



Bird Watch

January
2014

The Data

Happy New Year! As it is a brand new year, I thought I would start by reflecting on the backyard bird monitoring data collected during the past 5 years. A total of 49 different bird species were recorded during the 1402 garden surveys conducted between January 2009 and December 2013. The top 24 species were as follows:

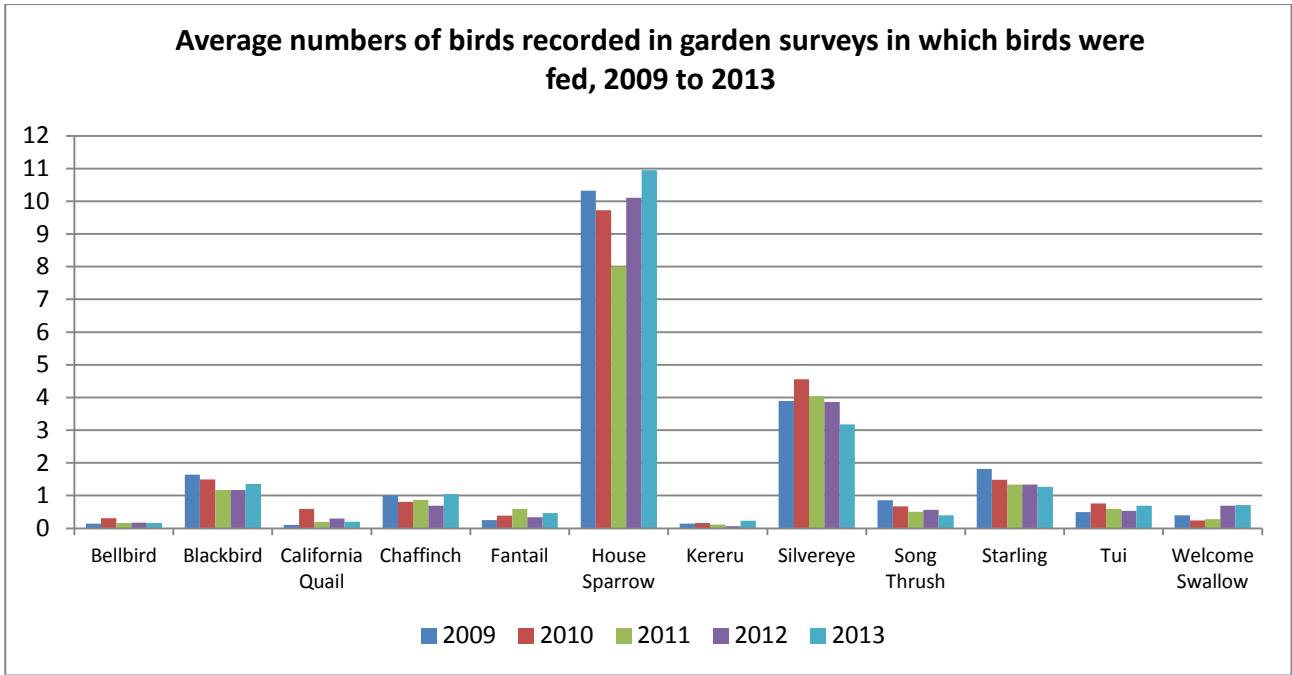
Total numbers of birds recorded January 2009 to December 2013			
House sparrow	9551	Mallard duck	204
Silvereye	4800	Goldfinch	191
Starling	2026	Dunnock	191
Blackbird	1664	Greenfinch	168
Chaffinch	952	Yellowhammer	141
Tui	860	Black-backed gull	124
Fantail	804	Australasian Harrier	117
Song thrush	677	Grey Warbler	108
Welcome swallow	645	Kingfisher	101
California quail	336	Paradise shelduck	92
Kereru	220	Redbilled gull	67
Bellbird	219	Spur-winged plover	54

It is worth noting that this is very much an urban profile. We have not recorded a single house sparrow during our five-minute bird counts in the Brook Waimarama Sanctuary.

It is great to see tui, fantails, kereru (NZ pigeon) and bellbirds making it into the top 12. I doubt anyone is surprised to see that house sparrows dominated. They even outnumbered the ubiquitous silvereyes almost 2 to 1...or did they? Let's take a closer look at the top 12 species.

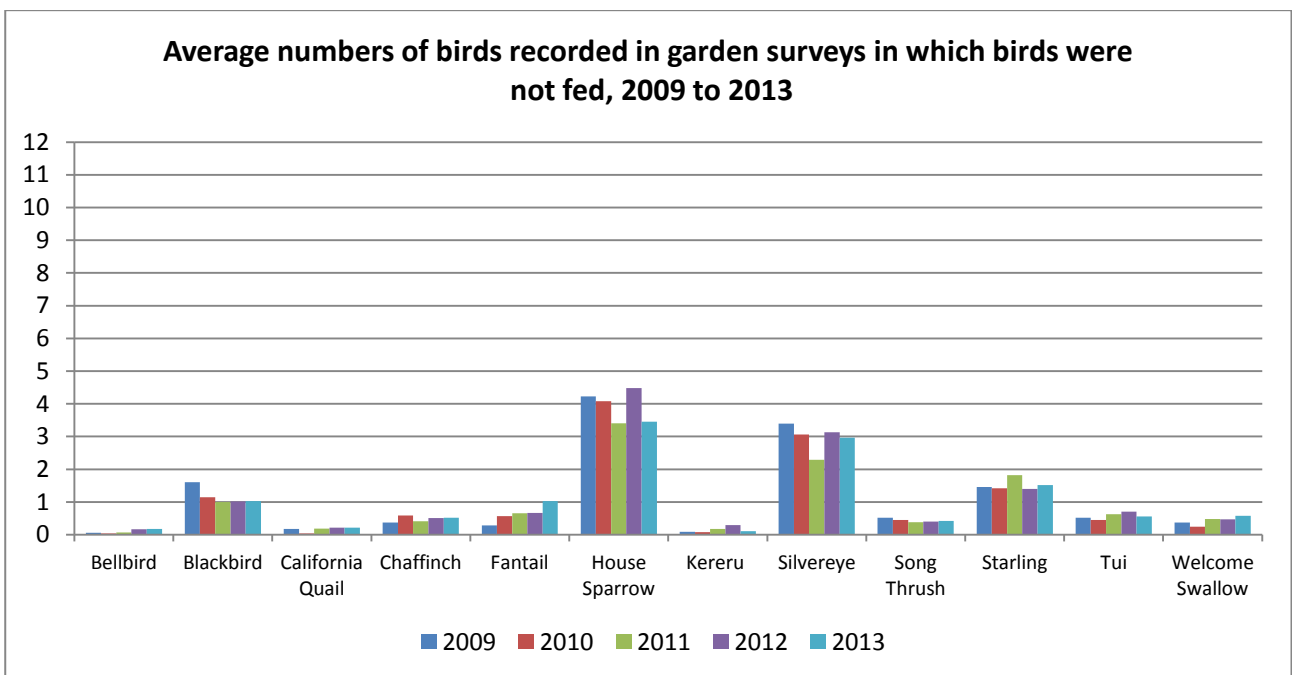
The table and graph below are the average number of birds recorded in garden surveys in which birds were fed. Please note that the sample size from 2009 was much lower than those of subsequent years.

Year	No. of Surveys	Bellbird	Blackbird	California Quail	Chaffinch	Fantail	House Sparrow	Kereru	Silvereye	Song Thrush	Starling	Tui	Welcome Swallow
2009	28	0.14	1.64	0.11	1.00	0.25	10.32	0.14	3.89	0.86	1.82	0.50	0.39
2010	155	0.31	1.50	0.59	0.81	0.39	9.73	0.16	4.55	0.67	1.48	0.75	0.25
2011	194	0.16	1.17	0.19	0.87	0.60	8.01	0.11	4.04	0.51	1.34	0.59	0.28
2012	179	0.17	1.17	0.30	0.69	0.34	10.11	0.07	3.86	0.56	1.34	0.53	0.69
2013	151	0.16	1.36	0.20	1.04	0.46	10.95	0.23	3.18	0.40	1.26	0.70	0.71



Now look at the averages from gardens in which birds were *not* fed:

Year	No. of Surveys	Bellbird	Blackbird	California Quail	Chaffinch	Fantail	House Sparrow	Kereru	Silvereye	Song Thrush	Starling	Tui	Welcome Swallow
2009	35	0.06	1.60	0.17	0.37	0.29	4.23	0.09	3.40	0.51	1.46	0.51	0.37
2010	136	0.04	1.15	0.04	0.59	0.57	4.08	0.08	3.06	0.45	1.42	0.45	0.24
2011	143	0.07	1.00	0.19	0.41	0.66	3.41	0.17	2.29	0.38	1.82	0.62	0.48
2012	226	0.16	1.02	0.21	0.51	0.66	4.48	0.29	3.13	0.40	1.40	0.71	0.47
2013	155	0.17	1.03	0.22	0.52	1.03	3.46	0.11	2.97	0.42	1.52	0.55	0.58

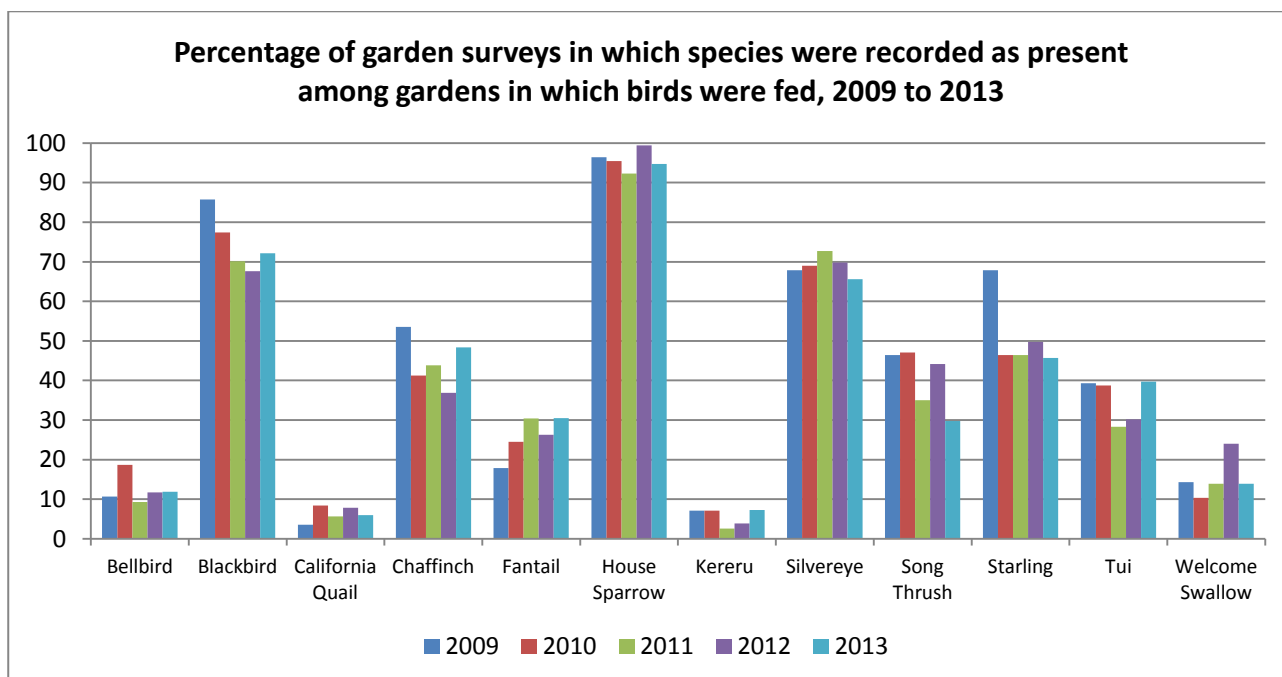


In surveys in which birds were not fed, silvereyes almost equalled house sparrows. Feeding the birds more than doubled the number of house sparrows in a garden survey, brought in 1 or 2 additional silvereyes and maybe more chaffinch, blackbirds and song thrush, but made little difference to the other species in the top 12. For the purposes of this preliminary analysis, I did not distinguish between the different types of food supplied, perhaps another day.

The above figures are averages, so what does that mean? Total birds counted divided by the number of surveys. One may think of an average of 0.25 to be equivalent to 1 bird counted in 1 out of every 4 garden surveys. However, this may not be true to reality. Two birds counted in 1 out of 8 garden surveys also equals an average of 0.25. Ten California Quail counted in 1 out of 40 gardens also equals an average of 0.25. So looking purely at averages tells us only part of the story. They give us a rough idea of relative population sizes, but tell us little if anything about how a species is distributed or the likelihood that it will be spotted during our garden survey. The next pair of tables and graphs shows the percentage of garden surveys in which each species were recorded as present.

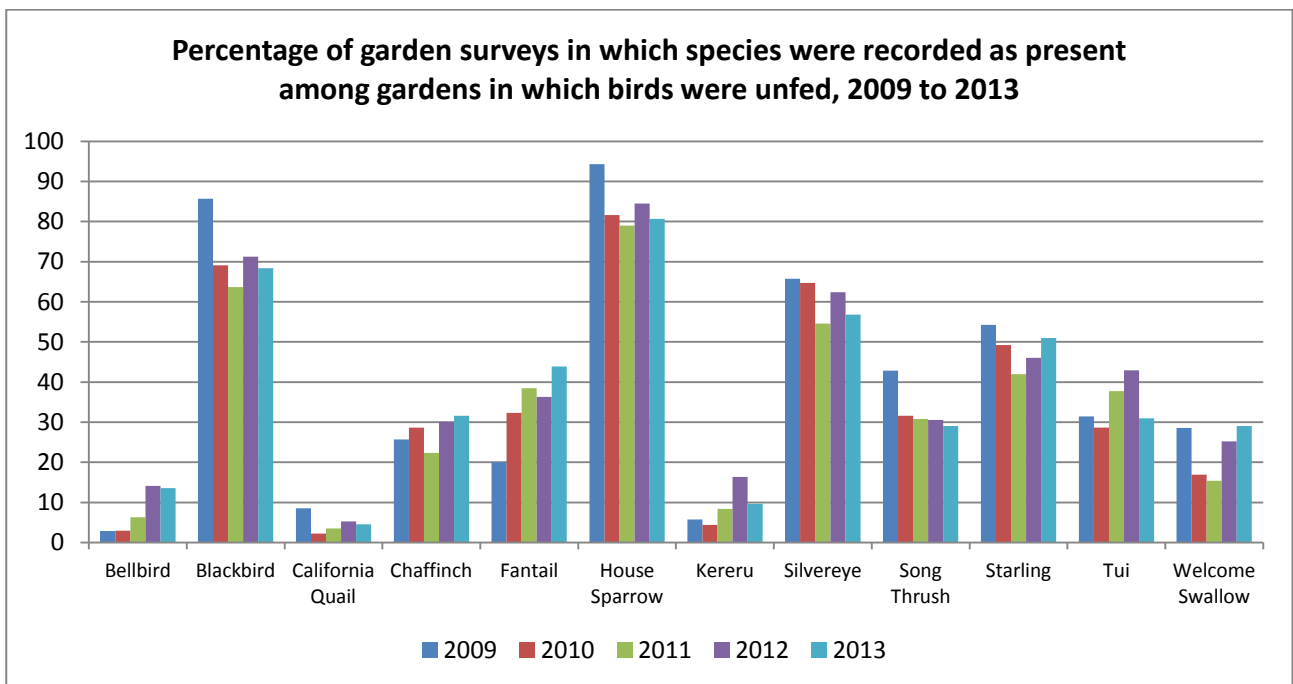
As before, let's look first at garden surveys in which the birds were fed:

Year	No. of Surveys	Bellbird	Blackbird	California Quail	Chaffinch	Fantail	House Sparrow	Kereru	Silvereye	Song Thrush	Starling	Tui	Welcome Swallow
2009	28	10.71	85.71	3.57	53.57	17.86	96.43	7.14	67.86	46.43	67.86	39.29	14.29
2010	155	18.71	77.42	8.39	41.29	24.52	95.48	7.10	69.03	47.10	46.45	38.71	10.32
2011	194	9.28	70.10	5.67	43.81	30.41	92.27	2.58	72.68	35.05	46.39	28.35	13.92
2012	179	11.73	67.60	7.82	36.87	26.26	99.44	3.91	69.83	44.13	49.72	30.17	24.02
2013	151	11.92	72.19	5.96	48.34	30.46	94.70	7.28	65.56	29.80	45.70	39.74	13.91



Now unfed:

Year	No. of Surveys	Bellbird	Blackbird	California Quail	Chaffinch	Fantail	House Sparrow	Kereru	Silvereye	Song Thrush	Starling	Tui	Welcome Swallow
2009	35	2.86	85.71	8.57	25.71	20.00	94.29	5.71	65.71	42.86	54.29	31.43	28.57
2010	136	2.94	69.12	2.21	28.68	32.35	81.62	4.41	64.71	31.62	49.26	28.68	16.91
2011	143	6.29	63.64	3.50	22.38	38.46	79.02	8.39	54.55	30.77	41.96	37.76	15.38
2012	226	14.16	71.24	5.31	30.09	36.28	84.51	16.37	62.39	30.53	46.02	42.92	25.22
2013	155	13.55	68.39	4.52	31.61	43.87	80.65	9.68	56.77	29.03	50.97	30.97	29.03



So what can we glean from this? Looking at house sparrows again, they were recorded in most garden surveys, around 95% of those in which food was supplied and around 80% in those in which it was not. The more than doubling of the average number of sparrows in the gardens in which food was offered was primarily due to larger groups of birds present rather than a greater likelihood of seeing them. I produced another pair of graphs showing the average numbers of birds recorded **where present** (i.e. nil values were excluded) which confirms this, but I will spare you these graphs as you must be approaching graph fatigue by now. (If you'd like to see them, I'd be happy to send them to you).

You can examine the above tables and graphs at your leisure, but I'd like you to ponder the following:

- 1) The percentage of gardens in which bellbirds were recorded as present remained more or less constant (~10%) in gardens where birds were fed, but increased from less than 3% to ~14% in gardens in which birds were not fed.
- 2) Fantails were reported more often in gardens in which birds were *not* fed. Are they intimidated by house sparrows or do observers fail to notice them while busy counting dozens of house sparrows?
- 3) Despite varying sample sizes, the results remained quite consistent over the past 5 years, providing us with a terrific baseline against which to measure possible changes as a result of the fence being erected around the Brook Waimarama Sanctuary or other environmental changes.

Thank you for all your contributions. Keep up the good work!