

Managing feral cats on the Ashley Rakahuri river

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BRaid conference, Lincoln University

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Background

Cats are an introduced predator...

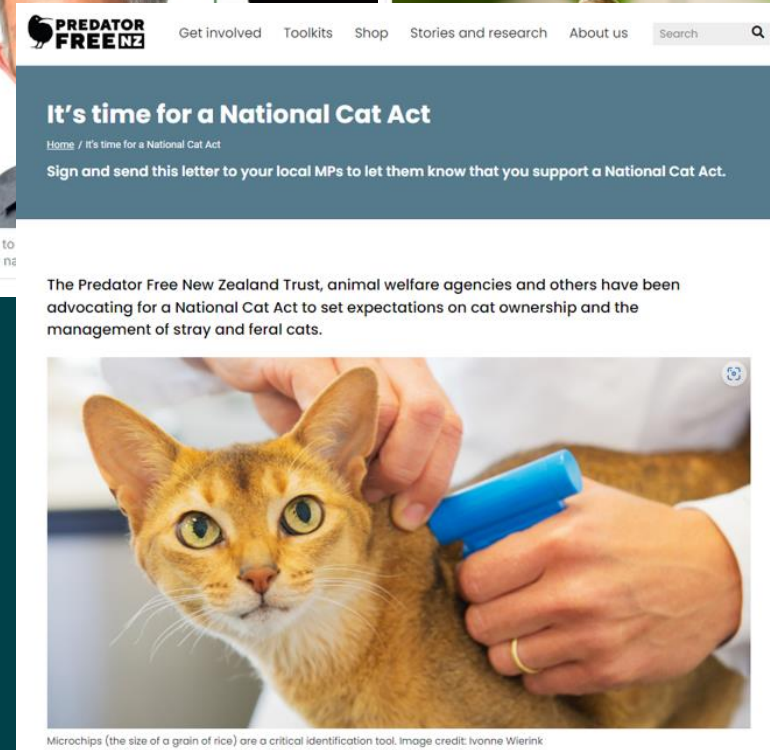
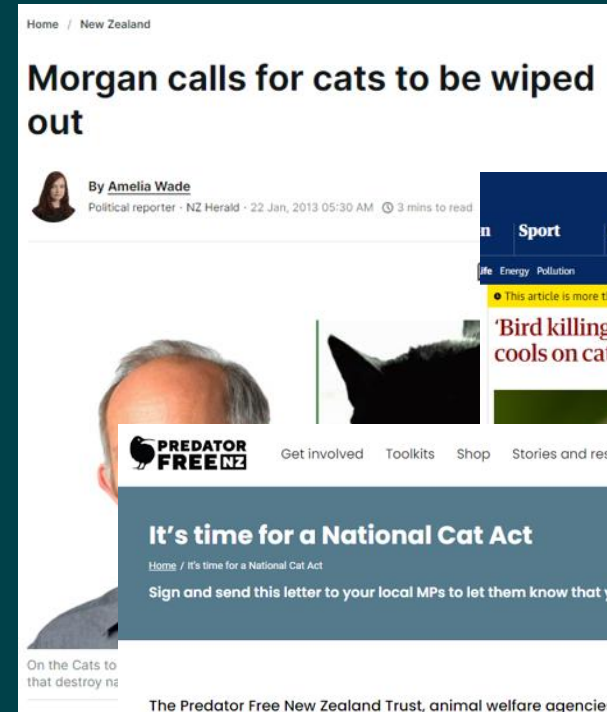
- Can decimate populations of native species

... AND a valued companion animal

- 1.26 million companion cats, 40% households¹

Calls for a coherent national approach to cat management from conservationists AND cat welfare advocates

¹Companion Animals New Zealand (2024) NZ pet data report

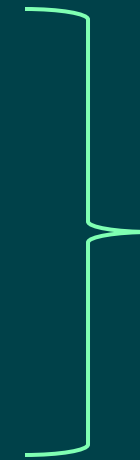


Background

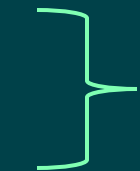


Domestic cats (*Felis catus*) categorised² as:

- **Companion cat:** lives with humans, dependent on humans for its welfare.
- **Stray cat:** a companion cat which is lost or abandoned, living as an individual or in a group (colony). Has many of its needs indirectly supplied by humans, and lives around centres of human habitation.
- **Feral cat:** has none of its needs provided by humans. Generally does not live around centres of human habitation.



Local Bylaws
(Territorial Authorities)



Regional Pest Management
Plans (Regional Councils)

Predator Free 2050 (DOC)

²Code of Welfare: Companion Cats 2018

Background



- Conversations with Environment Canterbury (ECan) staff about feral cat management across the region
- Conversations with Ashley Rakahuri Rivercare Group (ARRG) – led to selection of case study site
- Peri-urban context broadened focus beyond 'feral' cats



Objectives



- To understand the social and ecological dimensions of cat populations on the Ashley Rakahuri River
- To propose cat management interventions that could support the welfare of native wildlife AND cats



Methods



Interdisciplinary, mixed methods research design

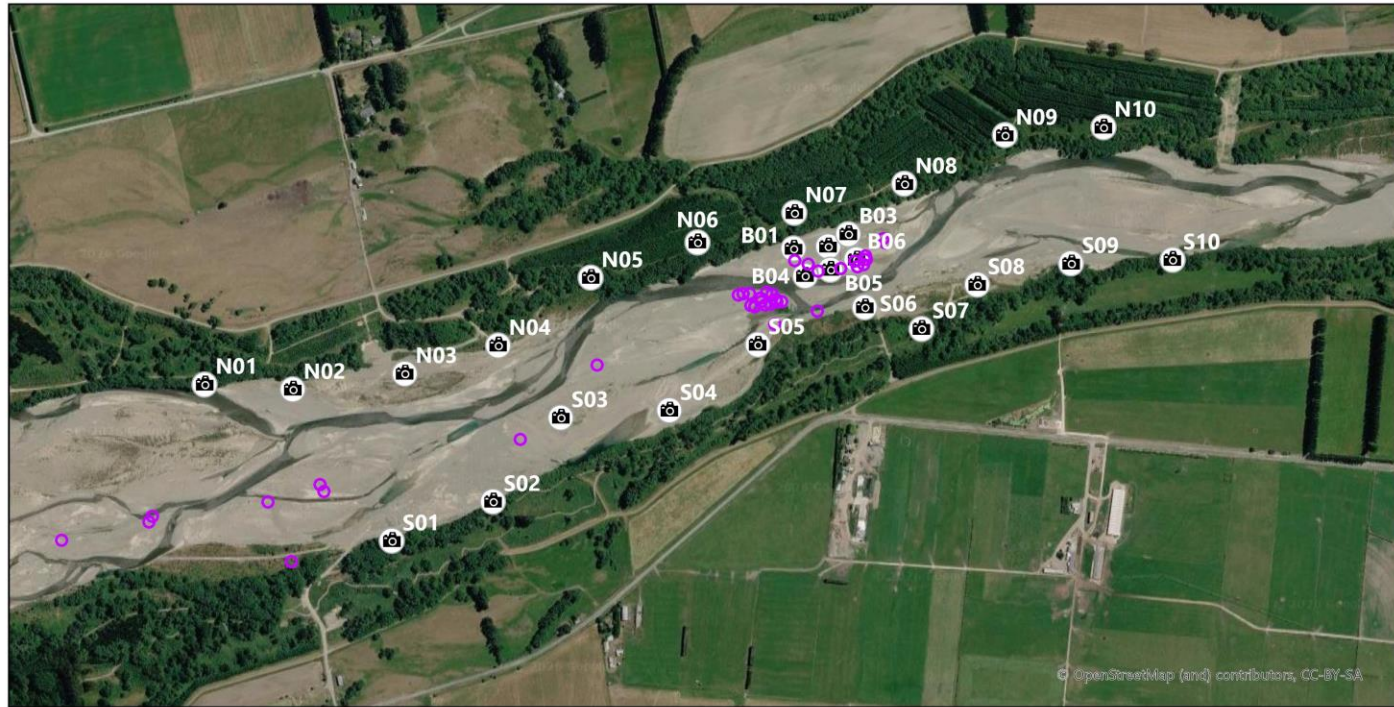
Camera monitoring study:

- Determine baseline cat activity patterns on the Ashley Rakahuri River
- Identify problematic cats that prey on native birds

Semi-structured interviews:

- Investigate the social factors that influence cat populations and their management along the river

Methods: Camera monitoring study



○ ARRГ nest camera

📷 BSI cat camera

Monitoring period:

26 Nov 2025 – 04 March 2026

BSI cat cameras: 26

ARRГ nest cameras: 40

Total camera nights: 1990



Methods: Camera monitoring study



- Calculate relative abundance indices of cats
- Calculate relative abundance indices of rabbits & hares
- Estimate cat population density (spatially explicit mark-resight population model)
- Assess cat activity patterns across the northern and southern banks and intrusion to the island
- Cross-check results with ARRG data



Methods: Semi-structured interviews



- Nine in-depth interviews between Nov 2025-Feb 2026
 - Unable to engage with mana whenua during this period

- Questions about their role, experiences, challenges, and recommendations for change

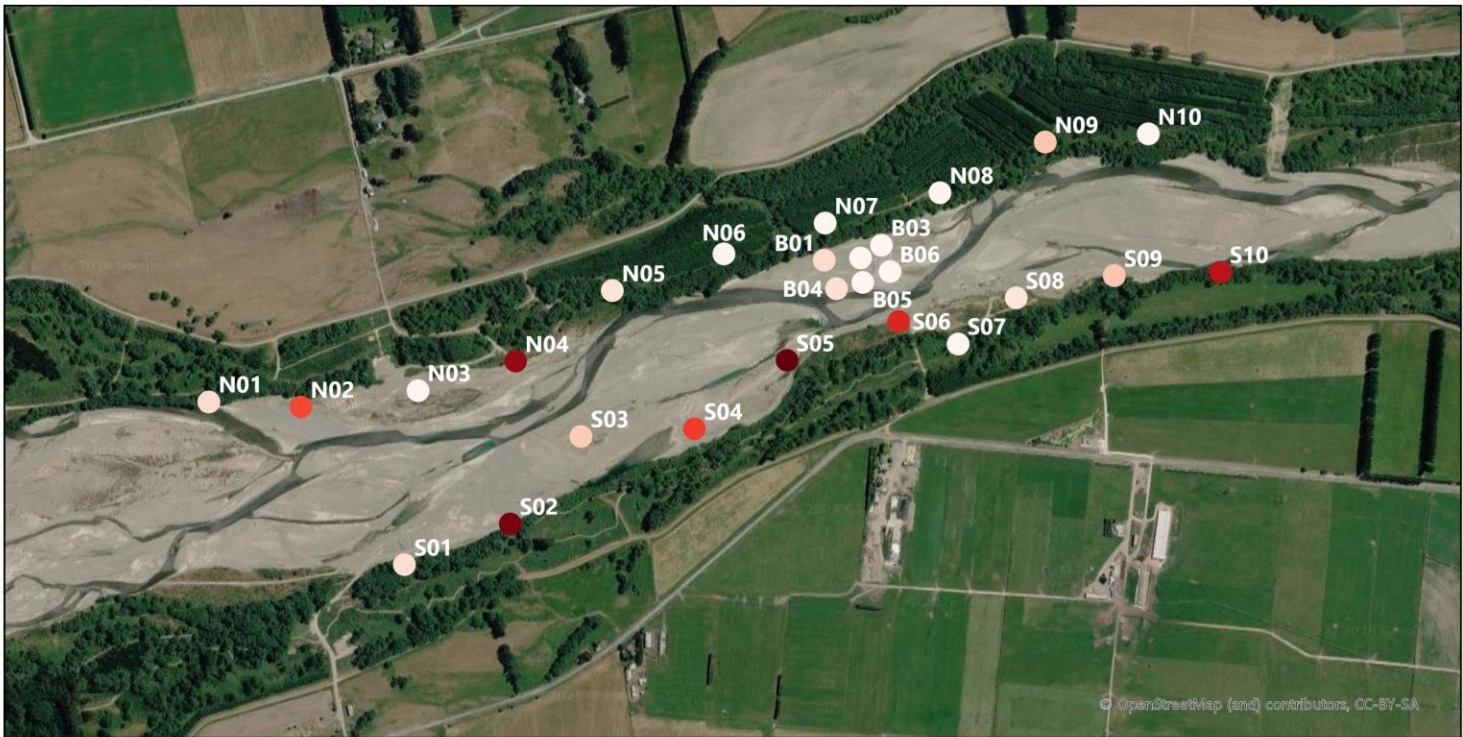
- Recorded and fully transcribed

- Manually coded using NVivo software according to key topics relevant to objectives

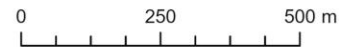
- Analysed for overarching themes

Professional or voluntary role	Number of participants	Participant codes
Regional council staff	2	RC1, RC2
District council staff	1	DC1
Conservation volunteer	4	CV1, CV2, CV3, CV4
Community cat carer	2	CCC1, CCC2

Results: Cat populations on the Ashley Rakahuri River



Relative abundance of cats

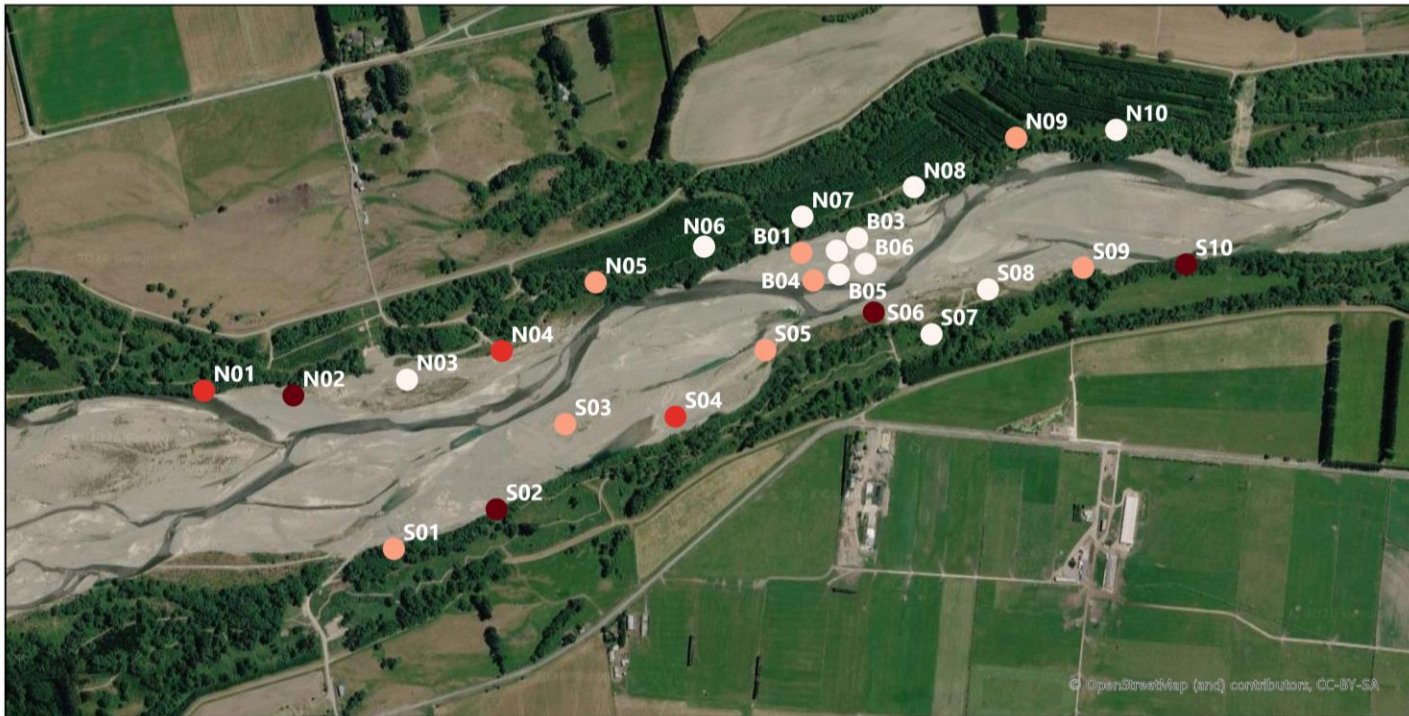


Cat relative abundance indices
(no. of encounter/100 camera
nights)

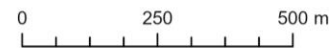
Average across site: 3.87
- Northern bank: 2.83
- Southern bank: 6.85
- Island: 0.62

Highest relative abundance:
S2, S5: > 14
N4, S6, S10: > 10

Results: Cat populations on the Ashley Rakahuri River



Number of individual cats



Total no. of individual cat: 13

- Northern bank: 5
- Southern bank: 7
- Island: 1

Highest no. of individual cat:

N2, S2, S6, S10: 3

Population Density:

- **1.22 (1.09-1.37) cats/km²**
(5% relative standard error – good estimates)
- Much higher than other Rakaia & Rangitata (<0.3 cats/km²)

Home range size:

1.95 (1.13-3.38) km²

Results: Cat populations on the Ashley Rakahuri River

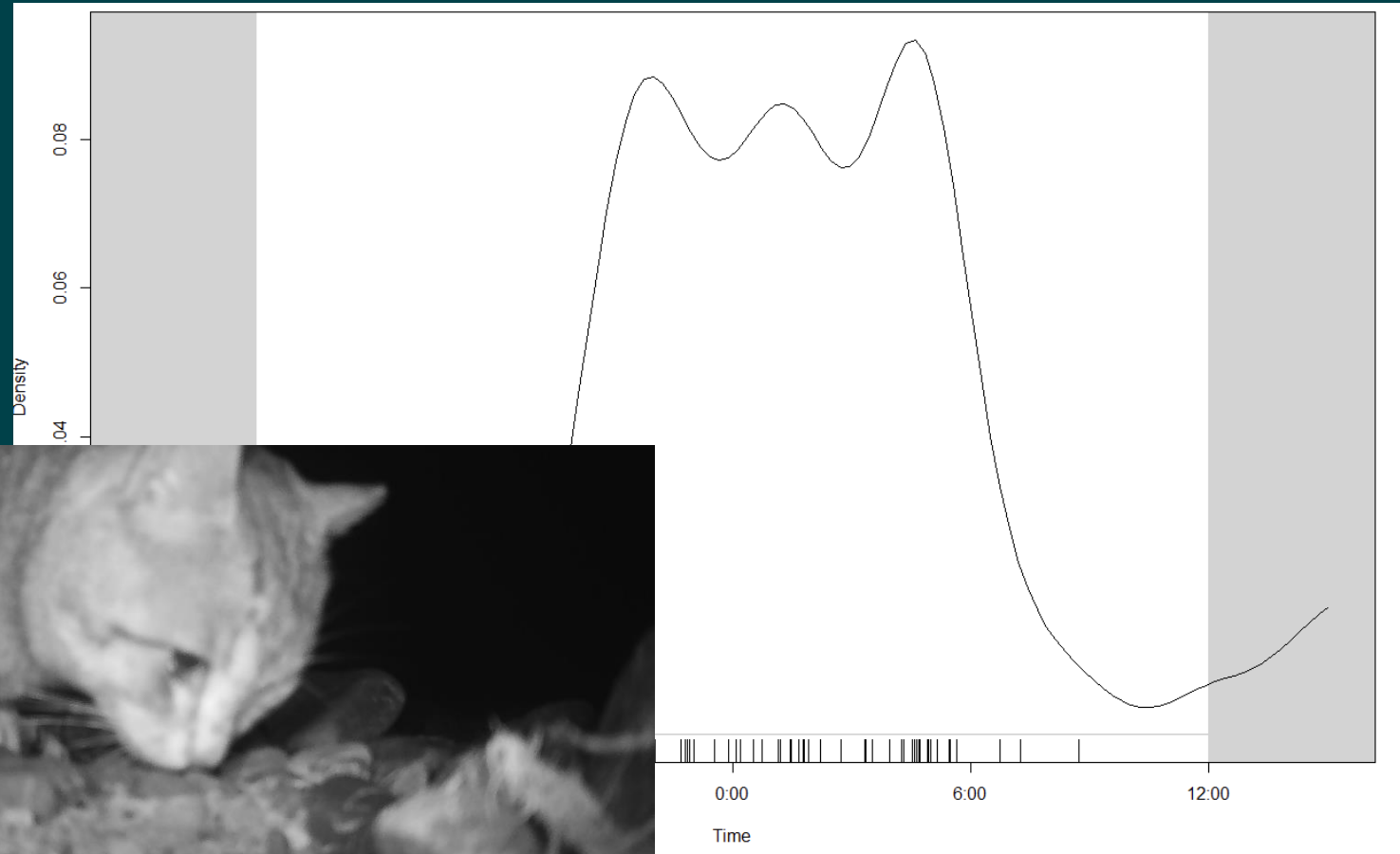


- Companion cat(s) on southern bank



- 6 cats caught by ARRG on the island; none matched camera images
- 1 predation event; 1 nest visit event

- Daily activity pattern: Peaked at midnight; small peak in late afternoon



Results: Other pest species



Relative abundance of hare & rabbits
(no. of encounters/100 camera nights)

More hare/rabbits in the south

→ Drawing cats in?

→ Can rabbit control reduce cat intrusions?

Results: People-cat relationships on the Ashley Rakahuri River



Categorising cats

Not easy (or relevant?) to categorise cats as feral/stray/companion

Community cat carers describe cats on the river as 'semi-social', 'semi-domesticated', 'unsocial', 'wildies'

'Barn cats' are found throughout this peri-urban setting – similar to stray cat colonies

Conservation volunteers highlight impacts of 'problematic cats' that evade traps and predate on nesting birds

"So the protective trapping, the temporary trapping, out in the river during the nesting season. The animals are there not to go in our traps. They're out there, probably it depends on the animal, but for a cat, it's firstly to catch an adult, secondly to catch a chick, and thirdly to eat eggs. They, they are more attracted to that than going into our traps, of which they're suspicious." (CV2)



Results: People-cat relationships on the Ashley Rakahuri River



Supporting cats

Cats on the river come from urban areas

- Dumping at the river
- 'Left behind' at rentals

Human activities along the river attract cats

- Cats drawn to recreational facilities (e.g. BMX track)
- Dumped animal carcasses (from hunters) attract cats
- Cats are drawn to properties near farms and forests



"I have what we call our regular clients, which sounds terrible, but due to where they live, obviously they live by the river or they live on or, surrounded by dairy farms. So you know, every season they're going to get the cats turning up and coming to them. Because when the cat's pregnant or when once the kittens are born and they need food, then that's when they, they tend to move closer to people." (CCC2)

Results: People-cat relationships on the Ashley Rakahuri River



Managing cats

General absence of mandated cat management practices in the area surrounding the river

- Need for local bylaw to mandate microchipping, registration and desexing
- Would support activities of conservation volunteers AND community cat carers
- BUT no political leadership

Trapping cats is a common tool, but not straightforward

- Problematic cats evade capture
- Difficulties dealing with trapped cats

“I mean to me it seems it's that unowned cat thing that's part of the greyness of the whole thing. And if you microchip, you're saying this is an owned cat, the rest are unowned.” (CV4)

“We've taken in, like, either an entire male or more recently, a pregnant cat and the owners come in and wants them back. And we can coerce and we can suggest and we can strongly recommend and we can threaten, but we have no grounds to desex.” CCC2

Conclusions and Recommendations



The immediate issue: How can we stop cats from preying on nesting birds?

- Trapping is complex and may not be effective with 'problematic' cats
- An alternative approach could be non-lethal deterrents or bottom-up control

Non-lethal cat management tool: misinformation & audio-deterrent



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RESEARCH ARTICLE | ECOLOGY

Misinformation tactics protect rare birds from problem predators

GRANT L. NORBURY, CATHERINE J. PRICE, M. CECILIA LATHAM, SAMANTHA J. BROWN, A. DAVID M. LATHAM, GRETCHEN E. BROWNSTEIN, HAYLEY C. RICARDO, NIKKI J. MCARTHUR, AND PETER B. BANKS

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SCIENCE ADVANCES · 10 Mar 2021 · Vol 7, Issue 11 · DOI: 10.1126/sciadv.abe4164

- 1.7 fold increase in hatching success
- 127% increase in modelled population size in 25 years
- Habitation: interaction times declined >12-18 days

ECOSPHERE

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Harnessing fear of predators and competitors as deterrents for an invasive predator

Sze Wing Yiu, Justin P. Suraci, Grant Norbury, Patrick M. Garvey

First published: 09 December 2024 | <https://doi.org/10.1002/ecs2.70094> | VIEW METRICS

- Cats fled 66% of the time when exposed to human talking, and 41% to cat yowling
- Habituation: >5 times exposure; 18% never returned after first exposure; 63% returned only once

Conclusions and Recommendations



The immediate issue: How can we stop cats from preying on nesting birds?

- Trapping is complex and may not be effective with 'problematic' cats
- An alternative approach could be non-lethal deterrents or bottom-up control

The long-term issue: How can we reduce the overall population of free-roaming cats on the river?

- Volunteers are currently the ambulance at the bottom of the cliff
- Need a joined up statutory approach – requires political leadership
- Need to look beyond cats – target social reasons for their presence on the river
 - Cat related: responsible cat ownership practices, rental pets, barn cat 'colonies'
 - AND unrelated: hunting practices, land use, recreational infrastructure

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Kia ora

Thanks