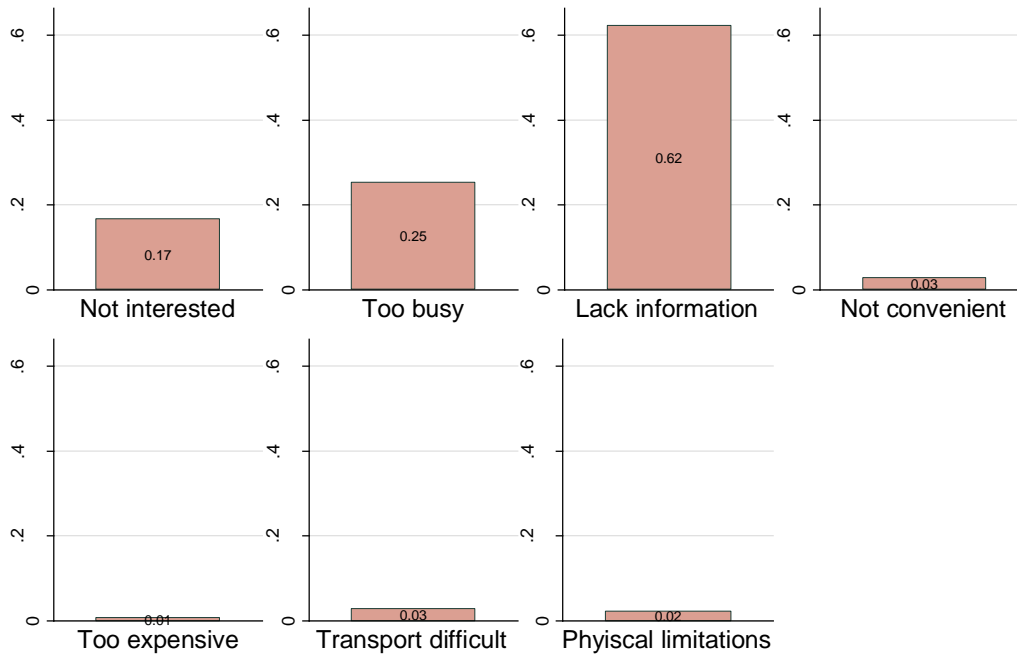


Figure 29

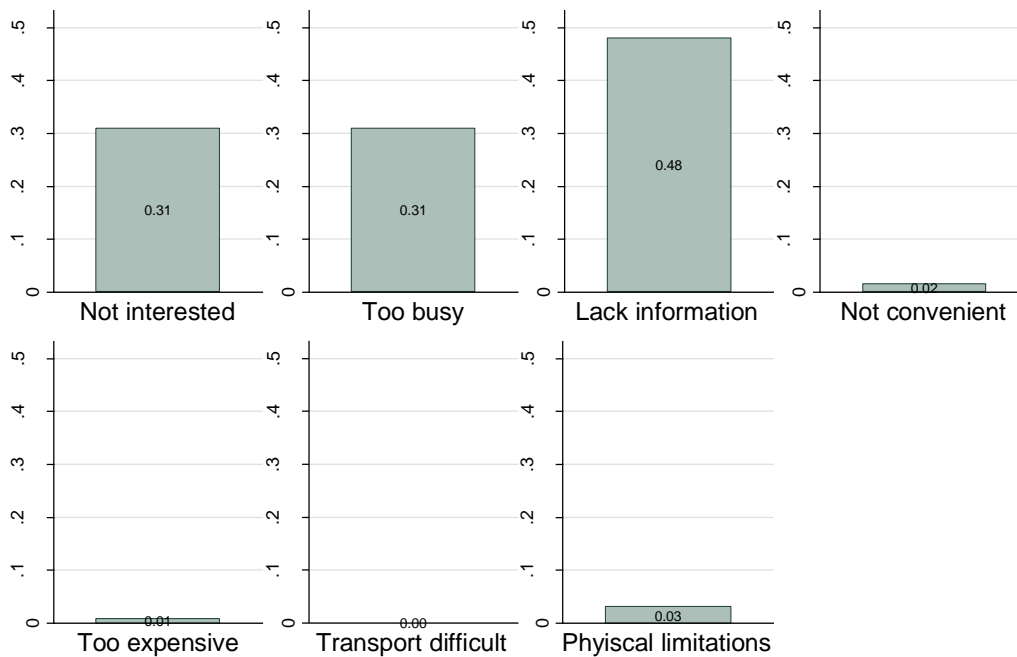
Reasons for not becoming involved in lizard spotting



Among respondents who are not involved in lizard spotting.

Figure 30

Reasons for not becoming involved in insect spotting



Among respondents who are not involved with insect spotting.

Figure 31

Sources of information

This portion of the survey asked about sources of information about biodiversity protection and habitat restoration in Hawke’s Bay. It also asked about familiarity with the Cape to City and Poutiri Ao ō Tāne projects and, among those who are familiar with them, their sources of information.

Over half of all respondents obtain information about biodiversity protection and habitat restoration from schools and 50% do so through print media (Figure 32). HBRC provides such information to 42% of respondents, followed by DOC, word of mouth, and the Internet, with between 37% and 39% each. Among respondents who affiliate with and iwi/hapū, 27% identify the iwi/hapū as a source of information. In addition, 8% of respondents report that they do not access information about biodiversity protection and habitat restoration through any of these sources.

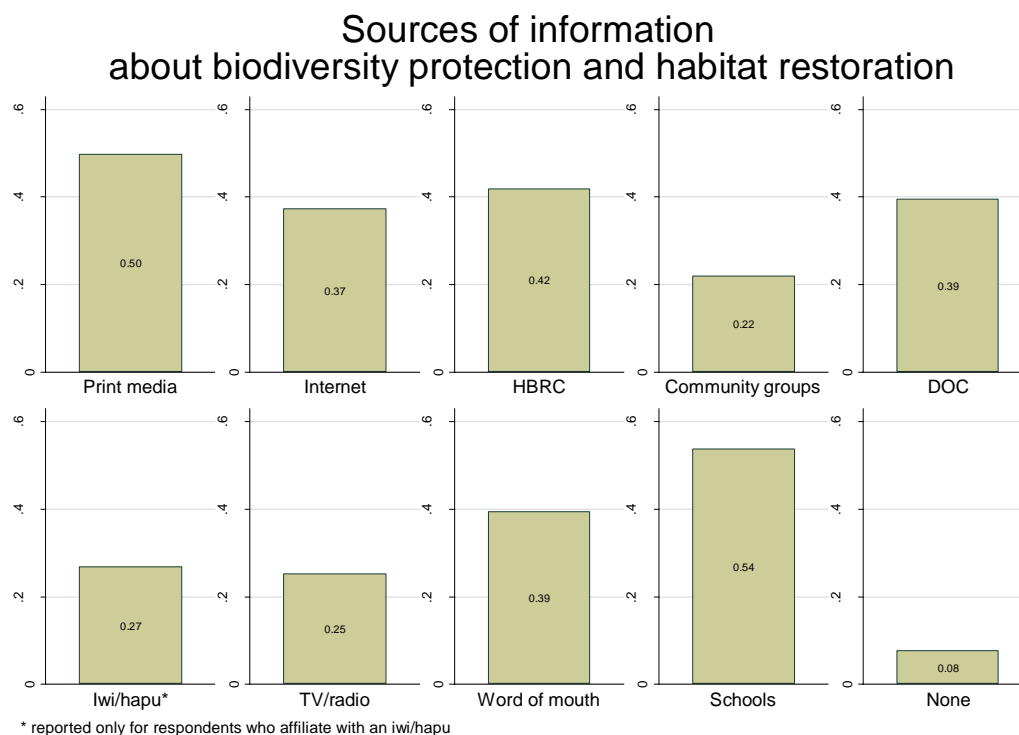
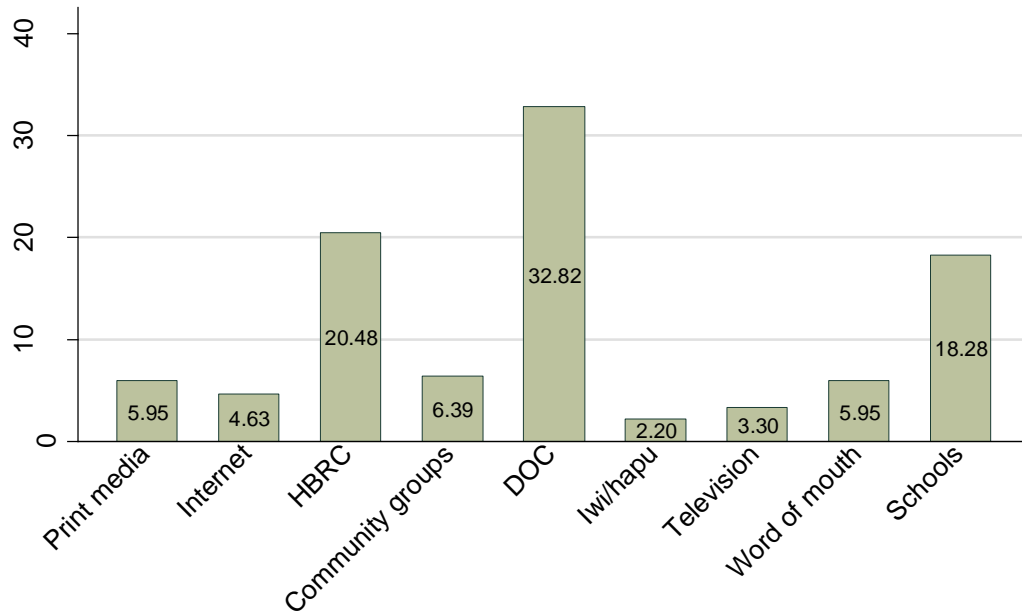


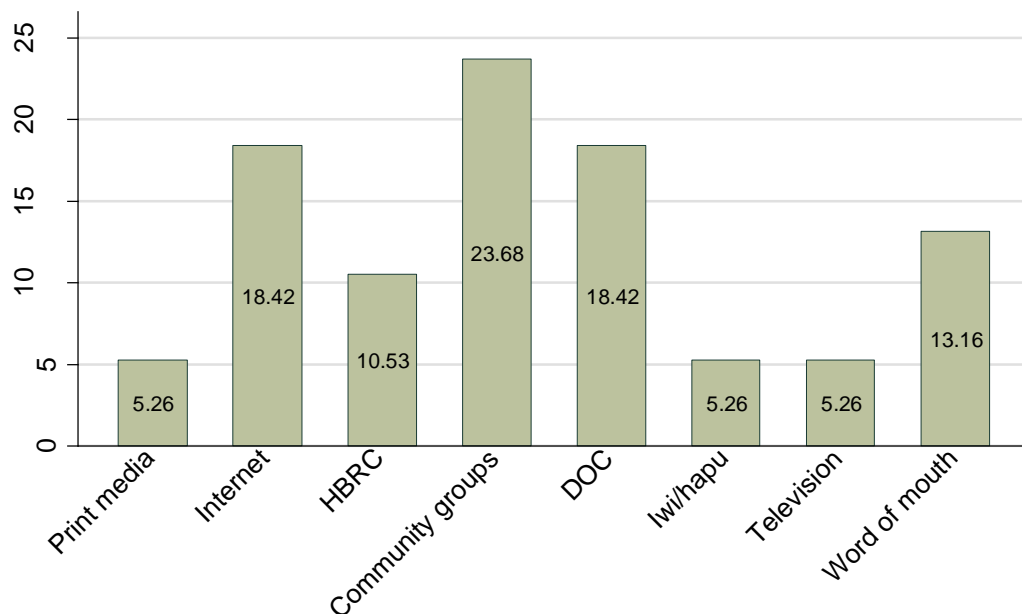
Figure 32

Among the 92% of respondents who access information about biodiversity protection and habitat restoration from one of the sources identified above, DOC is the single most trusted source for 33% (Figure 33a). HBRC and schools account for 20% and 18% of responses, respectively. Among respondents who affiliate with an iwi/hapū, 24% identify community groups as being the most trusted source (Figure 33b), 18% identify DOC, 18% identify the Internet, and 5% identify iwi/hapū.



Which source of information about biodiversity protection and habitat restoration is most trusted?

Figure 33a



Which source of information about biodiversity protection and habitat restoration is most trusted? - Iwi members

Figure 34b

Among respondents who are inside the Cape to City footprint, 27% are familiar with the project. Outside of the footprint, only 4% of respondents are familiar with the project (Figure 35). This difference is statistically significant at the 0.01 level. Just 4% of respondents are familiar with the Poutiri Ao o Tāne project, a figure that does not differ based on location relative to the footprint.

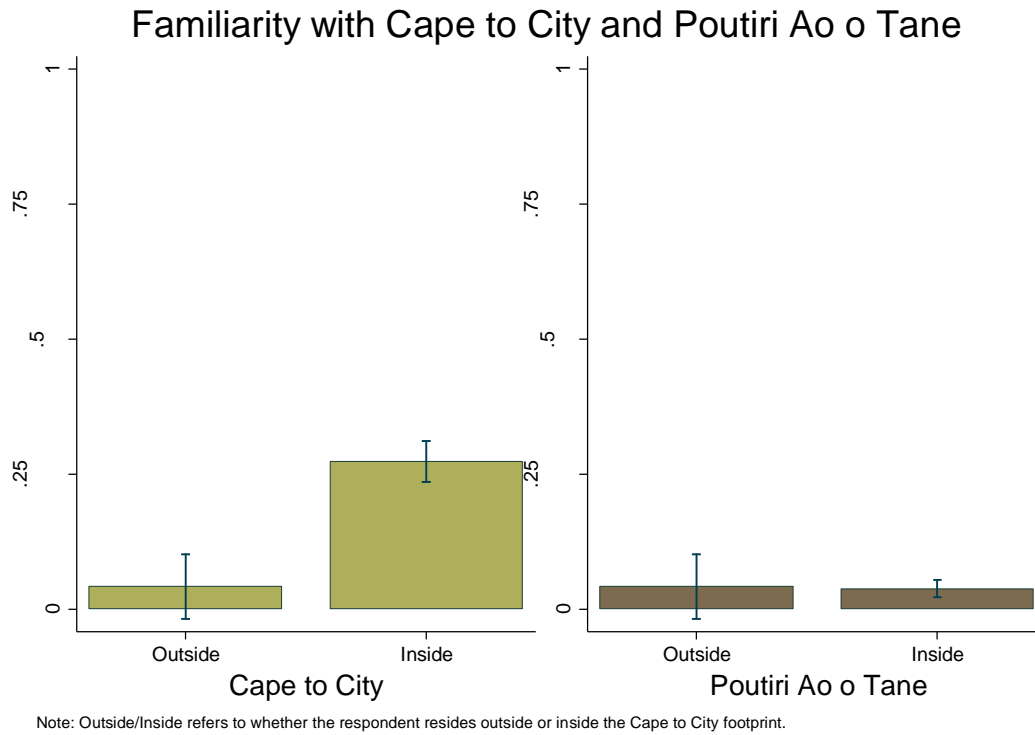
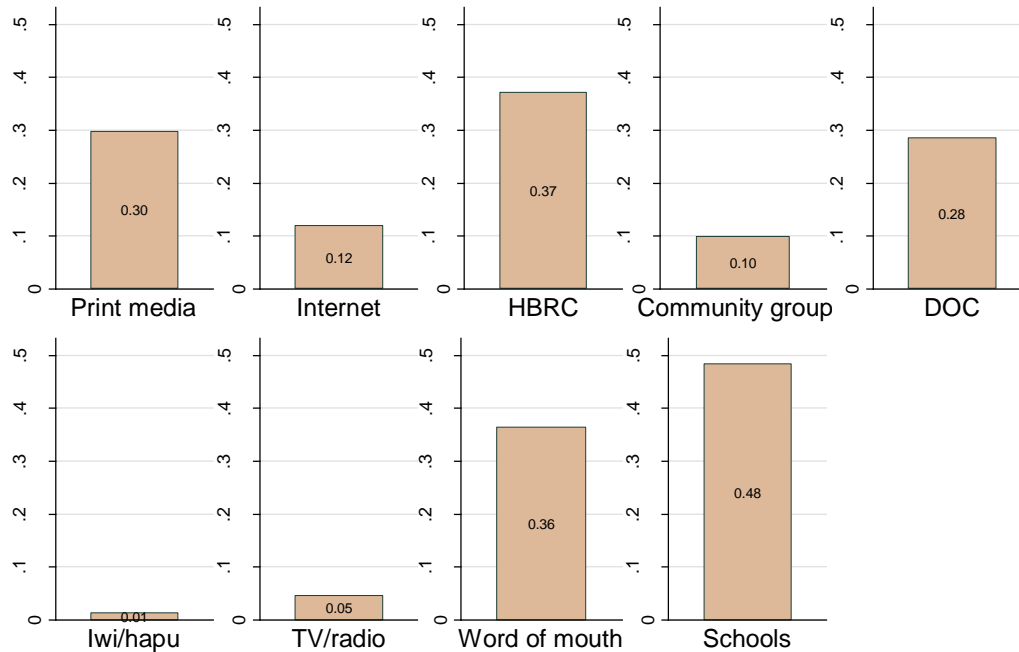


Figure 35

Figure 35

Among the 151 respondents who are familiar with the Cape to City project, schools are a source of information for 48% (Figure 36). HBRC, word of mouth, print media, and DOC are other common sources of information. TV/radio and iwi/hapū are less commonly selected. For the 23 respondents who report being familiar with the Poutiri Ao o Tāne project, word of mouth and DOC are the most common sources of information, followed by HBRC, the Internet, schools, and iwi/hapū.

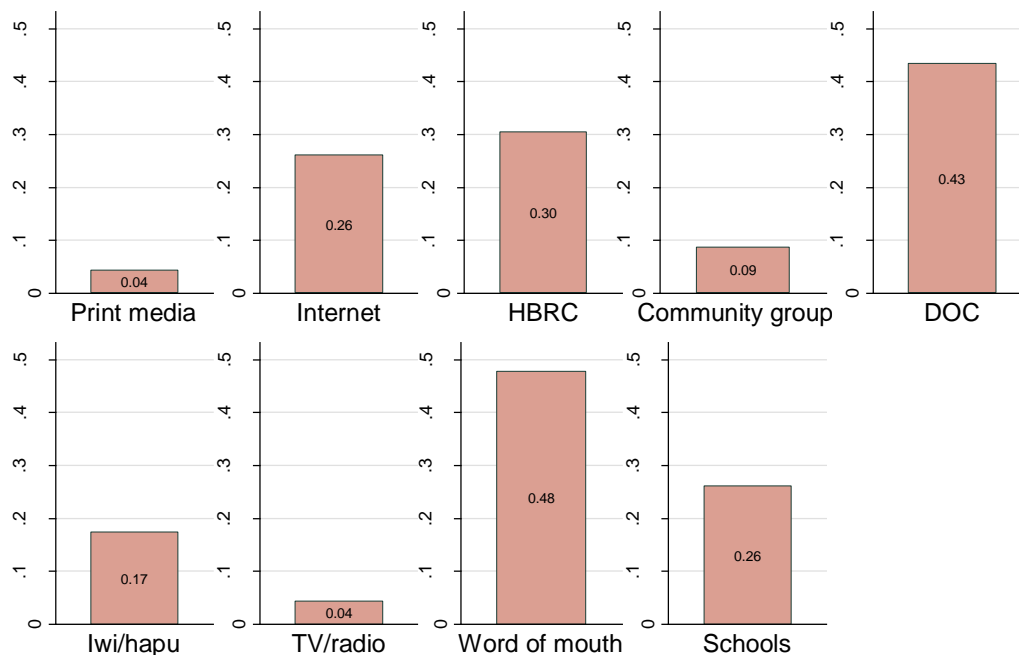
Sources of information about Cape to City



Among respondents who are familiar with Cape to City.

Figure 36

Sources of information about Poutiri Ao a Tane



Among respondents who are familiar with Poutiri Ao o Tane.

Figure 37



Figure 39



Figure 40

Conclusions

The Cape to City project is not yet well known, even inside the project footprint (Figure 35). Nevertheless, respondents inside the footprint report seeing a greater variety of native birds (Figure 4) and reptiles (Figure 5) than respondents outside the footprint. Respondents inside the footprint have a greater orientation toward environmental protection (Figure 10) and are statistically more likely to donate to environmental causes, to permanently protect private land, to plant native trees in their gardens, and to engage in environmental teaching than those outside the footprint (Figure 12).

Regardless of location, biodiversity protection and habitat restoration are seen as being important and desirable (Figure 9). Involvement in environmental activities such as recycling, planting native trees in one's garden, and pest control is high (Figure 12), and participants are primarily motivated by children's interest, own interest, and protecting resources for the future (Figure 15-Figure 23). Lack of information, lack of interest, and lack of time are commonly reported reasons for not becoming involved in certain environmental activities (Figure 25-Figure 31). DOC and HBRC are seen as holding the highest responsibility for biodiversity protection and habitat restoration (Figure 11), but – together with schools – they are also widely seen as trustworthy sources of information on these topics (Figure 33).

Acknowledgements

Melissa Brignall-Theyer (DOC) and Robyn McCool (DOC) paved the way for partnering with schools on survey distribution. Melissa, Robyn, Wendy Rakete-Stones (Cape to City), Campbell Leckie (HBRC), Roger Pech (Landcare Research – LCR), Alison Greenaway (LCR), Grant Norbury (LCR), Becky Niemiec (Stanford University), and Andrew Mahoney (DOC) lent their expertise to the survey design.