

Great Kererū Count 2017

Summary analysis



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About the Great Kererū Count

The Great Kererū Count (GKC) was set up to gain a better understanding of kererū numbers and distribution across New Zealand and to increase public appreciation of the beauty and ecological importance of this native bird. The Great Kererū Count is an annual citizen science project, the more people who participate, the better the understanding on how kererū are doing across the country. Over a number of years, scientists from Victoria University of Wellington and Lincoln University will use data from the Great Kererū Count to build a more accurate picture of kererū numbers, distribution as well as key kererū behaviours. This will help us understand how best to protect kererū.

The Great Kererū Count in 2017 took place from 22nd September – 1st October.

Participants could add observation via one of three methods:

- 1) via a webform, with no log-in required (called a “Quick Observation”)
- 2) via the NatureWatch NZ website. A user login is required, once registered users can keep track of all their natural history observations and photographs, and share questions and answers with a community naturalists.
- 3) via the iNaturalist app for iPhone or Android,, which adds observations to Nature Watch on the go (time and location will be captured automatically by the app).

Regardless of data entry method, all data (excluding personal information) is archived and publically available for download, via the Nature Watch platform.

Table 1. The raw numbers: national overview

	2016	2017
Number of records	3335	6946
Total number of birds recorded	6599	15459
Number of records recording a presence	3287	6838
Number of records recording absence	48	108
Maximum number of birds in one record	160	139
Number of records noting 30 or more birds in one event	4	24
Number of records submitted via the GKC front page	1998	5878
Number of records submitted directly to NatureWatch	1337	1068
Number of NatureWatch NZ participants (unique user-ids)	442	376
Average number of records per NatureWatch NZ participant	3	2.8
Number of timed surveys	157	NA
Number of records that could not be assigned to a region (e.g. out at sea)	501	153

Based on data received from the Great Kererū Count / WWF, 5 October 2017.

Great Kererū Count 2017 web-interface and questions

1) Where did you spot the kererū?



Use ctrl + scroll to zoom the map

Map data ©2017 GBRMPA, Google
Terms of Use

2) When did you see the kererū?

3) How many individuals did you count? (Required)

4) Was this a premeditated, timed survey or an impromptu 'instant record'?

5) How long did you spend looking when making this observation (in minutes)?

6) How far away were you when you first observed it? (in metres)

7) While observing, were you primarily sitting/standing, walking or something else?

8) Where was the kererū when you first saw it?

9) What setting were you in, when you made the observation?

10) What type of place were you in when you made the observation?

11) Was the kererū feeding?

12) If feeding from a tree or shrub, what type of tree? To get the ID right, you can create another observation with a photo of the tree on NatureWatch NZ.

13) Were any NZ pigeon display flights observed? In these distinctive displays the bird gains altitude with noisy wingbeats, stalls with its body vertical and wings and tail spread, then tilts forwards or sometimes sideways to glide silently down again.

14) How frequently have you seen them at this location before?

15) In your opinion, have kererū become more abundant, less abundant or stayed about the same in this area over the past three years?

Select one or more photos. [\(Optional\)](#)

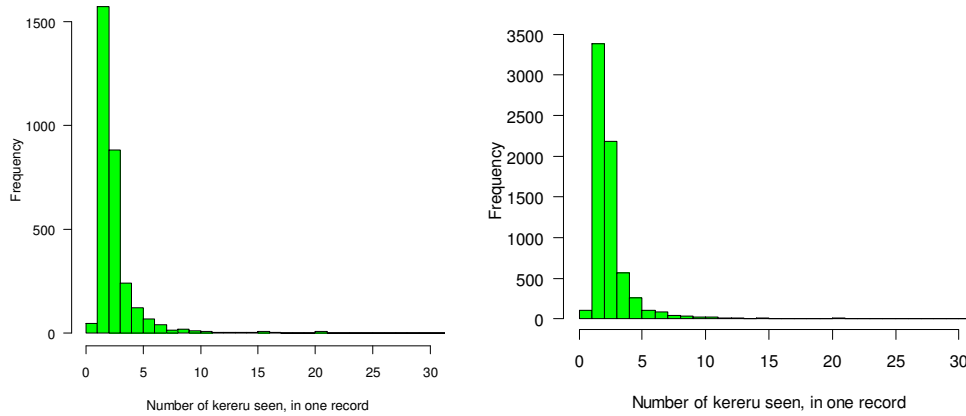
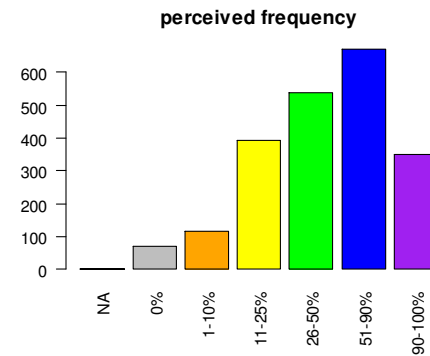
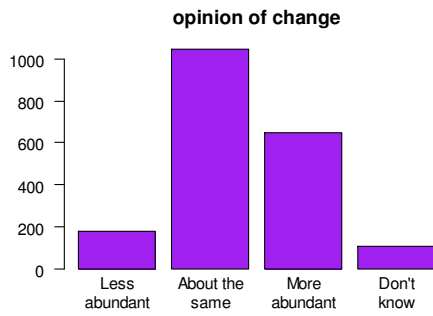
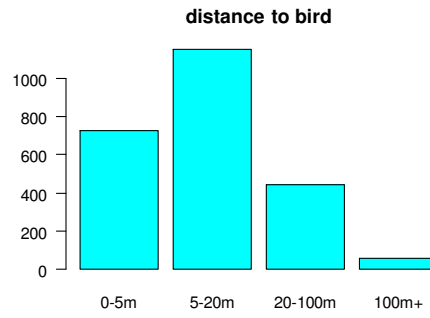


Fig 1. Number of koreru seen in each record in 2016 (left) and 2017 (right).

The most common number of koreru seen in one observation in 2017 was 1 (this happened over 3000 times). One hundred and eight records observed zero koreru. Twenty-four records, not shown above, observed more than 30 koreru in one observation period. The maximum seen in any one observation was 139 (in 2016 the maximum was 160).

Fig 2. next page A) Position where birds was first seen B) distance to bird, when first seen C) Opinion of change in abundance over the past three years in the area surveyed and D) how frequently koreru have been seen in the surveyed area, previously. 2016 (top) compared to 2017 (bottom).

2016



2017

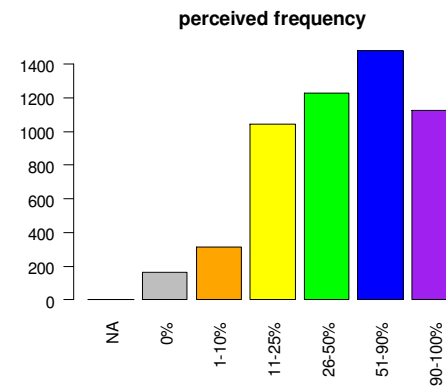
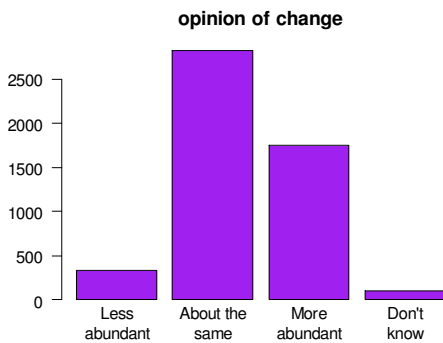
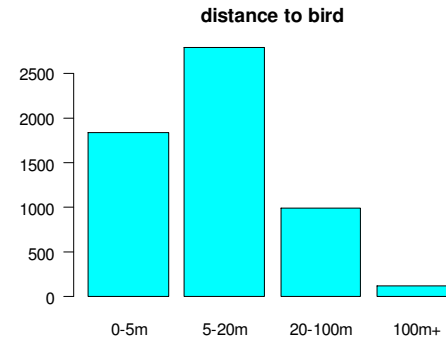
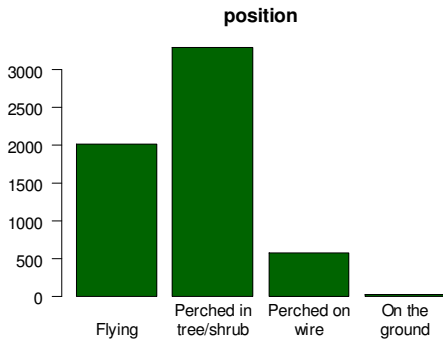


Fig 2. Caption on previous page

Table 2. Opinion of change (over the past three years at the location surveyed)

	2016	2017
Less abundant	179 (9.0%)	330 (6.6%)
About the same	1042 (52.5%)	2823 (56.5%)
More abundant	651 (32.8%)	1746 (34.9%)
Don't know	111 (5.6%)	101 (2.0%)

In 2017, over five times (x5.29) as many people felt that kereru were becoming more abundant compared to the number who felt they were becoming less abundant, compared to almost four times as many in 2016.

Table 3a. Number of records, separated according to general habitat (urban vs rural) and type of place where the records were made, in 2016 (top) compared to 2017 (bottom).

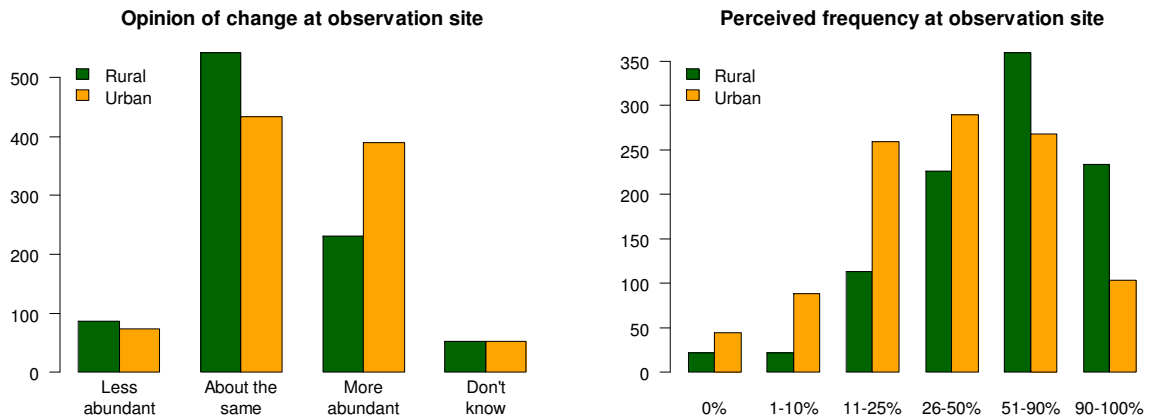
2016	Forest	Garden	Park	School	Street	Other	Total
Rural	188	76	38	13	105	202	622
Urban	41	44	93	16	469	111	774

2017	Forest	Garden	Park	School	Street	Other	Total
Rural	286	1234	64	20	275	549	2572
Urban	92	1250	187	39	977	398	3091

Table 3b. Average number of kererū per record in 2017, calculated according to general habitat (urban vs rural) and the type of place where records were made. Values are mean number of kererū.

2017	Forest	Garden	Park	School	Street	Other	Total
Rural	2.78	2.53	4.98	2.45	2.43	4.20	2.99
Urban	2.41	1.79	1.63	1.79	1.69	1.83	1.79

2016



2017

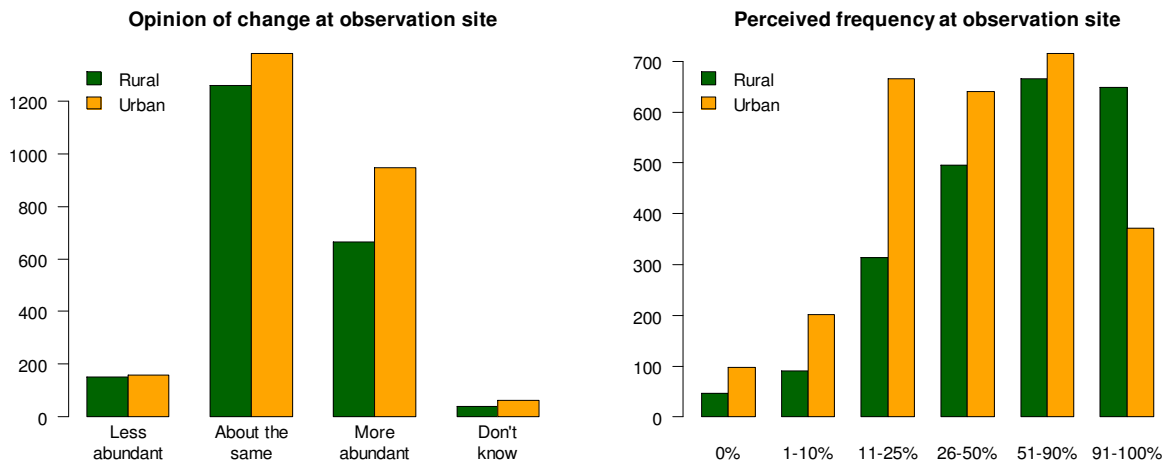


Fig 4. Rural – Urban differences. A) In both 2016 and 2017 urban observers were more likely to report an increase in abundance over the past three years, however B) rural observers were more likely to report sites with a very high frequency of encounter (90-100%) for the sites at which observations were made. Implying that at the sites where they are present in rural areas kererū are more predictably present, than at urban sites.

Table 4. Observations of feeding – 12 most common trees observed upon in 2017, compared to the top ten from 2016. Numbers are the number of records in each year where feeding was observed. The rank order of usage was similar in both years: kōwhai and planted fruit trees were the most popular trees for sightings of feeding behaviour, followed by tree lucerne, willow, puriri and nikau. Mānuka and eucalyptus swapped places in the rankings.

Tree species	2016	2017
Kōwhai	244	585
Planted fruit tree	123	426
Tree lucerne	110	171
Willow	78	123
Puriri	38	108
Nikau	32	58
Mānuka	11	12
Gum / eucalyptus	8	34
Cabbage tree	Not in top ten	9
Ngaio	Not in top ten	8
Totara	8	8
Karaka	4	7
Other	164	442
Not sure	97	219

Table 5. Summary statistics by region. Totals do not include records that could not be reliably located within a region (e.g. location data was missing or was out at sea).

Final column represents respondents opinion of whether kereru have increased (+1), stayed about the same (0) or decreased (-1) in the surveyed area over the past few years. Regional values are averages across all respondents. No region in 2017 was of the overall opinion that numbers of kereru had decreased recently (i.e. average values were negative), compared to three regions that had this opinion in 2016. Wellington region, Southland and Waikato reported with greatest confidence that kereru numbers were increasing.

Region	Human population	No. of records			No. of kererū seen			No. of kererū seen per 1000 human			Percentage of total records			Average opinion of recent change	
	2014	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017	2016	2017
Nelson	49300	184	19	92	351	71	198	7.12	1.44	4.02	2.5	0.7	1.3	-0.200	0.257
Marlborough	44800	88	54	107	225	127	202	5.02	2.83	4.51	1.2	1.9	1.3	-0.057	0.256
Northland	166000	328	191	476	687	346	943	4.14	2.08	5.68	4.4	6.7	6.3	0.176	0.248
Auckland	1526900	1856	603	1261	3019	1071	2202	1.98	0.70	1.44	24.8	21.3	14.7	0.211	0.126
Waikato	430800	329	120	358	827	221	724	1.92	0.51	1.68	4.4	4.2	4.8	0.215	0.359
Bay of Plenty	282300	267	102	242	584	238	536	2.07	0.84	1.90	3.6	3.6	3.6	0.320	0.273
Gisborne	47100	71	60	57	308	147	259	6.54	3.12	5.50	0.9	2.1	1.7	0.147	0.265
Hawke's Bay	158900	120	68	150	312	146	378	1.96	0.92	2.38	1.6	2.4	2.5	0.356	0.248
Taranaki	114800	252	123	179	403	191	343	3.51	1.66	2.99	3.4	4.3	2.3	0.130	0.128
Manawatu-Wanganui	232500	290	149	394	820	375	942	3.53	1.61	4.05	3.9	5.3	6.3	0.167	0.310
Wellington	491400	2110	888	1921	4474	1992	3804	9.10	4.05	7.74	28.2	31.3	25.4	0.453	0.479
West Coast	32800	130	83	228	647	201	872	19.73	6.13	26.59	1.7	2.9	5.8	0.078	0.091
Canterbury	574300	239	111	214	552	295	619	0.96	0.51	1.08	3.2	3.9	4.1	0.339	0.344
Otago	211600	837	91	747	1746	160	1790	8.25	0.76	8.46	11.2	3.2	11.9	0.186	0.223
Southland	96500	120	25	160	277	43	467	2.87	0.45	4.84	1.6	0.9	3.1	0.286	0.368
Tasman	49100	273	147	207	772	313	713	15.72	6.37	14.52	3.6	5.2	4.8	-0.148	0.145
TOTAL	4509100	7494	2834	6793	16004	5937	14992	3.55	1.32	3.32	100	100	100	0.252	0.289

Kereru recorded per 1000 humans (2017)

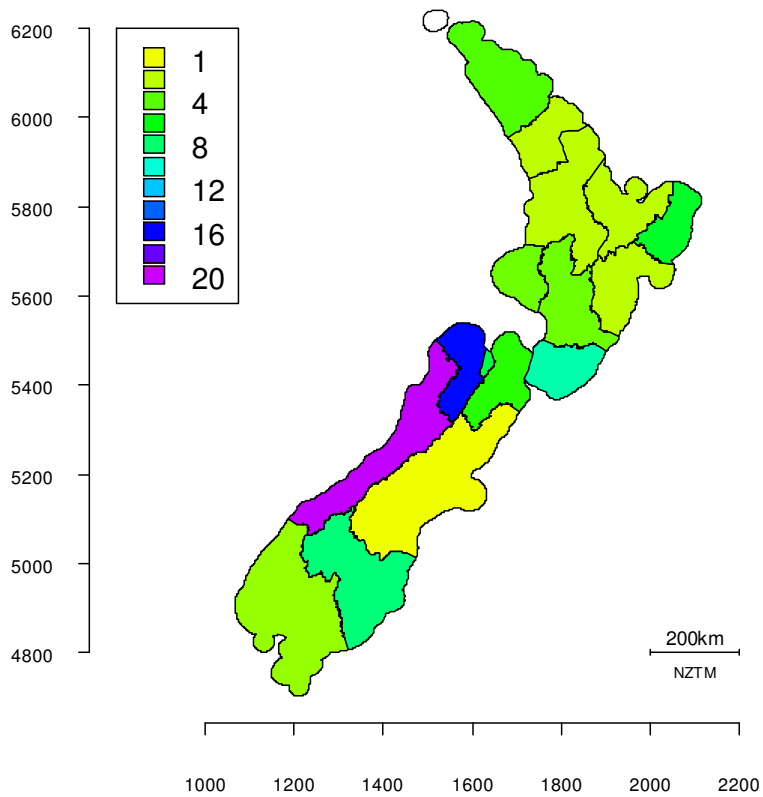


Fig. 5. Number of kererū records (2017), weighted per 1000 human inhabitants in each region. Westland appears to have the greatest number of kererū per human inhabitant, whereas Canterbury has the least.

Opinion of Change (2017)

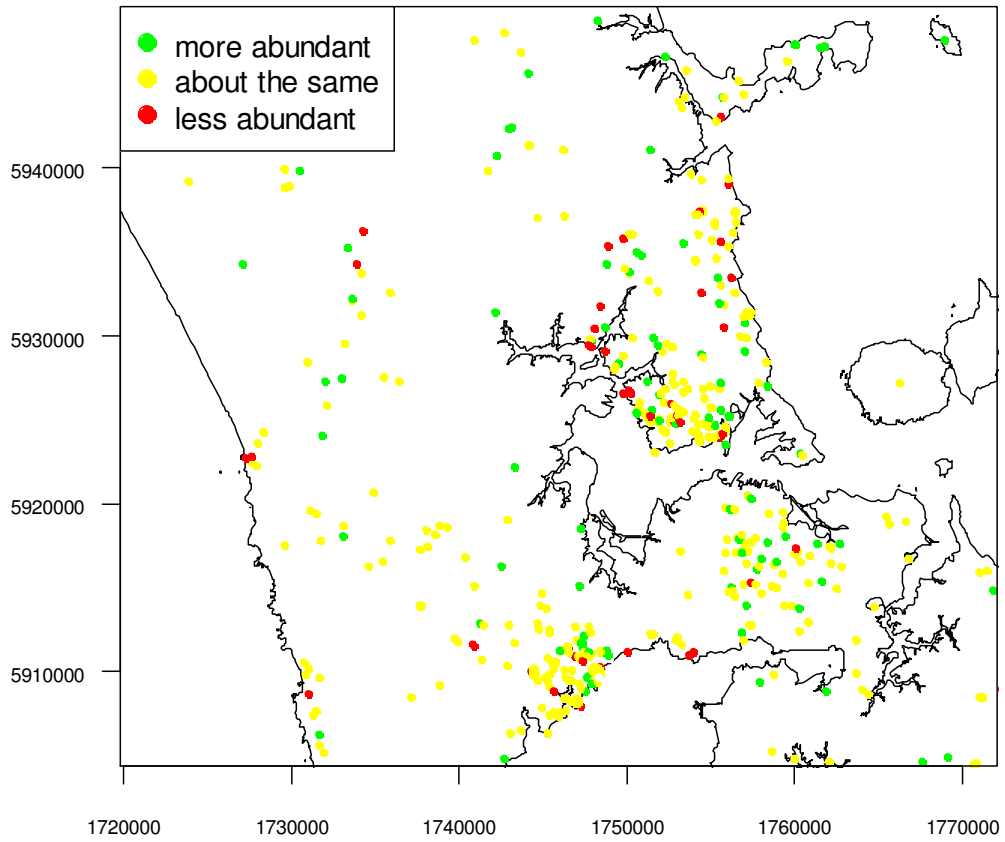


Fig 6a). Opinion of change in koreru abundance (over the past three years), assessed at specific sites around Auckland, based on participant's experience of the area.

Opinion of Change (2017)

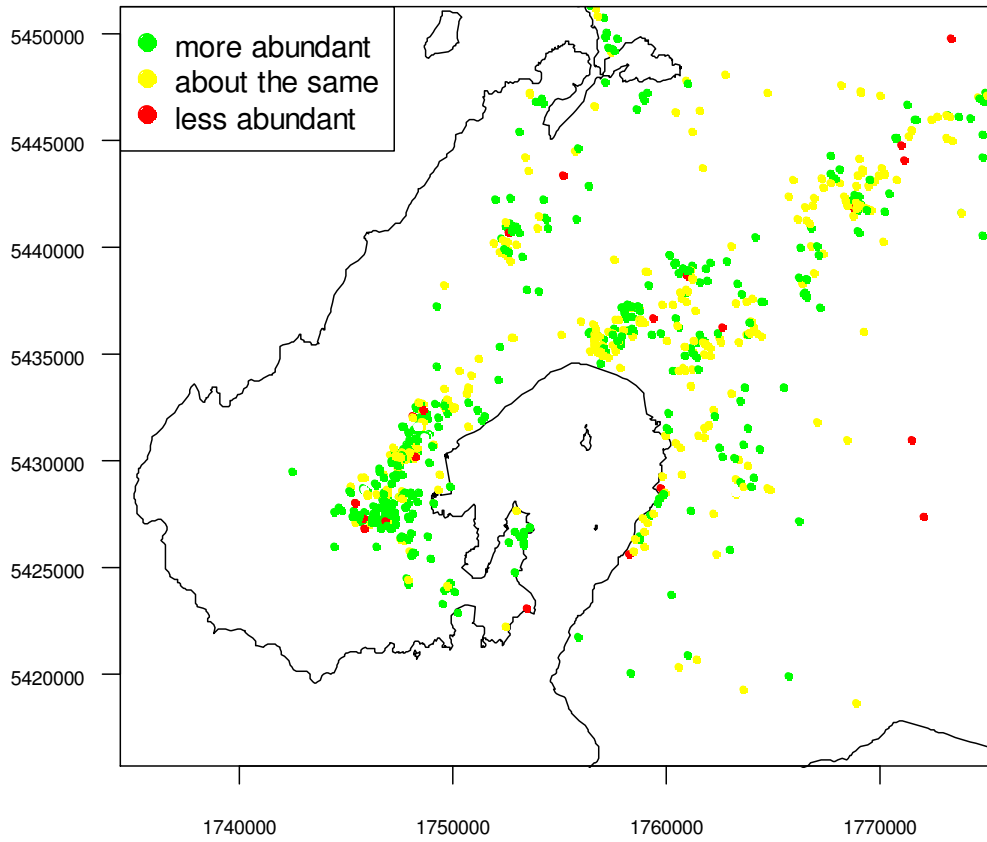


Fig 6b). Opinion of change in kererū abundance (over the past three years), assessed at specific sites around Wellington, based on participant’s experience of the area.

Perceived Frequency of encounter (2017)

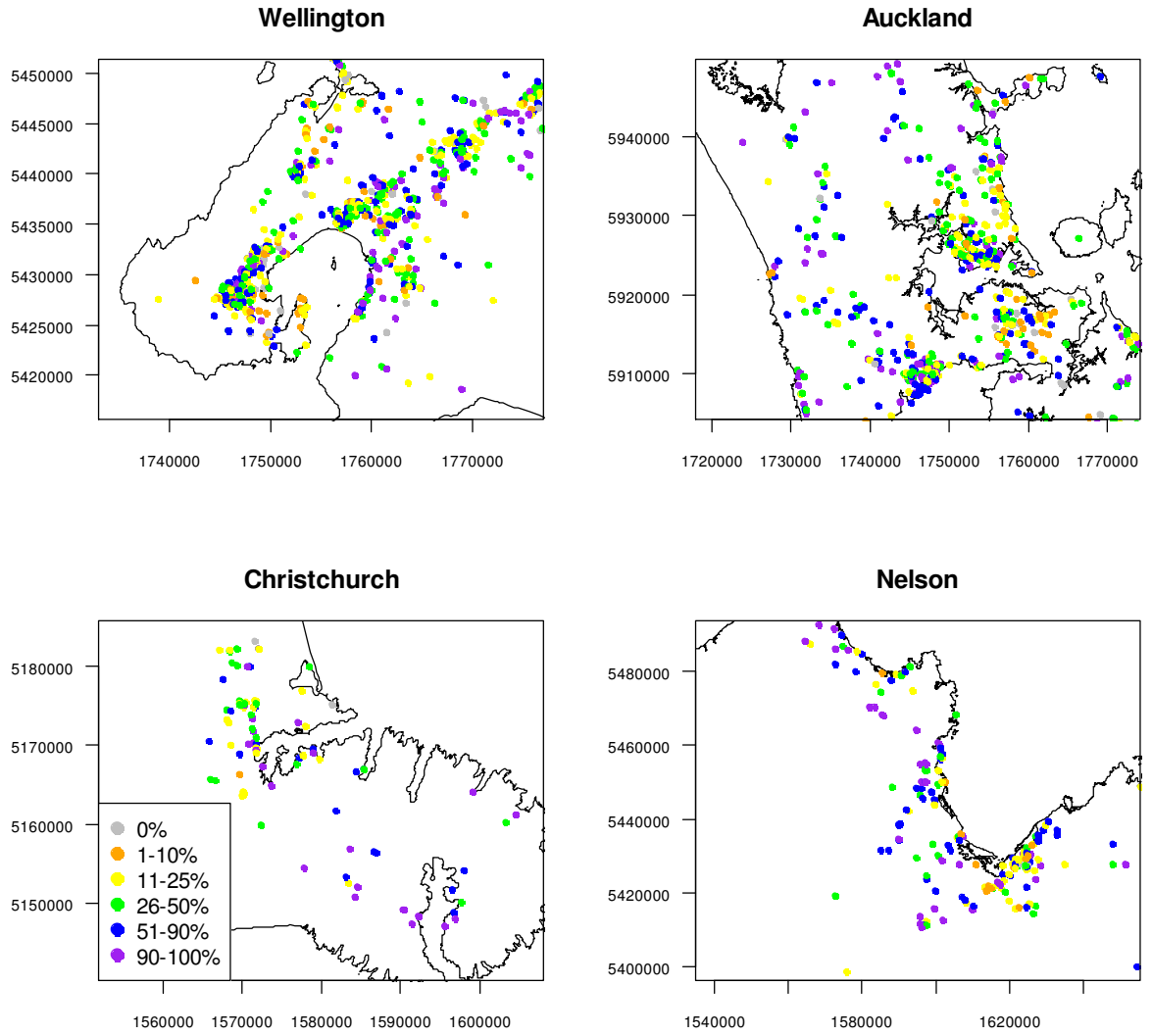


Fig 7. Perceived frequency of encountering kereru, based on participant's knowledge of the observation site.

Mean number of kererū per record (2017)

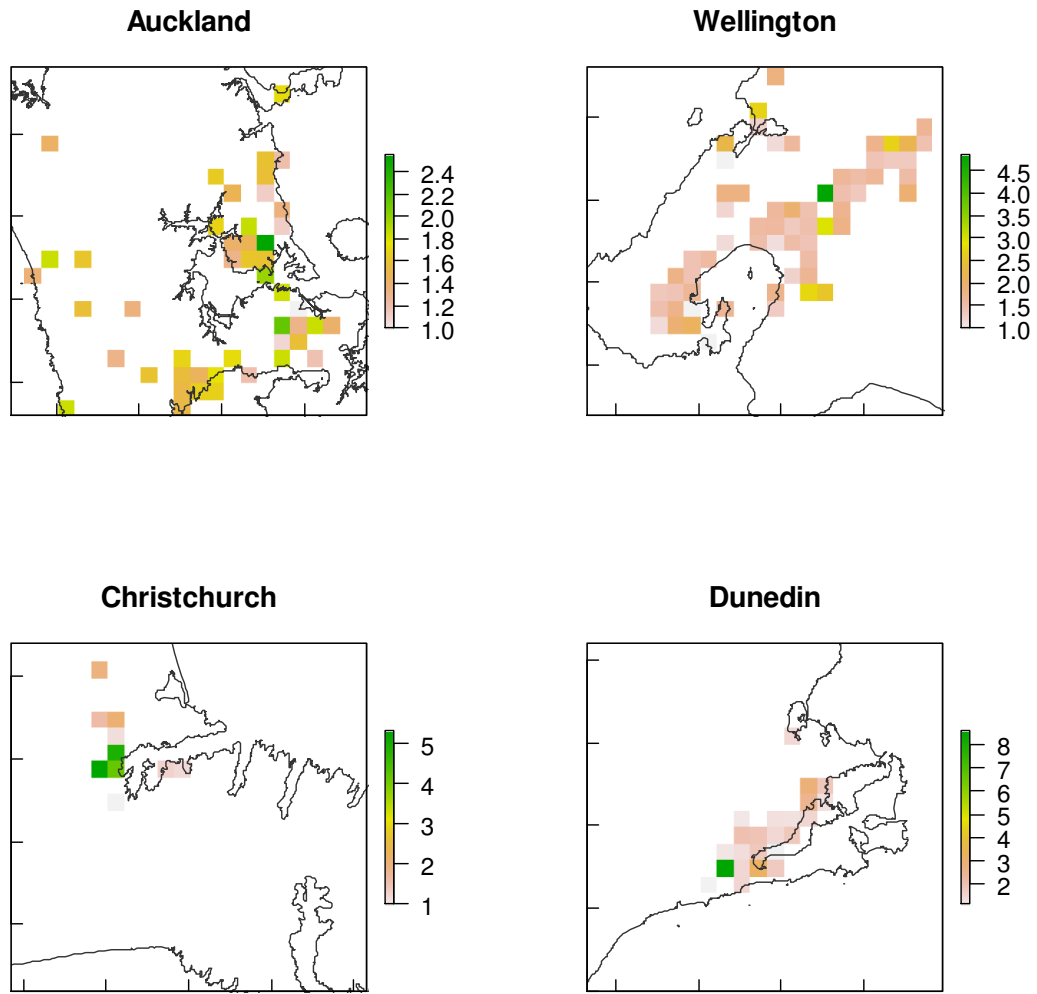


Fig 8. Mean number of kereru per record across four urban centres, averaged at 2km resolution. Areas in white lacked sufficient records ($n < 5$) from which to make a meaningful average.