



Landcare Research
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Can controlling rabbits keep feral cats away from nesting colonies of endangered bird species?

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Introduction

- Braided rivers are important breeding grounds for rare riverine birds
- Braided rivers are often surrounded by rabbits that support introduced predators
- Active management is often required to protect nesting birds



Study site: Upper Ohau River

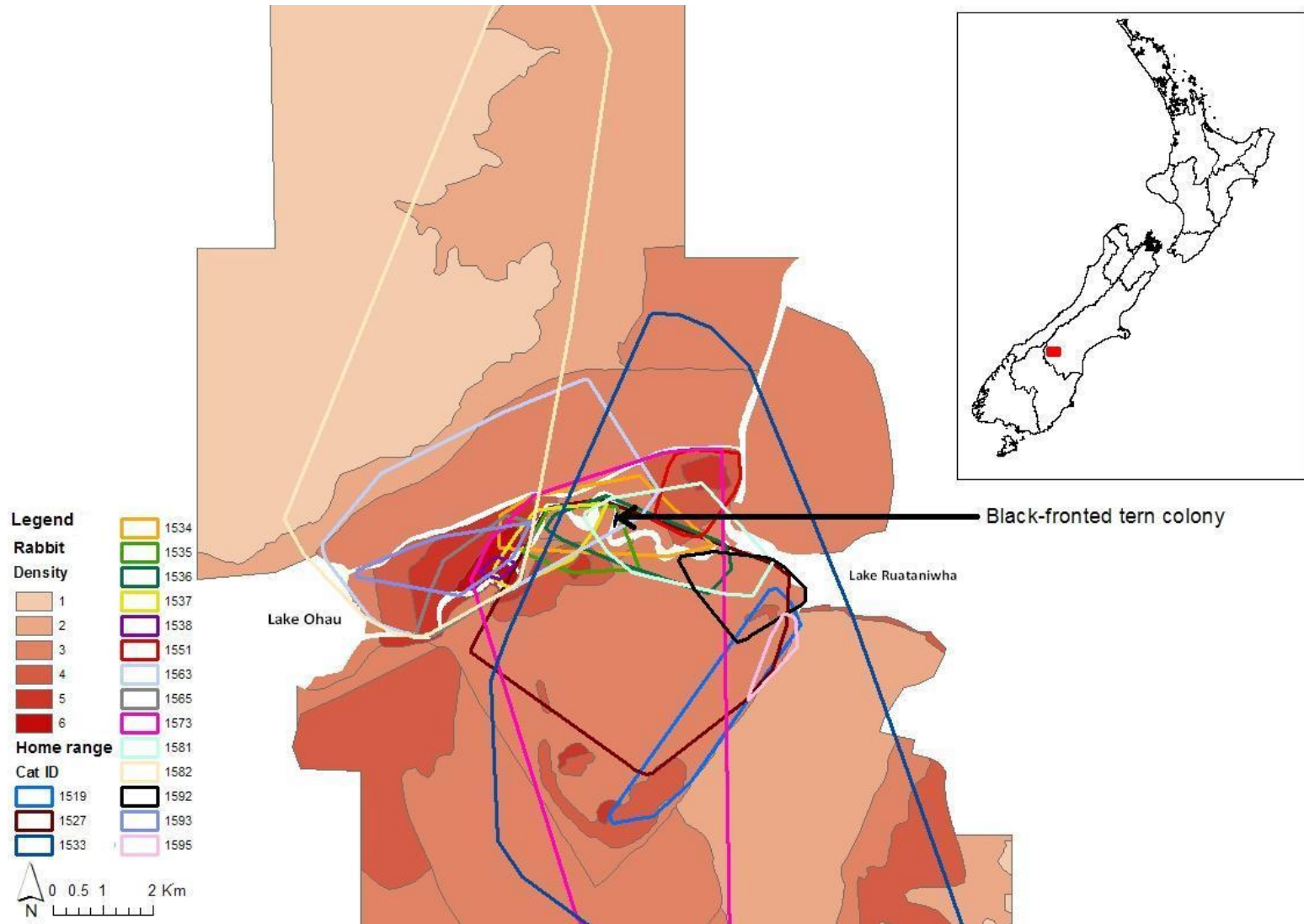


Aims

- What is the spatial ecology of feral cats living near the Upper Ohau River?
- How can it inform management, particularly in relation to protecting terns?



Methods



Results

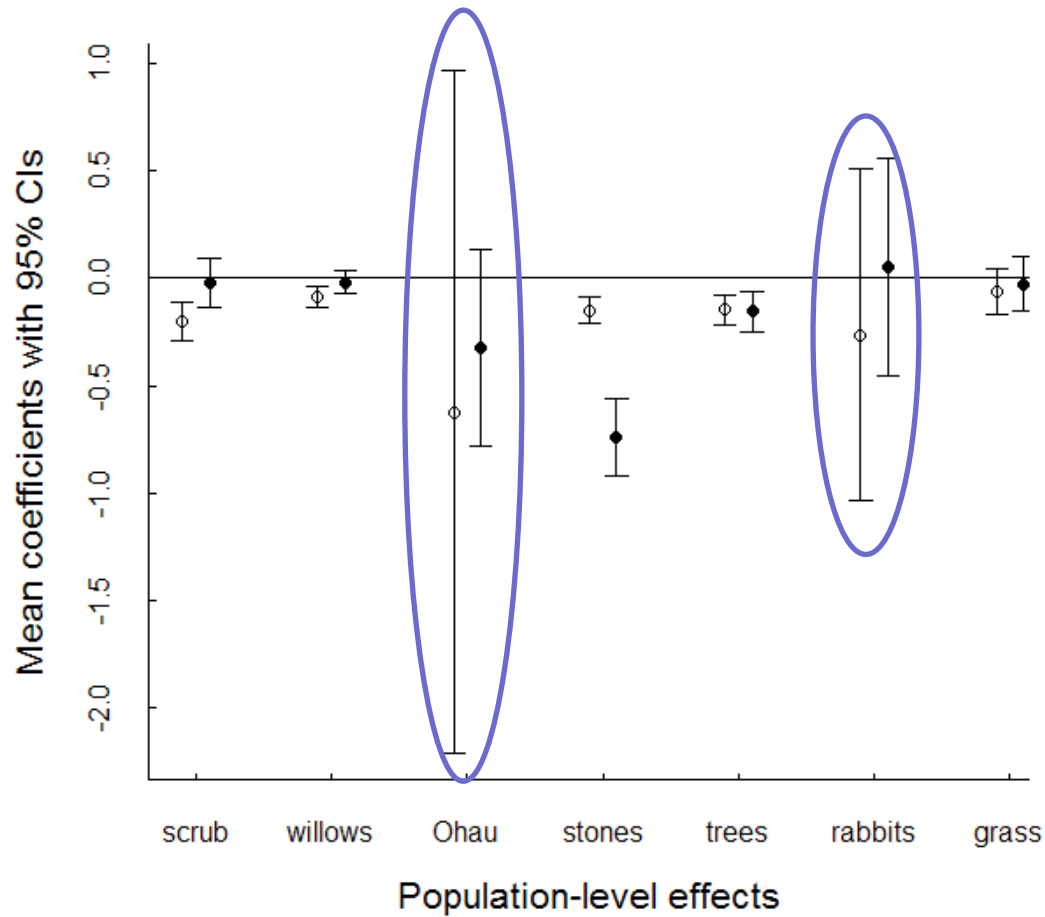
All 17 cats

Cats with colony access (7)

Seasonal effects	Individual effects	AIC	ΔAIC
rabbits + river	rabbits + river	15915	0
rabbits	rabbits + river	15991	76
river	rabbits + river	16050	135
-	rabbits + river	16187	272
rabbits + river	rabbits	16212	297
rabbits + colony	rabbits + colony	16269	354
rabbits	rabbits	16287	372
rabbits	rabbits + colony	16293	378
rabbits + colony	rabbits	16361	446
river	rabbits	16385	470
colony	rabbits + colony	16417	502
rabbits	rabbits	16456	541
-	rabbits + colony	16469	554
-	rabbits	16506	591
colony	rabbits	16528	613
-	rabbits	16661	746
rabbits	river	16669	754
rabbits + colony	colony	16982	1067
colony	colony	17025	1110
rabbits	colony	17031	1116
rabbits + river	-	17044	1129
river	-	17060	1145
-	colony	17072	1157
rabbits	-	17145	1230
-	-	17166	1251

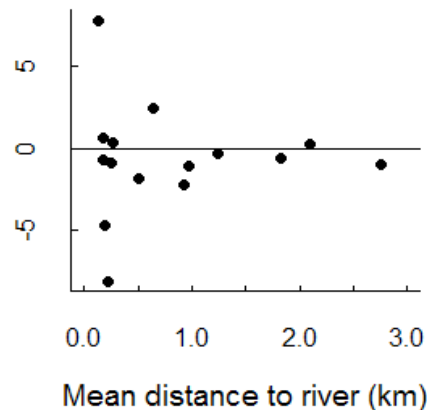
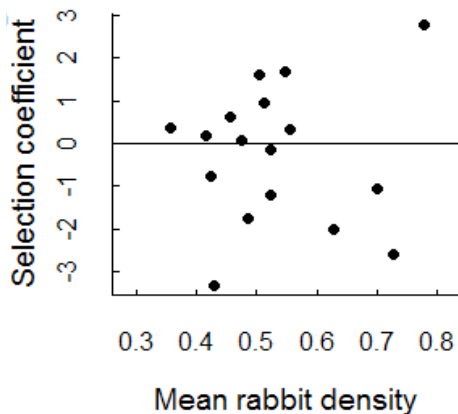
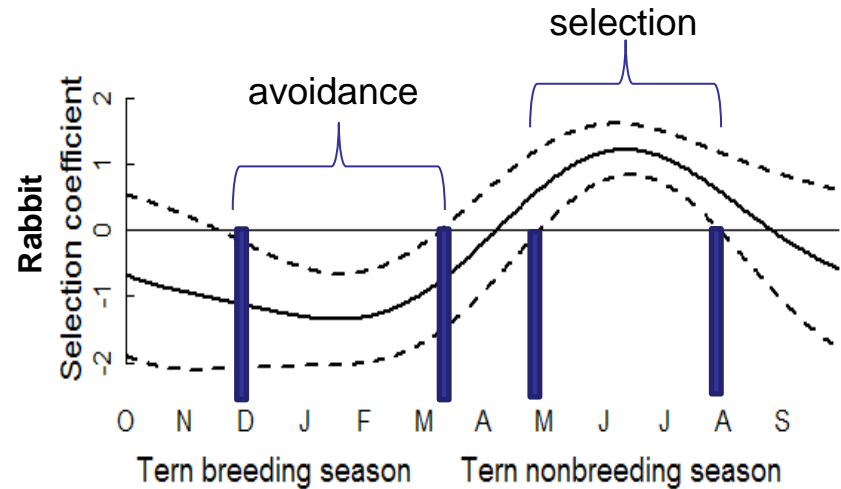
Seasonal effects	Individual effects	AIC	ΔAIC
rabbits + colony	rabbits + colony	failed	-
colony	rabbits + colony	10405	0
rabbits + colony	colony	10572	167
rabbits + colony	-	10654	249
-	rabbits + colony	10451	46
colony	colony	10719	314
colony	-	10793	388
-	colony	10750	345
-	-	10816	411

Population level results



Resource selection by 17 cats living near Upper Ohau River

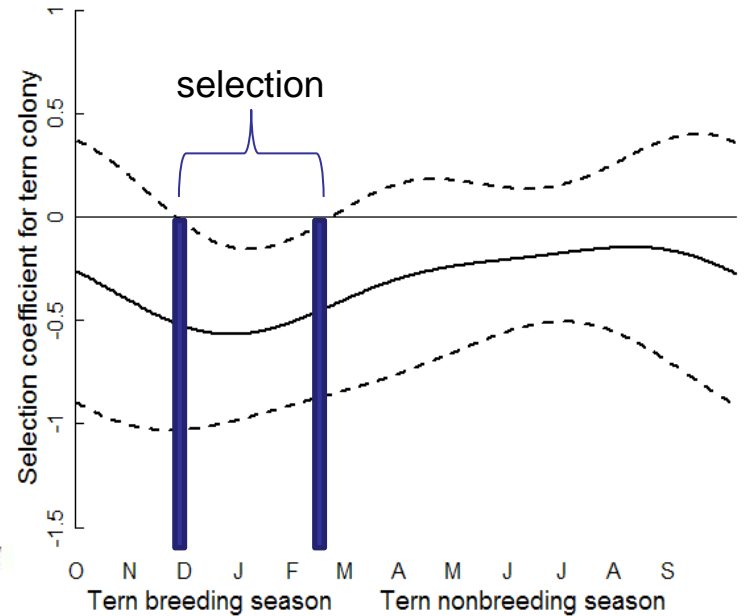
Seasonal effects →



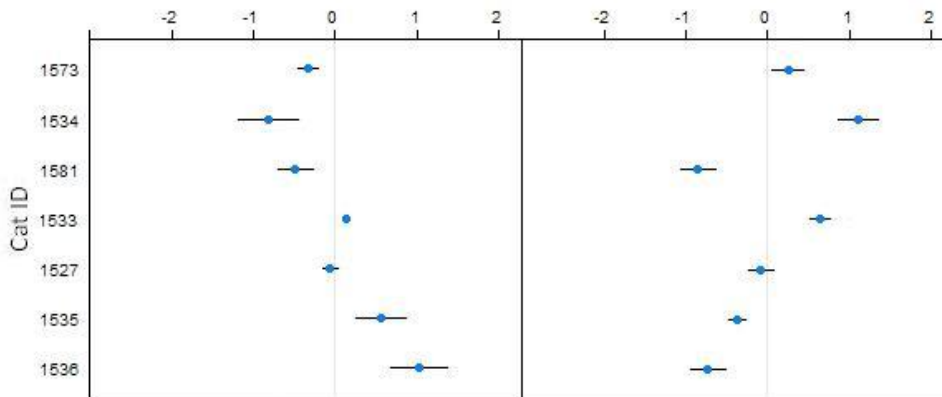
← Individual effects

Resource selection by 7 cats with access to the tern colony

Seasonal effects 



Selection coefficient for distance to colony Selection coefficient for rabbit density



 Individual effects

Management implications

- Current predator control targets individuals most likely to depredate terns
- Current rabbit control likely deters rabbit specialists from the colony
- Need to account for seasonality and individual variability