

Community participation in large-scale pest management

Becky Niemiec, Pike Brown and Roger Pech



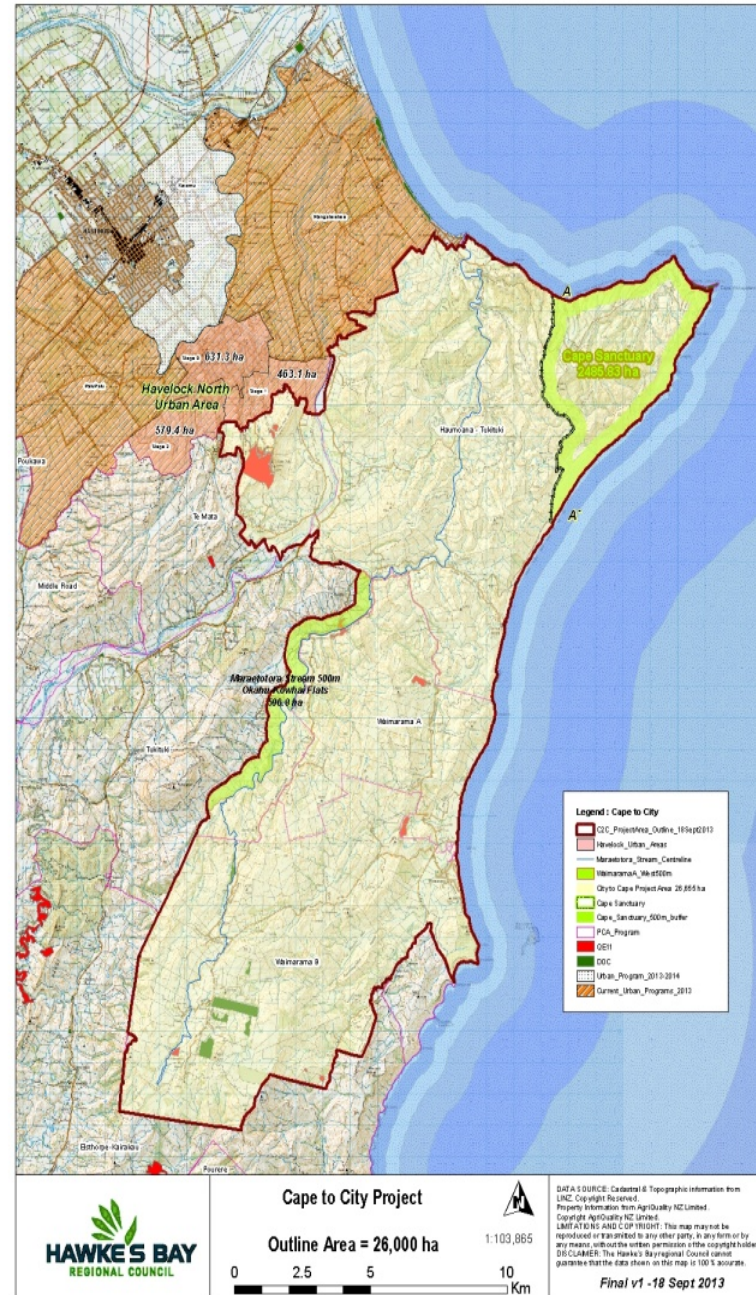
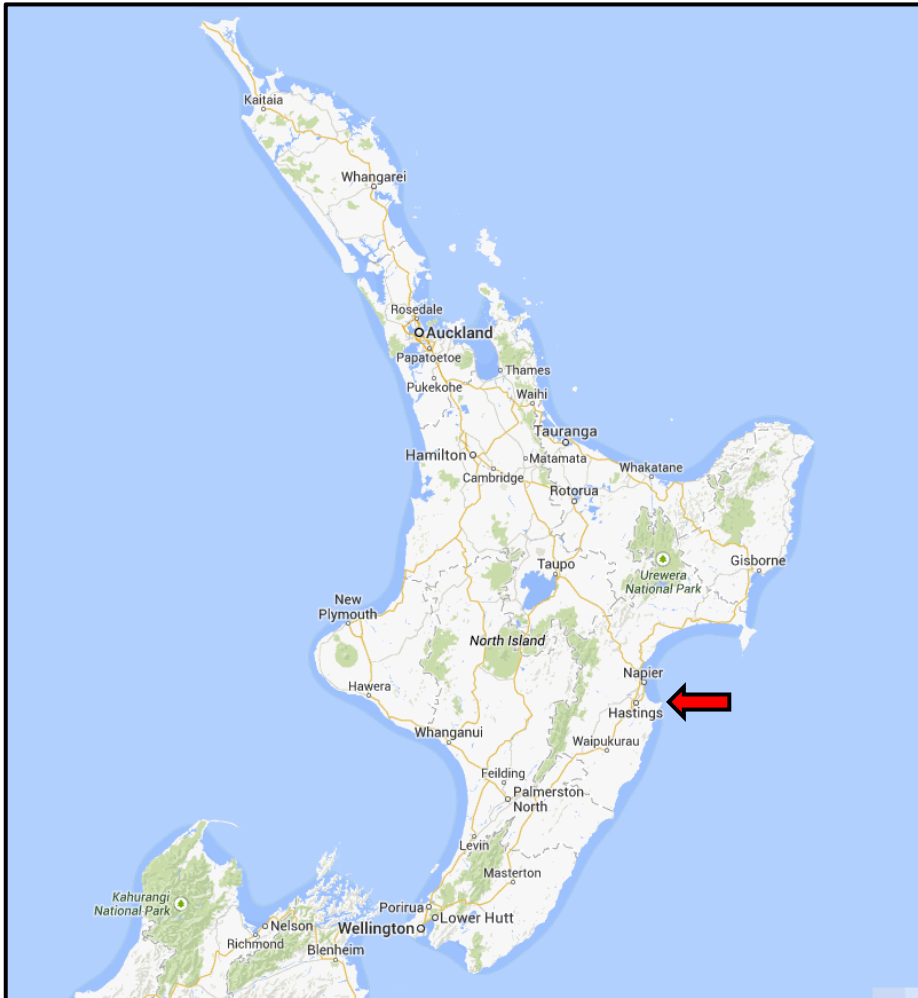
LANDCARE RESEARCH
MANAAKI WENUA





CAPE TO CITY

It's in our nature



Why is community involvement so important?

Cape-to-City project

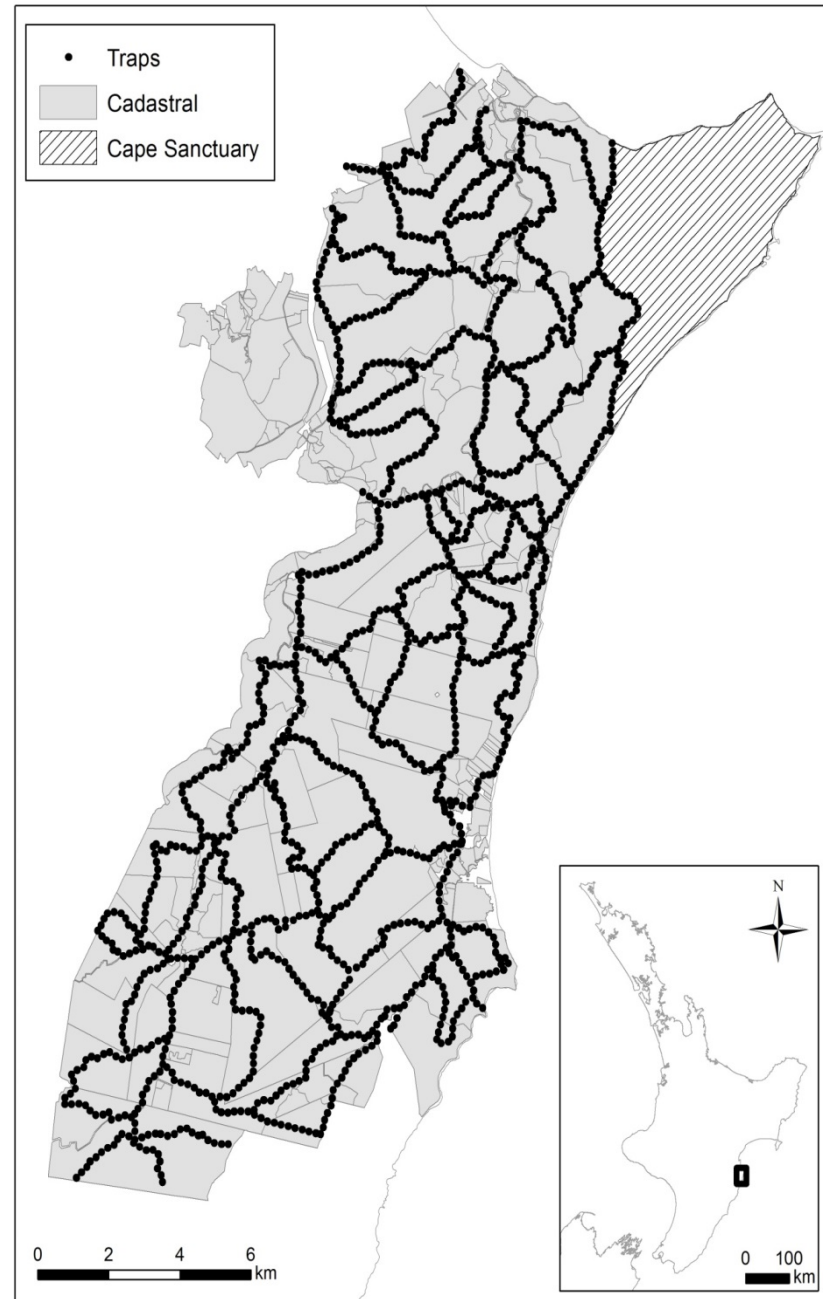
- 26,000 ha: rural and residential
- 163 properties: 1.5 – 2033 ha
- initial knock-down phase, then maintenance control using a network of 1460 kill-traps



Landholder participation in regional-scale control of invasive predators: an adaptable landscape model

A. S. Glen · M. C. Latham · D. Anderson · C. Leckie · R. Niemiec · R. P. Pech · A. E. Byrom

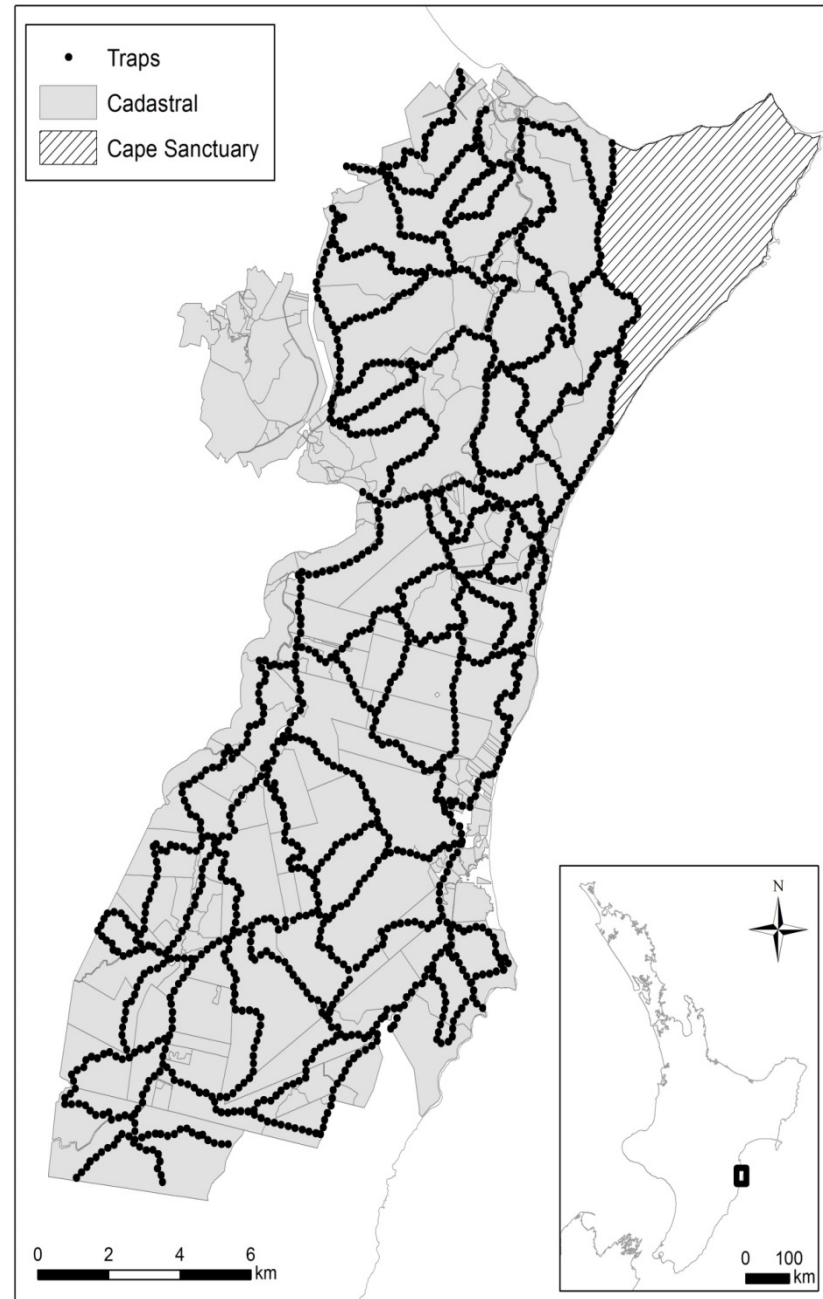
Biol Invasions (2017) 19:329–338
DOI 10.1007/s10530-016-1282-3

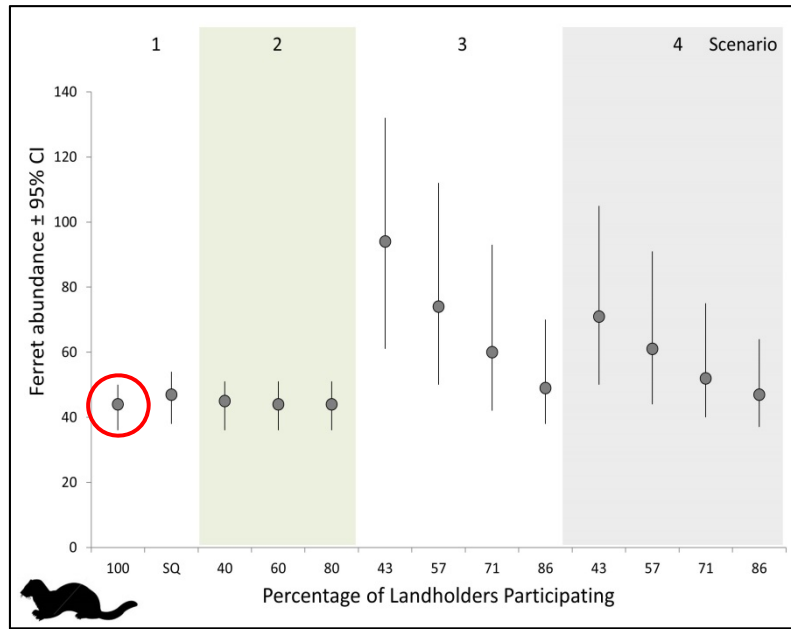


Why is community involvement so important?

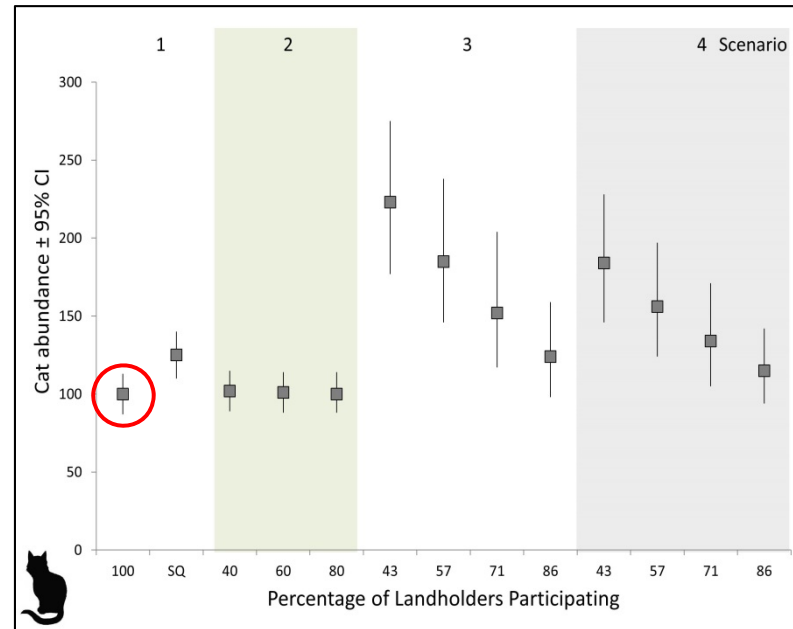
Cape-to-City project: scenarios

1. *Status quo*: all landholders except two large properties
2. *Lifestyle landholders*: randomly exclude 1, 2, or 3 from 5 clusters of properties
3. *Landholders with large properties*: randomly exclude 1, 2, 3, or 4 from 7
4. *Relocation of traps*: scenario 3 with traps moved to adjacent participating properties

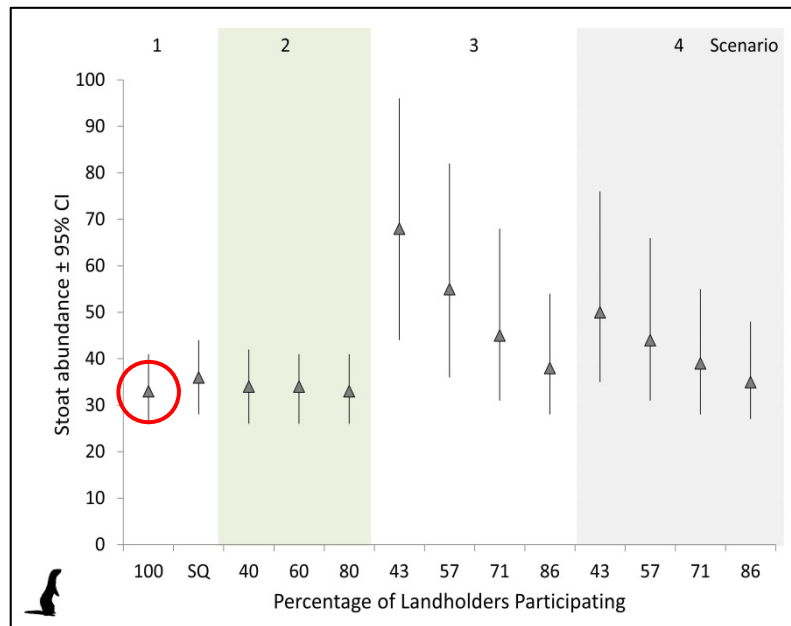




200 ferrets before control



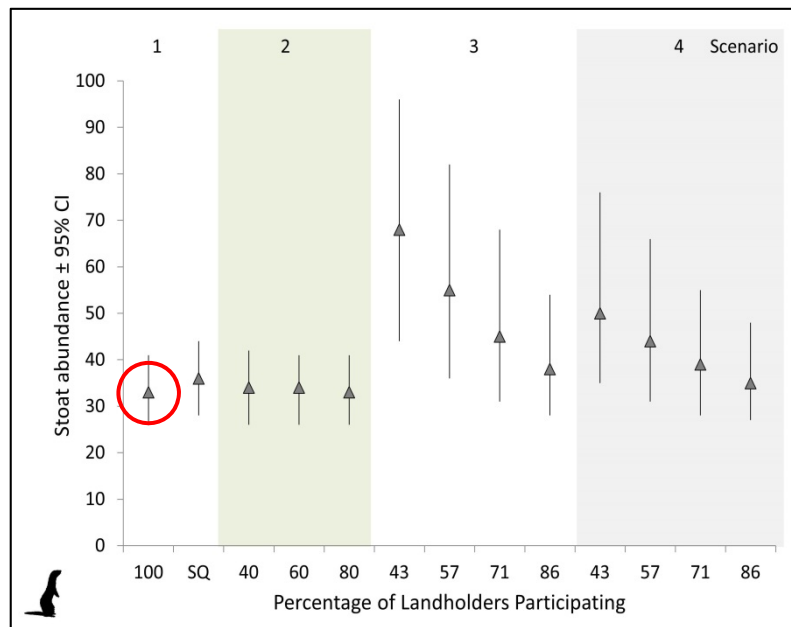
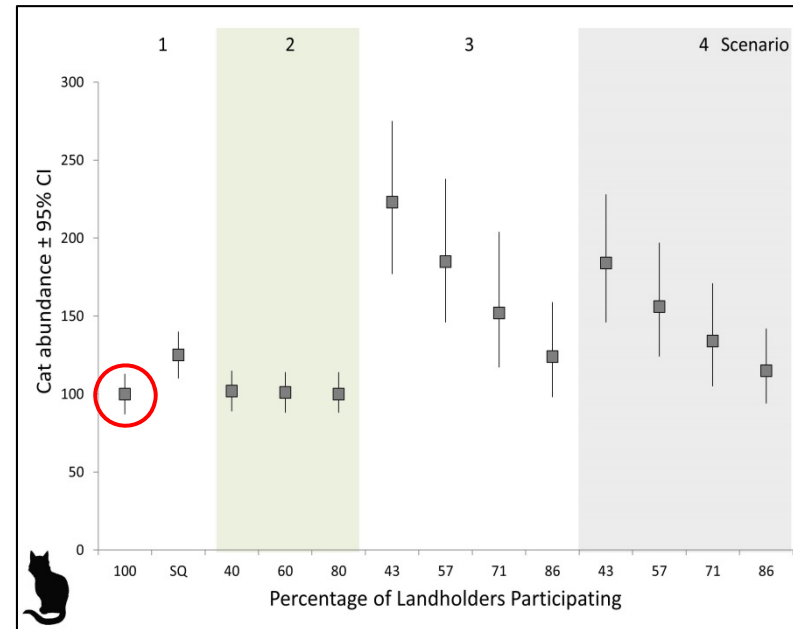
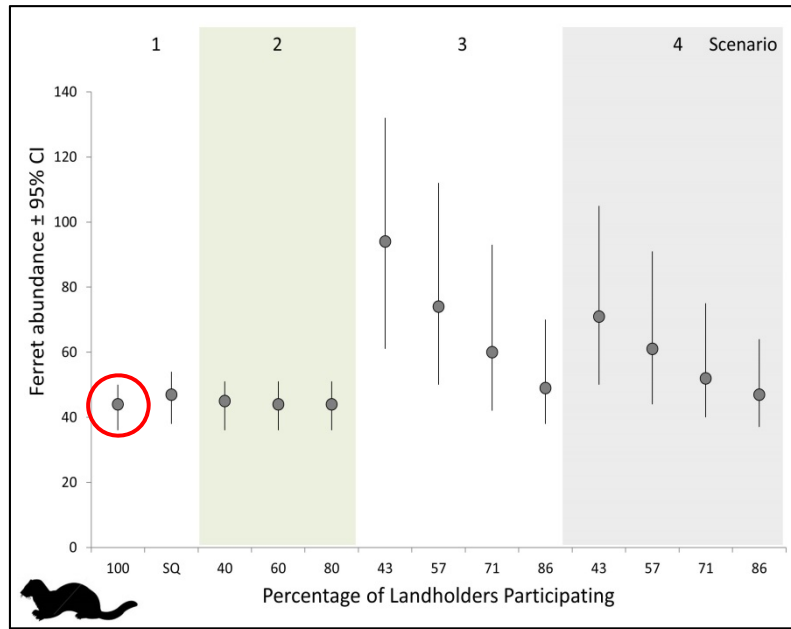
500 cats before control



200 stoats before control

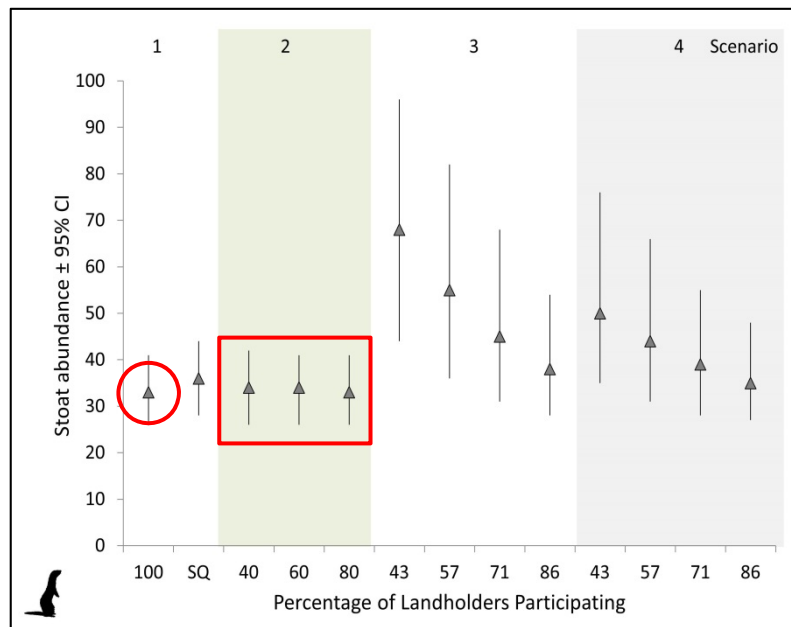
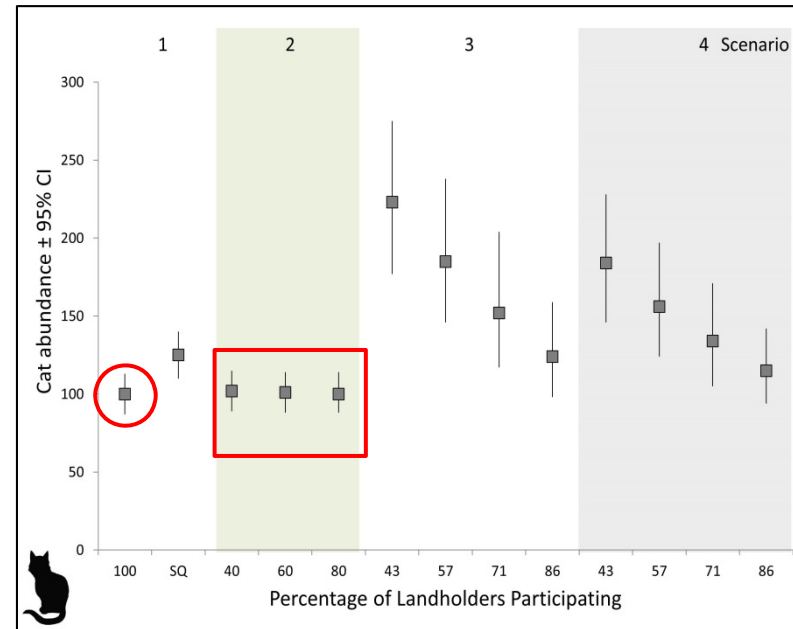
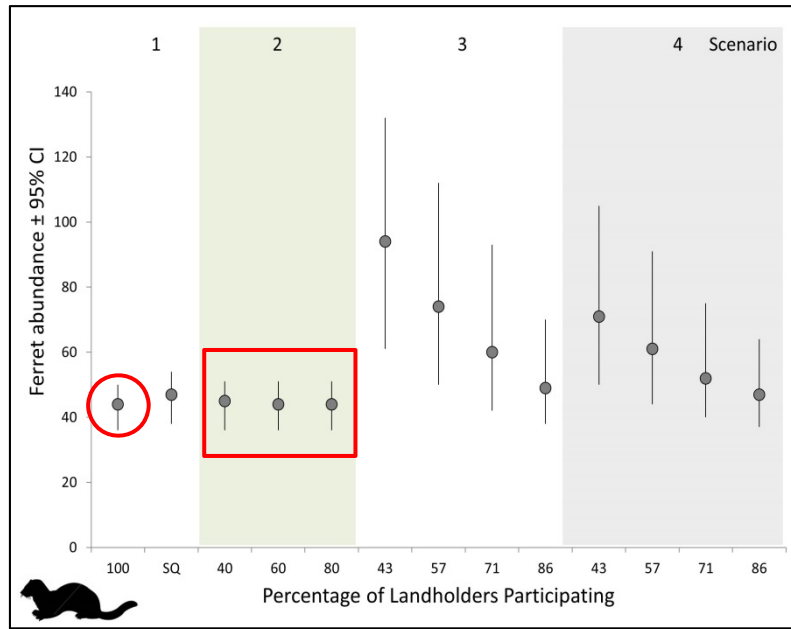
100% participation





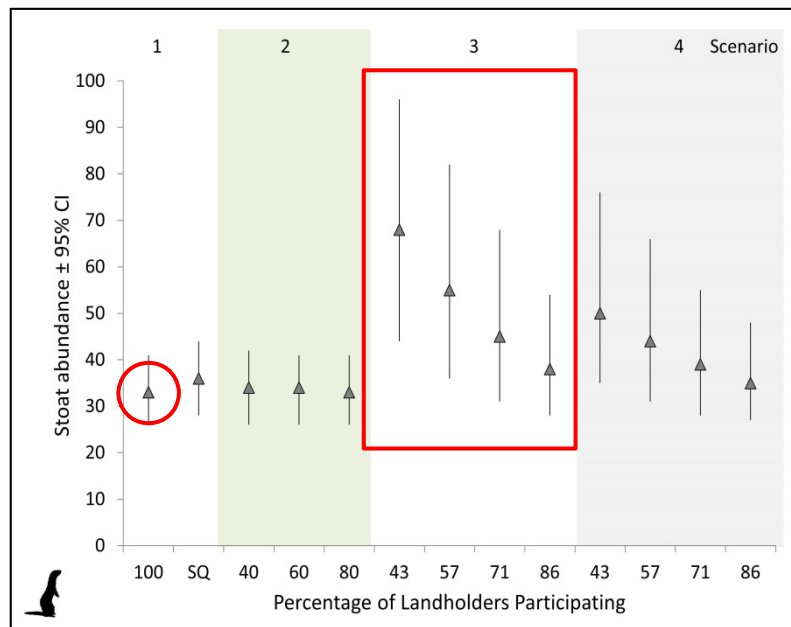
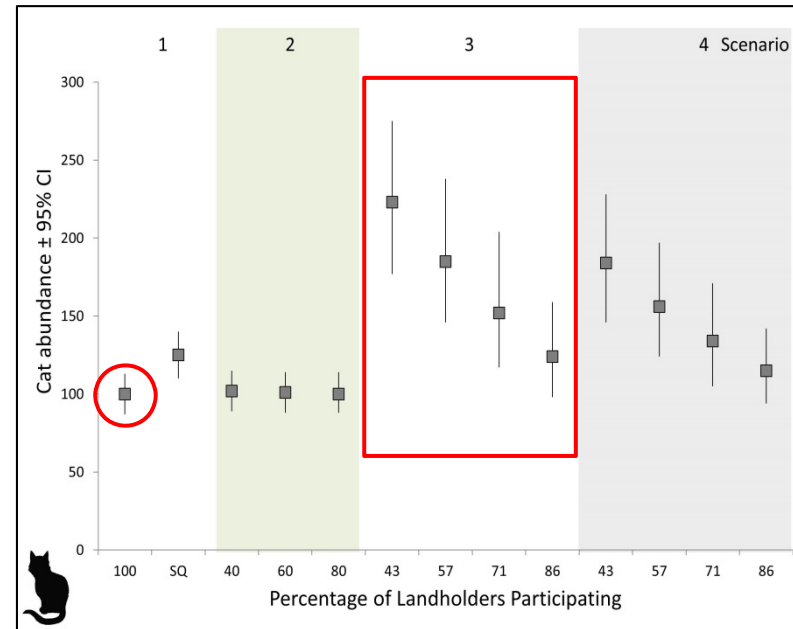
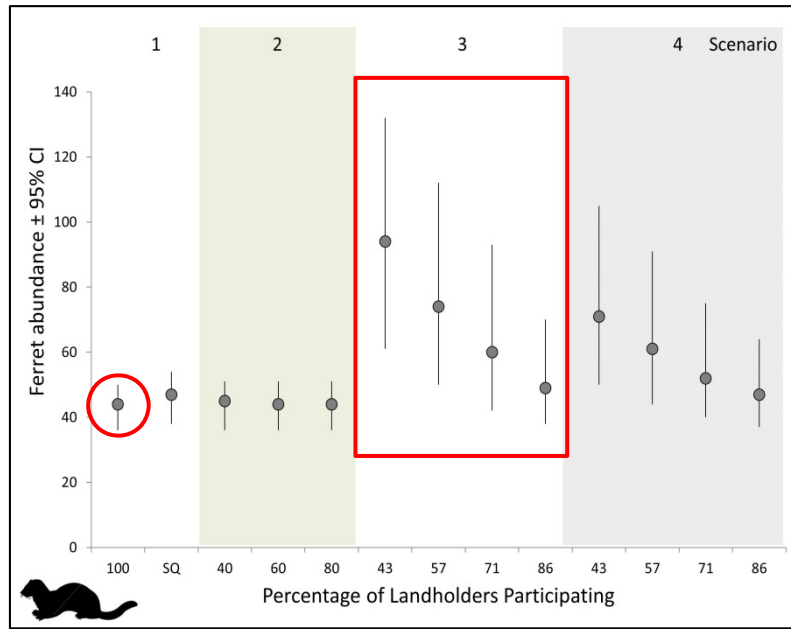
100% participation





Non-participation by owners of small properties (≤ 25 ha) has a negligible effect





Non-participation by owners of small properties (≤ 25 ha) has a negligible effect

Non-participation by owners of large properties (> 800 ha) reduces the efficacy of control

- offset with additional traps on the nearest participating properties



Attitudes of rural landholders: *Cape-to-City* project

Becky Niemiec, Stanford University

Landowners' Perspectives on Coordinated, Landscape-Level Invasive Species Control: The Role of Social and Ecological Context

Rebecca M. Niemiec¹ · Roger P. Pech² · Grant L. Norbury³ · Andrea E. Byrom²

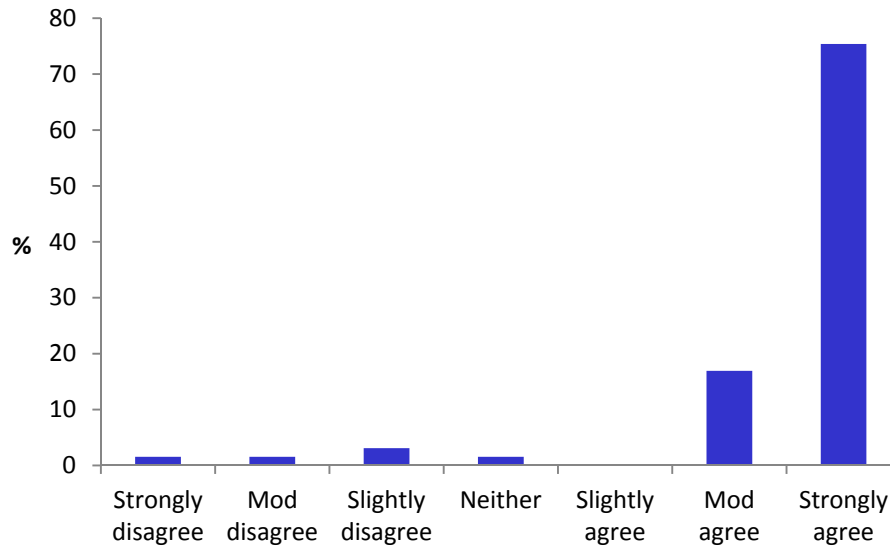
Environmental Management
DOI 10.1007/s00267-016-0807-y



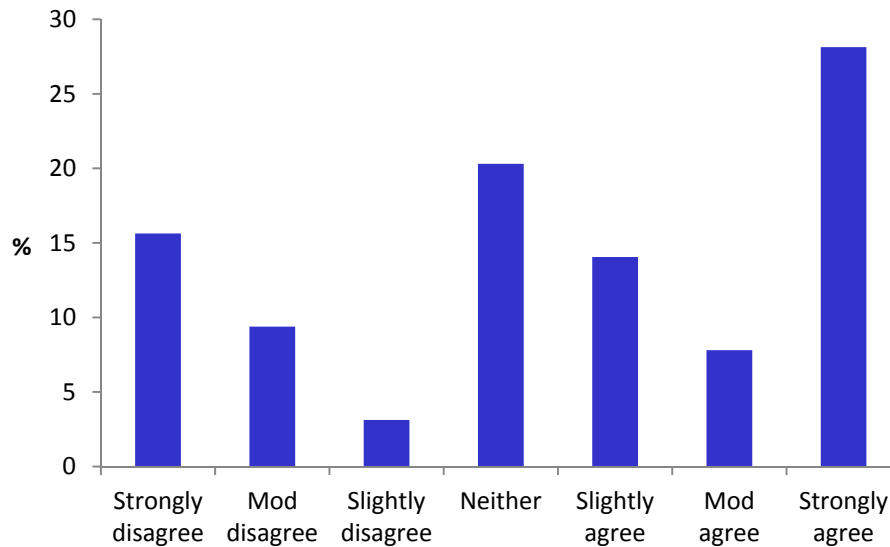
- *Survey methods:* mail-out questionnaire plus interviews
- *Quantitative questions:* e.g. What is your land used for? How much of your property is currently being controlled for the following pests? Do you agree or disagree with [*statement about predators*].
- *Qualitative open-ended questions:* e.g. What do you think is the value, if anything, of widespread predator control efforts through *Cape to City*? What are your suggestions for improving predator control in the region?
- *Sample size:* 28 inside *Cape-to-City*, 40 outside the footprint



Attitudes: *Cape-to-City* project



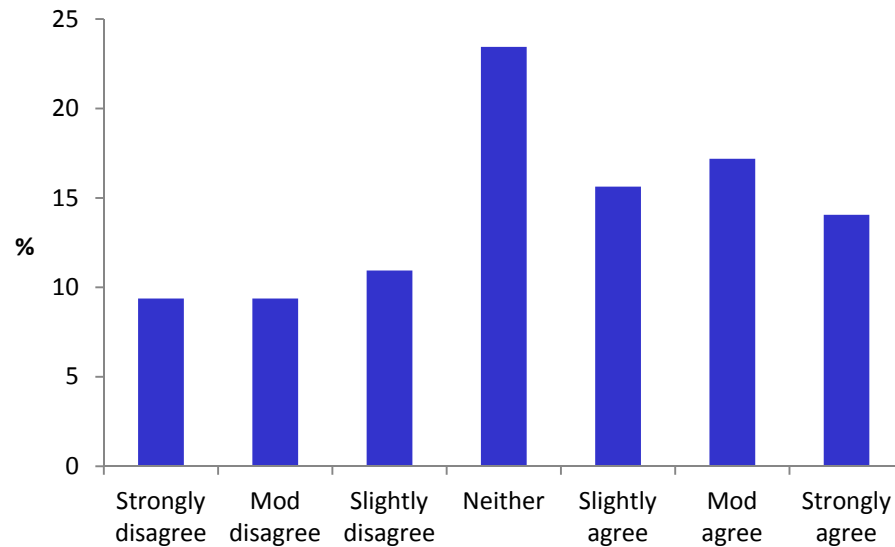
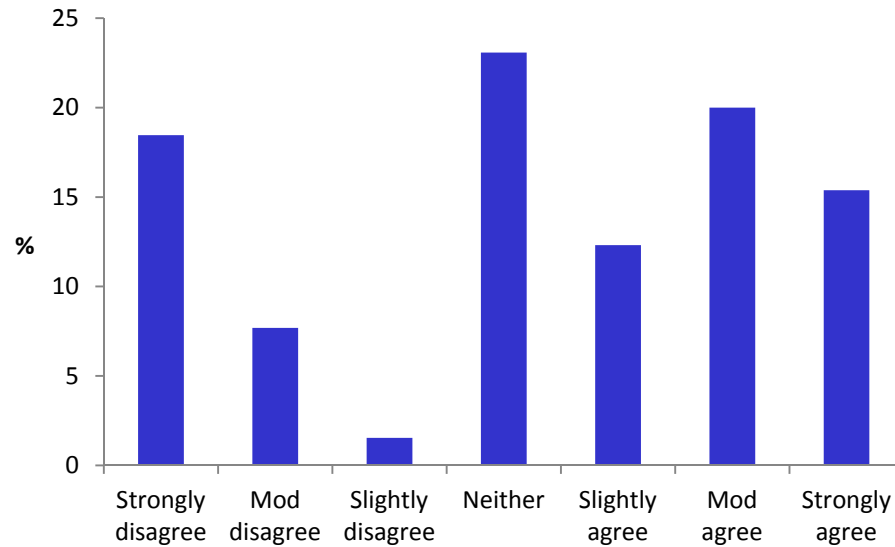
Stoats, ferrets, and feral cats in the region pose a significant threat to native birds and other animals



Reducing the number of feral cats will provide economic benefits to me



Attitudes: *Cape-to-City* project

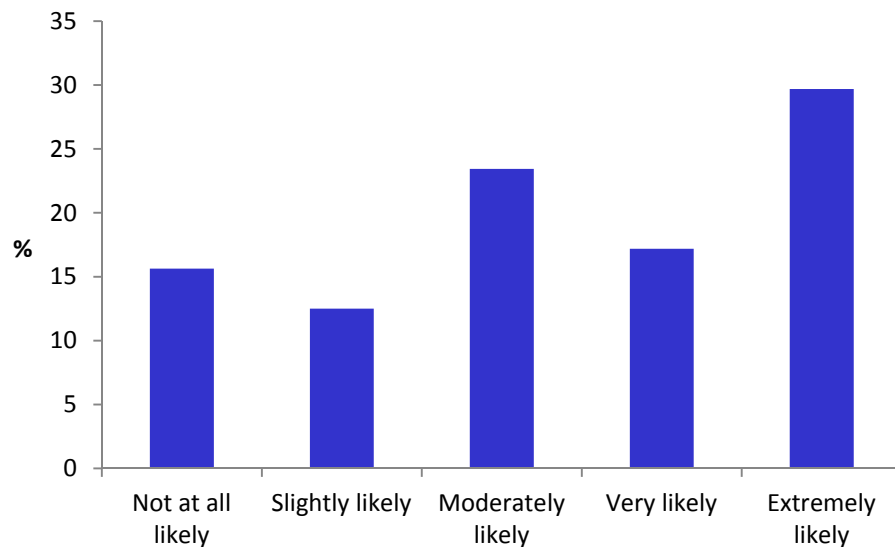


Social Norms
(Injunctive): people I know care about whether I do predator control on my property

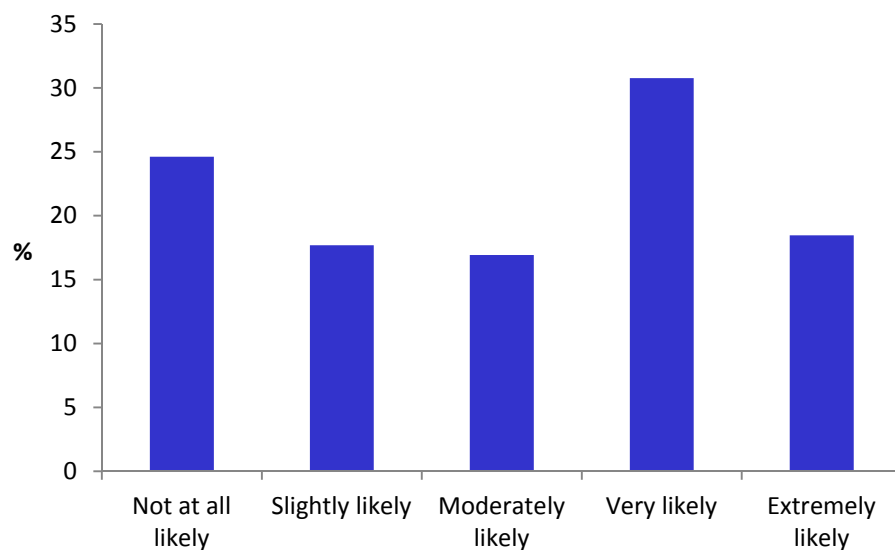
Social Norms
(Descriptive): most landholders I know are involved in predator control on their property



Likelihood of engaging in *Cape-to-City*



Conducting maintenance control of predators yourself after the initial knockdown



Hiring a contractor to control predators after initial knockdown



***Cape-to-City* project: community survey**

Pike Brown, Landcare Research

Survey methods:

- Online survey; participants recruited via personal contact through local schools
- Ten schools were invited to participate and eight schools ultimately chose to do so.
- Participating schools sent invitations to complete the survey to parents via email and newsletter.
- Participation was incentivised via a \$10 contribution to the fund of any participating school.

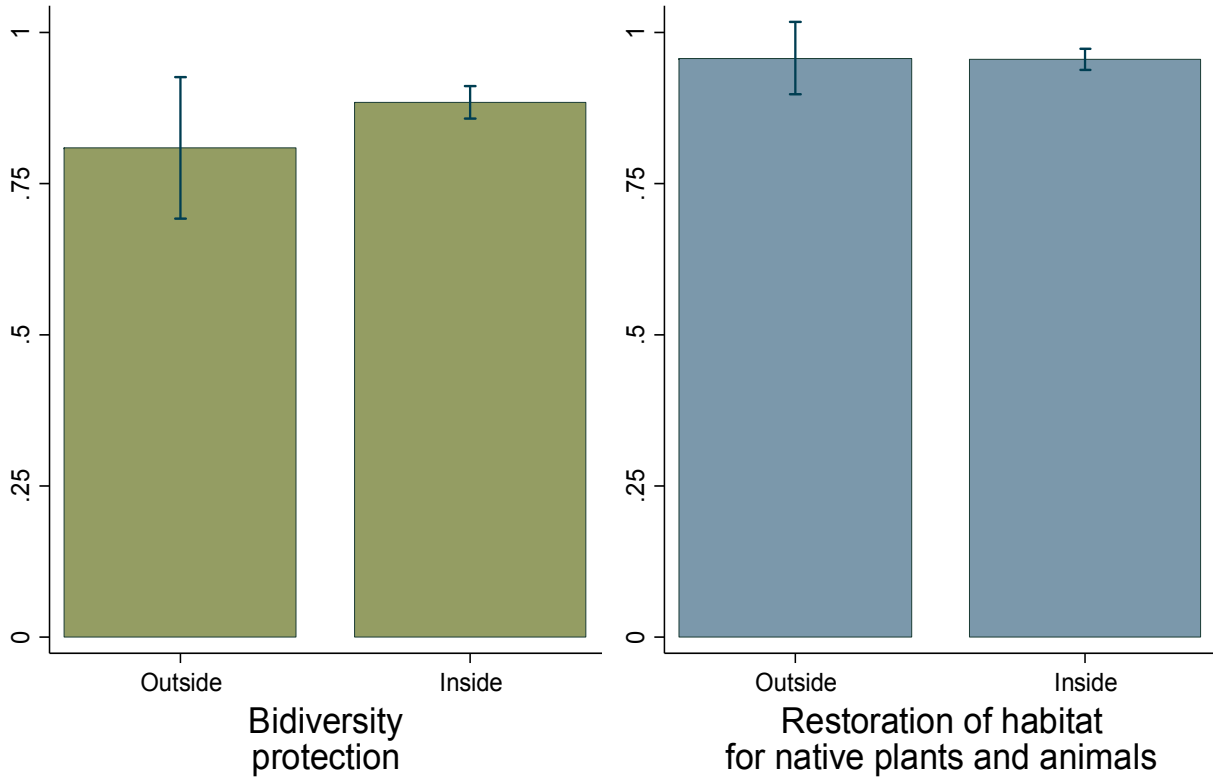
Sample size:

- 594 respondents started the survey, 591 completed it.
- 47 respondents affiliated with schools outside the *Cape-to-City* footprint and 544 affiliated with schools inside the footprint



Biodiversity protection and habitat restoration

Are biodiversity protection and habitat restoration important to you?



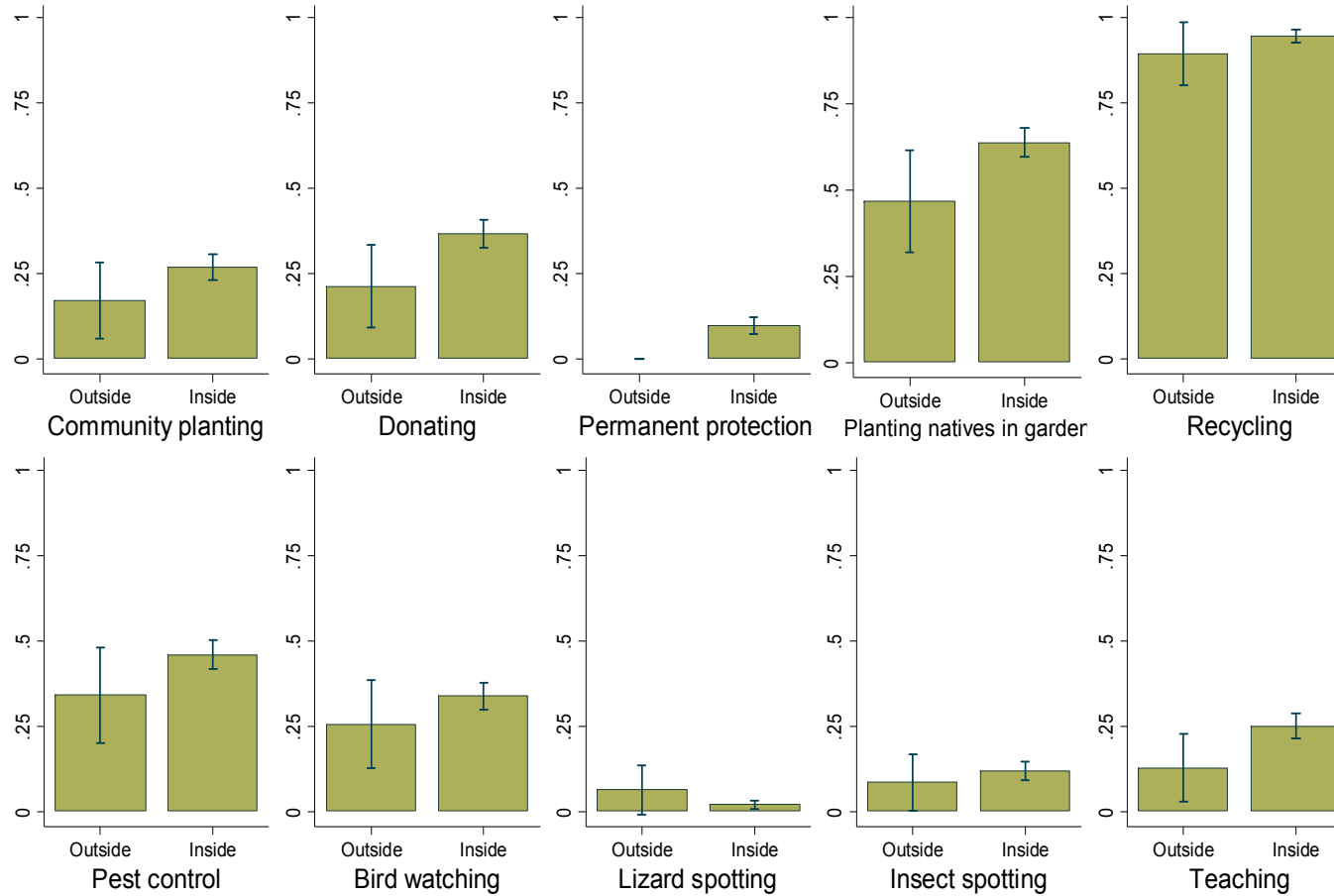
Note: Outside/Inside refers to whether the respondent resides outside or inside the Cape to City footprint.

People have similar views inside and outside the C2C footprint



Actions and outcomes

Involvement in environmental activities in the previous 12 months

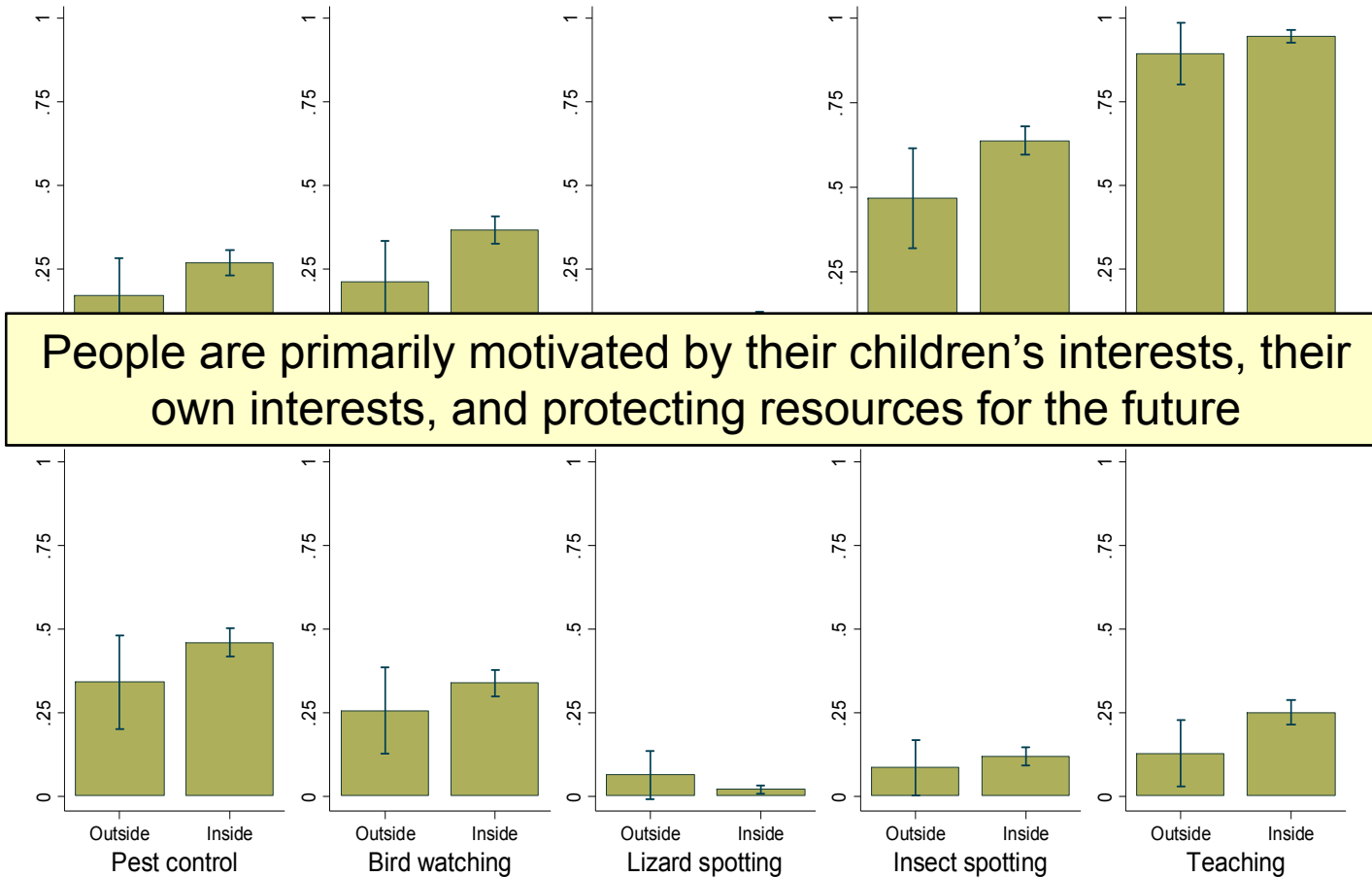


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2015 Survey of Rural Decision Makers

Pike Brown, Landcare Research

<http://www.landcareresearch.co.nz/science/portfolios/enhancing-policy-effectiveness/srdm2015>

> 3,000 people from across New Zealand responded, including > 2300 commercial farm owners and farm managers

What is the primary reason for controlling pest animals on the farm?

- reduce damage to production
- protect native birds and bush
- other, e.g. disease control



2015 Survey of Rural Decision Makers

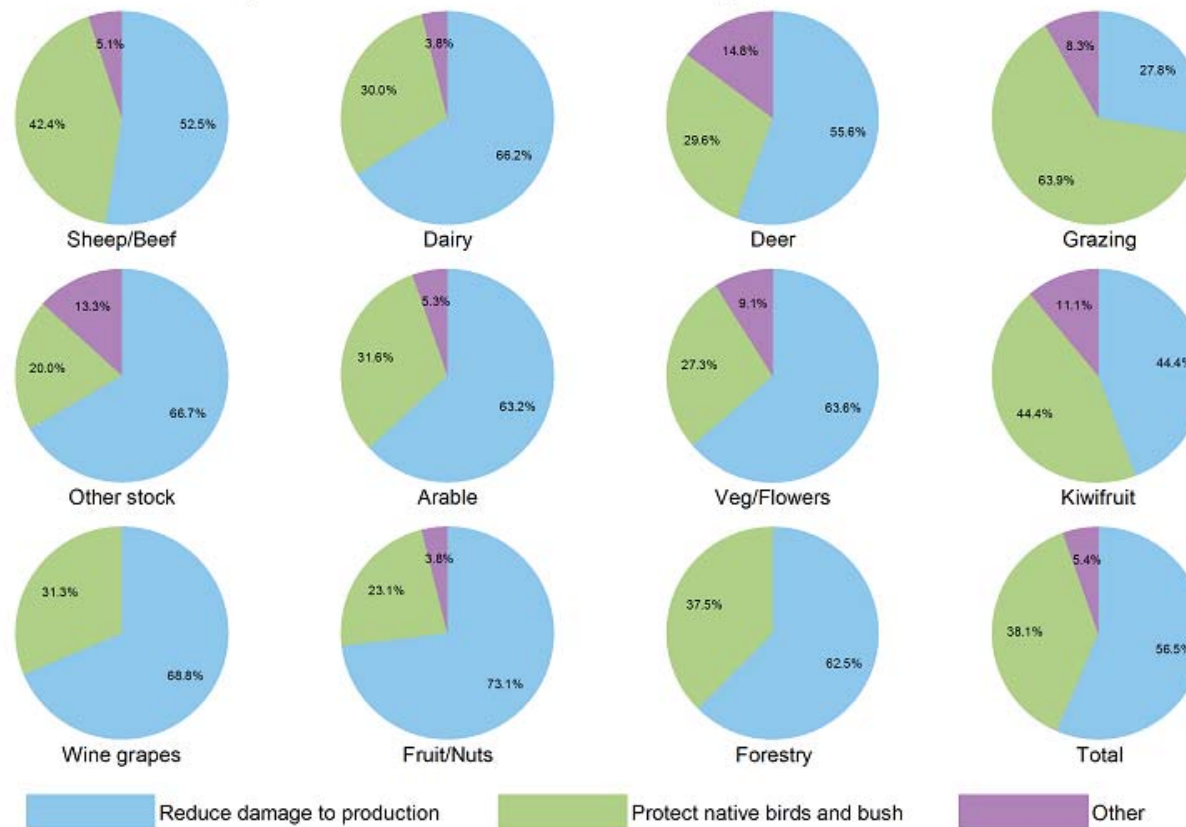
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Primary reason for controlling pests on the farm



Conditional on controlling pests. Total shows unweighted distribution.



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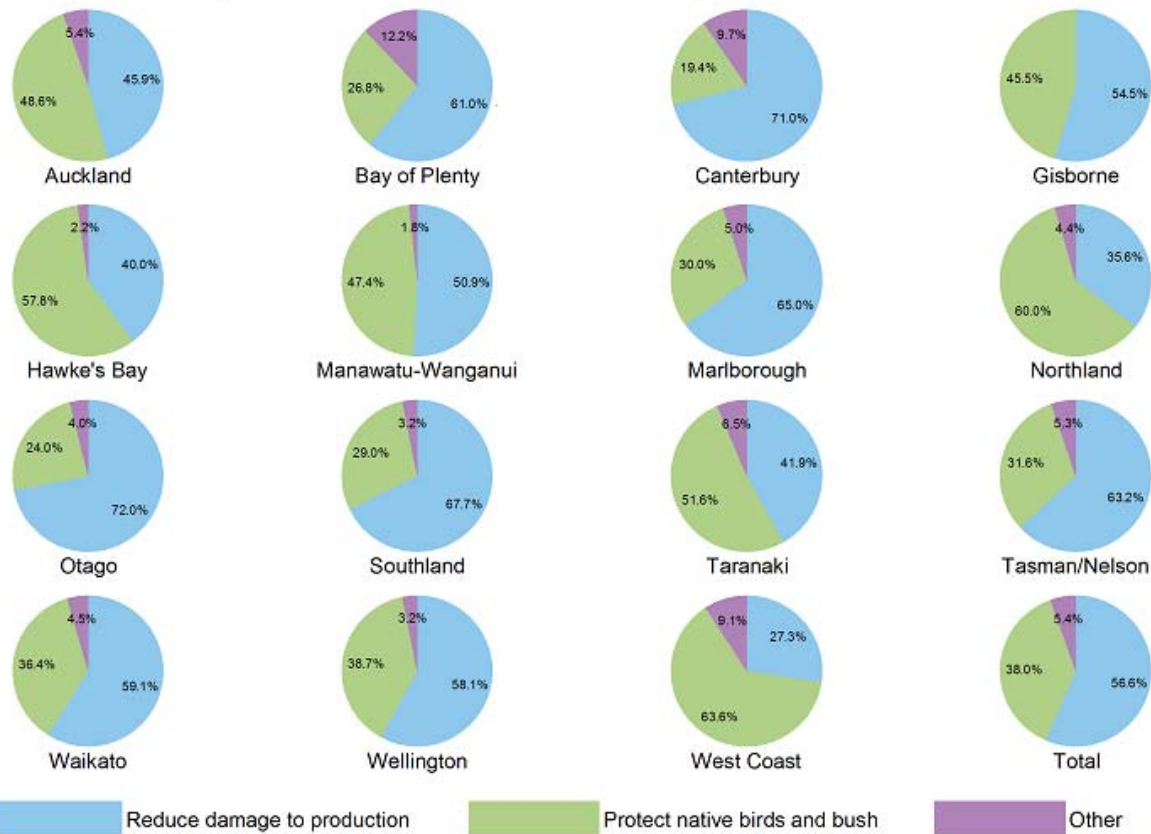
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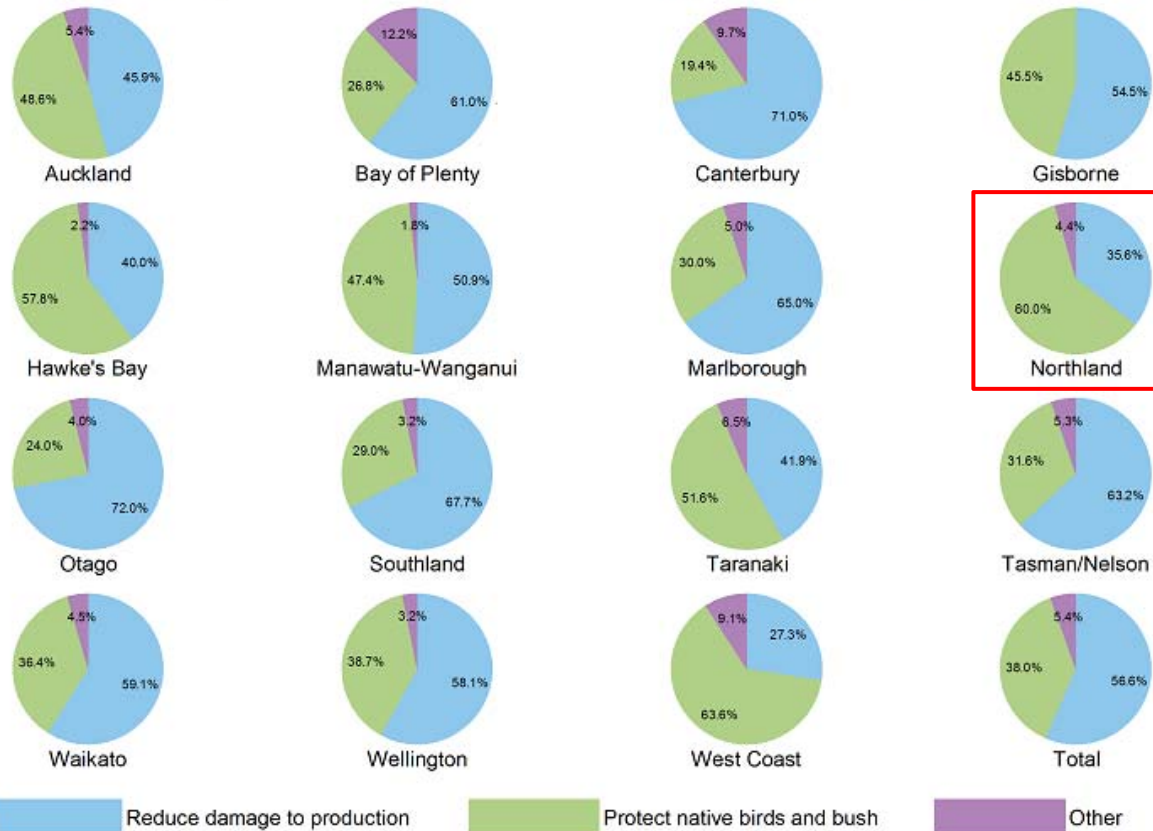
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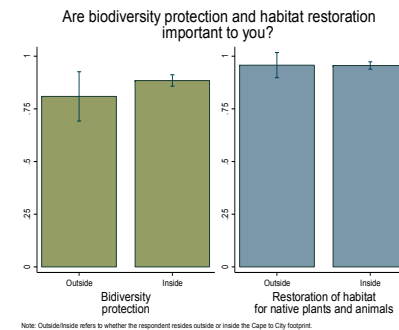
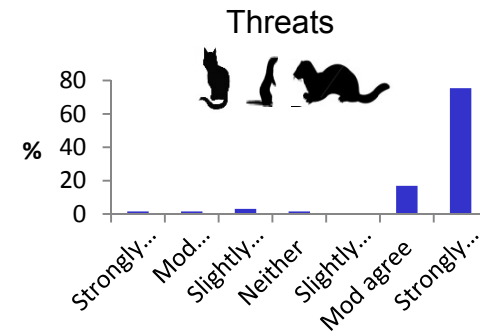


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Summary

- High level of awareness of pest animals
- High level of awareness of native species
- Strong support for pest control to protect native biodiversity



- ‘Value-action gap’: do people’s attitudes/values result in effective action?
- How can we increase and maintain participation in pest control?

