



Places for Penguins

a Forest & Bird Wellington Branch project



Forest & Bird
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A VOICE

Newsletter

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MONITORING RESULTS

From all the hard work put in by the PfP nest-box and trapping monitors entering their results, we have summarised the data producing the totals and charts presented below. Many thanks to all the monitors going out during the year checking and entering the details into the PfP database. These results will be most useful in analysing the ongoing trends of little penguin and pest control numbers.

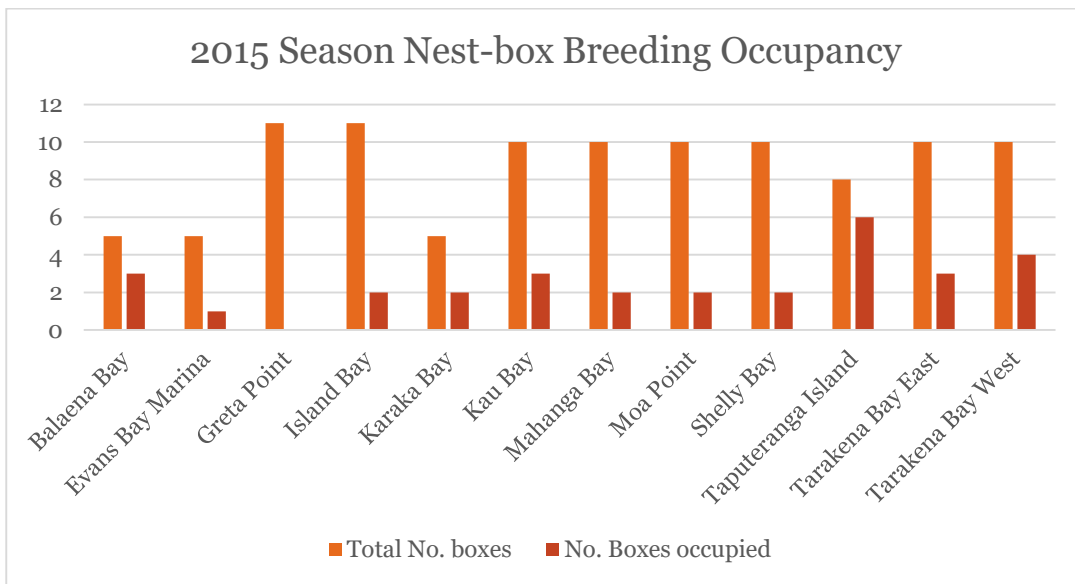
NEST-BOX BREEDING RESULTS AS AT 31/01/16

The table below shows the little penguin breeding results compared to last season (2014). As shown there has been an increase in number of chicks fledged.

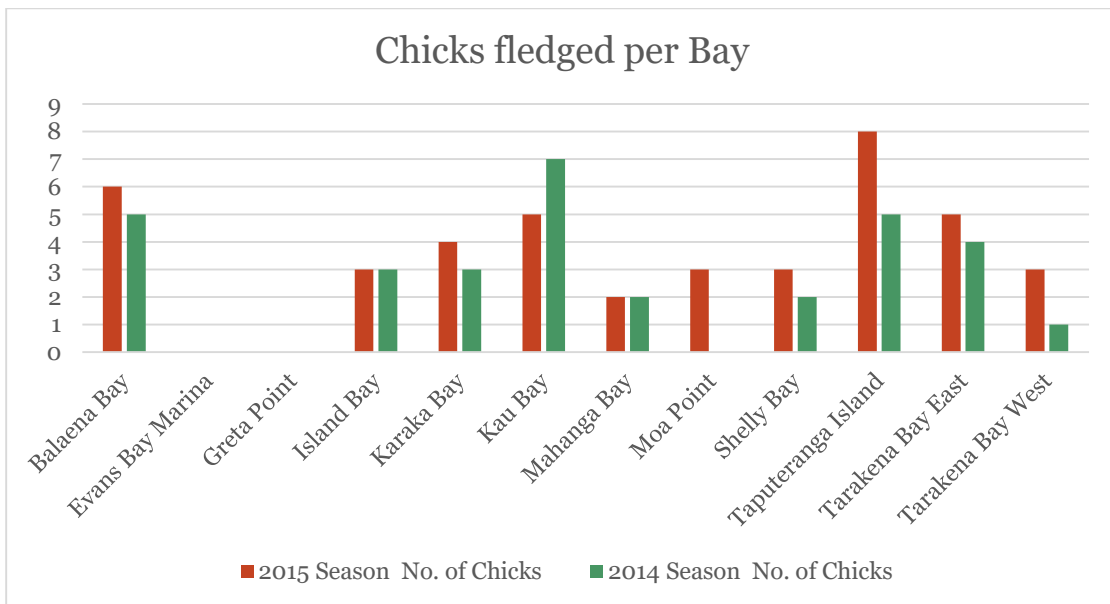
Comparative figures for this season and last season

		Last Season (2014)	This Season (2015)
Boxes	% occupied	26%	29%
Eggs (number)	Laid	38	54
	Abandoned	2	10
Chicks (number)	Hatched	36	44
	Dead chicks	4	2
	Fledged	32	42

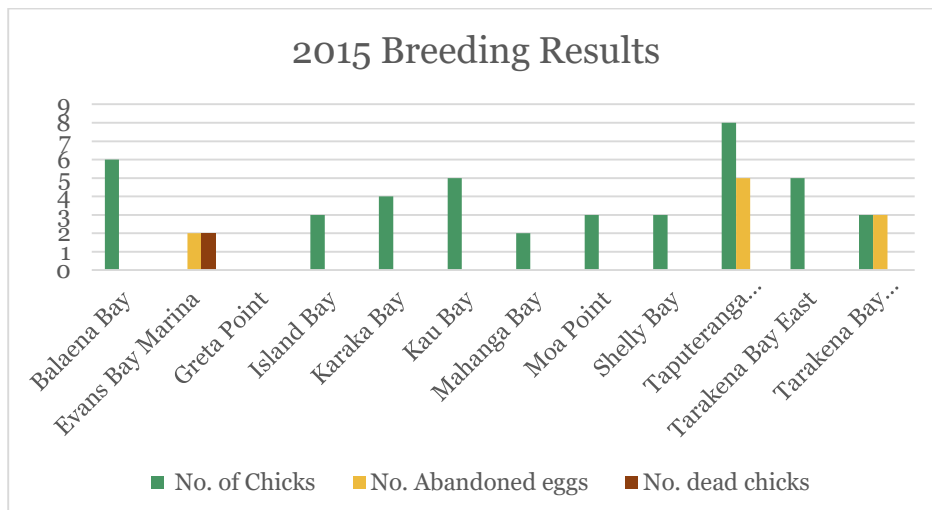
A total of 54 eggs was laid (compared with 36 last year). We have assumed if there was a chick that an egg was produced — as not all eggs were seen and recorded — so the total doesn't include additional eggs that could have been broken or predated. Also we have assumed that, when there is no evidence of predation, the chicks have fledged.



By the end of January we had 30 boxes occupied for breeding, that is: 29% occupation of the total of 105 boxes as shown in the Occupancy chart above. Greta Point had no results and Evans Bay had 1 box occupied twice with no success. Boxes used for moulting but not breeding have not been included in the graph.



The chart above presents the chicks that have fledged per bay for the 2 seasons monitored. Greta Point & Evans Bay had no nest-boxes last year to compare. The chart below shows breeding results of 2015 where this season 42 chicks fledged compared to 32 last season, an improvement on the 2014 season. There have been 10 abandoned eggs and 2 chicks that died in the nest-box.



PENGUIN MOULT

Penguins spend 18–24 hours a day in the sea. To prevent them becoming hypothermic, their highly adapted, dense feathers need to provide a 100% waterproof layer. Over a period of a year, the feathers become worn and brittle, start to lose their waterproofing ability and must be replaced.

Once the parents have fed their ready-to-fledge chicks for the last time, they remain at sea gorging on fish until they reach 1½–2 times their normal body weight. This additional weight gives them sufficient energy reserves to get them through their yearly moult — a time when they are not waterproof and so are unable to remain in the sea and feed.

The new feathers form in the feather follicles below the skin during this time at sea as a result of hormonal changes brought about by the end of their breeding cycle.

Once they have reached a weight that will enable them to survive the duration of their moult, they return to land to shelter under thick vegetation, in a rocky crevice or in a penguin nest-box away from predators to see out their moult.

Apart from the penguins looking very fat, their old feathers will have taken on a rather greasy, manky appearance — the dorsal feathers will appear brown and the ventral feathers will be a grubby buff colour.



Penguins are grumpy during this time and their metabolic rate drops to conserve as much energy as they can. A penguin's moult is termed “catastrophic” to distinguish it from other birds' moults, where their less dense feathers are lost over a much longer period of time, their ability to forage for food is not compromised and their energy expenditure making new feathers is not as intense.



As the new feathers develop they push through the feather follicles and in the process push out the old feathers, which are still attached to the tip of the new feathers, so these appear as a thick, woolly layer on top of the emerging feathers. The old feathers fall off, assisted by the penguin preening and by abrasion from surrounding surfaces. The last of the old feathers to fall off are generally those that are not frequently abraded — such as those on the top of the head and upper back.

They look very scruffy during this period — somewhat like exploding feather pillows!

Once the moult is complete, the penguins return to the sea, fully waterproof. They remain at sea until they come ashore for the next breeding season, to reunite with their mate or form a bond with a new partner.

Moulting penguins are not sick and should not be disturbed. They prefer to be left in peace to get on with their moult.

Occasionally you may find a thin penguin with manky, greasy looking feathers. These birds need assistance. They are generally in moult stasis — their body reserves are insufficient to get them through a moult and because they are not waterproof and thus unable to return to the sea to feed they will starve to death without intervention. The cause of this moult stasis will vary — it could be as simple as insufficient food supplies to enable them to reach a moulting weight, or they may have an overload of parasites, an infection, or injury that has compromised their ability to get sufficient food before their feathers lost their waterproofing.



If you find a penguin like this and are unsure if it is in moult stasis, please contact Karin and she will assess the bird and remove it for treatment if necessary.

Contact: Karin Wiley 04 479 2936 (leave message and contact information on answerphone) or 021 069 4028.

TRAPPING RESULTS AS AT OCTOBER 2015

This summary looks only at the periods: from 2012 for Penguin line (PL); from 2013 for the Coastal (CL) & Ridge (RL) lines; and from 2014 for the North Coast line (NL). The total figures for all years for each trap line are below in table 1.

The description of each trap line as at the start of October 2015:

- Penguin trap line (PL): 13 traps along the Miramar south coast from Moa Point to Tarakena Bay, and in the Rangitatau Reserve (above Tarakena Bay).
- Coast trap line (CL): 14 traps along the southeast coast from Seatoun to Tarakena Bay (including the Oruaiti Reserve).
- Ridge trap line (RL): 14 traps, from the radar station in Strathmore, above the Rangitatau Reserve, and along the Eastern Walkway to Seatoun.
- North coast trap line (NL): 11 traps, sited near Pfp nesting boxes, along Shelly Bay and Massey Roads, from the Miramar wharf around the north coast to Mahanga Bay.

Table 1 Catch by line and by year 2012–2015

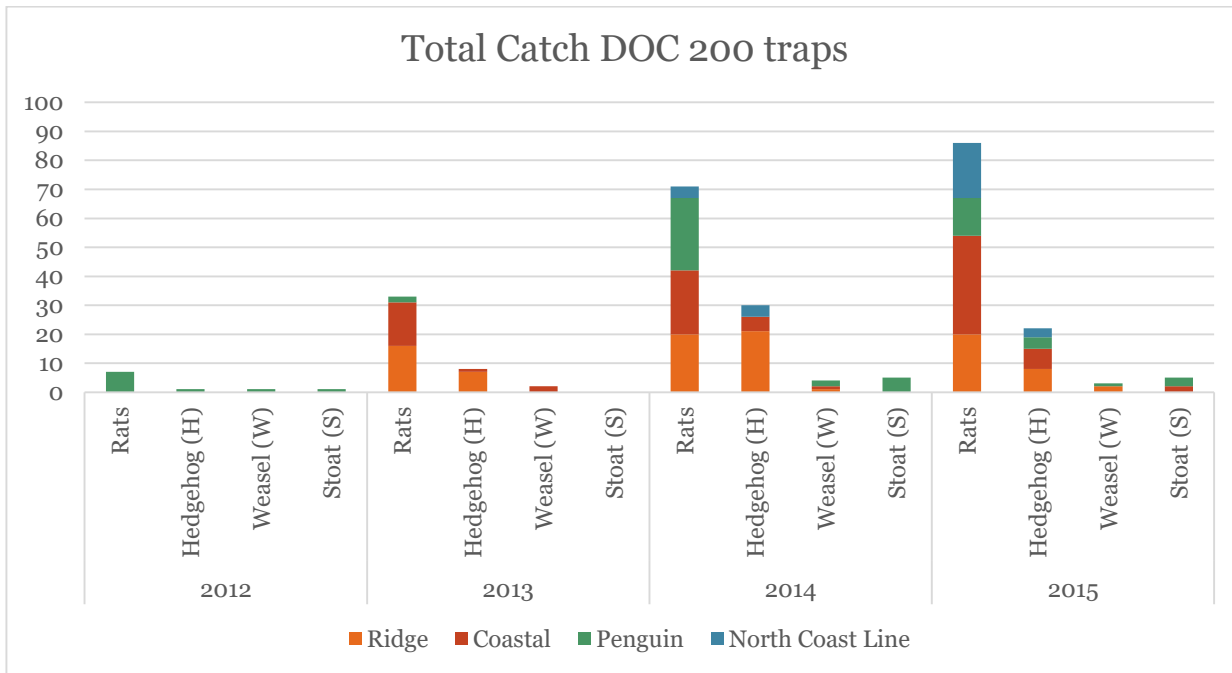
Line	2012				2013				2014				2015			
	R	H	W	S	R	H	W	S	R	H	W	S	R	H	W	S
Ridge					16	7	0	0	20	21	1	0	20	8	2	0
Coastal					15	1	2	0	22	5	1	0	34	7	0	2
Penguin	7	1	1	1	2				25	0	2	5	13	4	1	3
North Coast									4	4			19	3	0	0
Total	7	1	1	1	33	8	2	0	71	30	4	5	86	22	3	5

R = Rats, H = hedgehogs, W = weasels, S = stoats

The total number of pests caught are showing an increase. However it is difficult to analyse the trends in trapping due to the following inconsistencies:

- addition of NL which was set up in mid-2014
- addition of A24 traps on the PL line.
- PL was not monitored for few months in 2013.

Catch per line Chart



We can see from here that:

- Most mustelids are caught along the PL & CL trap lines. PL trap 4 has caught the most mustelids.
- Most hedgehogs have been caught on the RL line in 2014 but CL has had an increase in 2015.
- Rats have been caught along most of the lines but PL number has dropped in 2015 which is probably due to A24s being added along the line.

FIRST WORKING BEE 2016

The first working bee for 2016 is planned for the end of March or the beginning of April. A site around the coast is yet to be selected. It will be a beach clean-up or weeding bee depending on how dry the soil is. The great summer has been hard on the plants around the south coast.

If any dead or injured penguins are found please contact the **Department of Conservation Area Office on 472 5821 (after hours 0800 DOCHOT)**

Thanks to all our partners: Wellington Zoo, Wellington City Council, Greater Wellington Regional Council, the Society for Conservation Biology group at Victoria University, and Crombie Lockwood

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