# Miramar Peninsula Rat Monitor 2018

## Summary

While the second census of rat numbers on the Miramar Peninsula shows rising numbers, the efforts of reserve and tapping groups are holding the line in the face of a significant rise in rat numbers throughout the country. An unusually long hot summer and a warm autumn has provided perfect breeding conditions for fast-growing rat populations.

This year's census of the rat population on the peninsula recovered 95 per cent of chew cards (which attract rats and if chewed records their presence) up from 91 per cent last year; 17 per cent had been chewed by rats, an increase of just five per cent from last year.

Given the weather, we could have expected more but the fact we haven't is probably a sign of the success of Miramar's backyard trappers, who have grown in number and enthusiasm over the past year. They are almost holding the line, but this year's results shows the challenges faced in keeping rat numbers down over time.

The second census of rats and stoats on the Miramar Peninsula was supported by volunteer groups which worked with Greater Wellington to place 281 chew cards throughout the peninsula on a grid at 200m x 200m intervals.

The cards, left in place for three nights, used peanut butter to attract rats, stoats and other native bird predators.

The highest proportion of rat chews was once again found on the coast, where 35 per cent of cards were chewed. Increases were also found in urban areas where rats have easy access to sources of food.

Only two cards showed evidence of stoats, down from six last year, but mice chews were common and found on nearly half of all cards.

**A big thanks to everyone who participated in or supported the monitoring trial. And to those trapping on the peninsula - keep up the good work!**

# Miramar Peninsula Rat Monitor 2018 Report

The distribution of rats across the Miramar peninsula was re-surveyed in March 2018, to help establish a baseline for the Predator-free Wellington project. The methodology repeated that employed during the first rodent monitor that was completed in March 2017.

**Methodology**

Chew cards that record the bite marks of rats and other species, such as mustelids, mice and hedgehogs were placed at selected sites across the Miramar peninsula and retrieved after three clear weather nights. The cards were deployed in a 200m x 200m grid, giving 281 monitoring points across the peninsula.

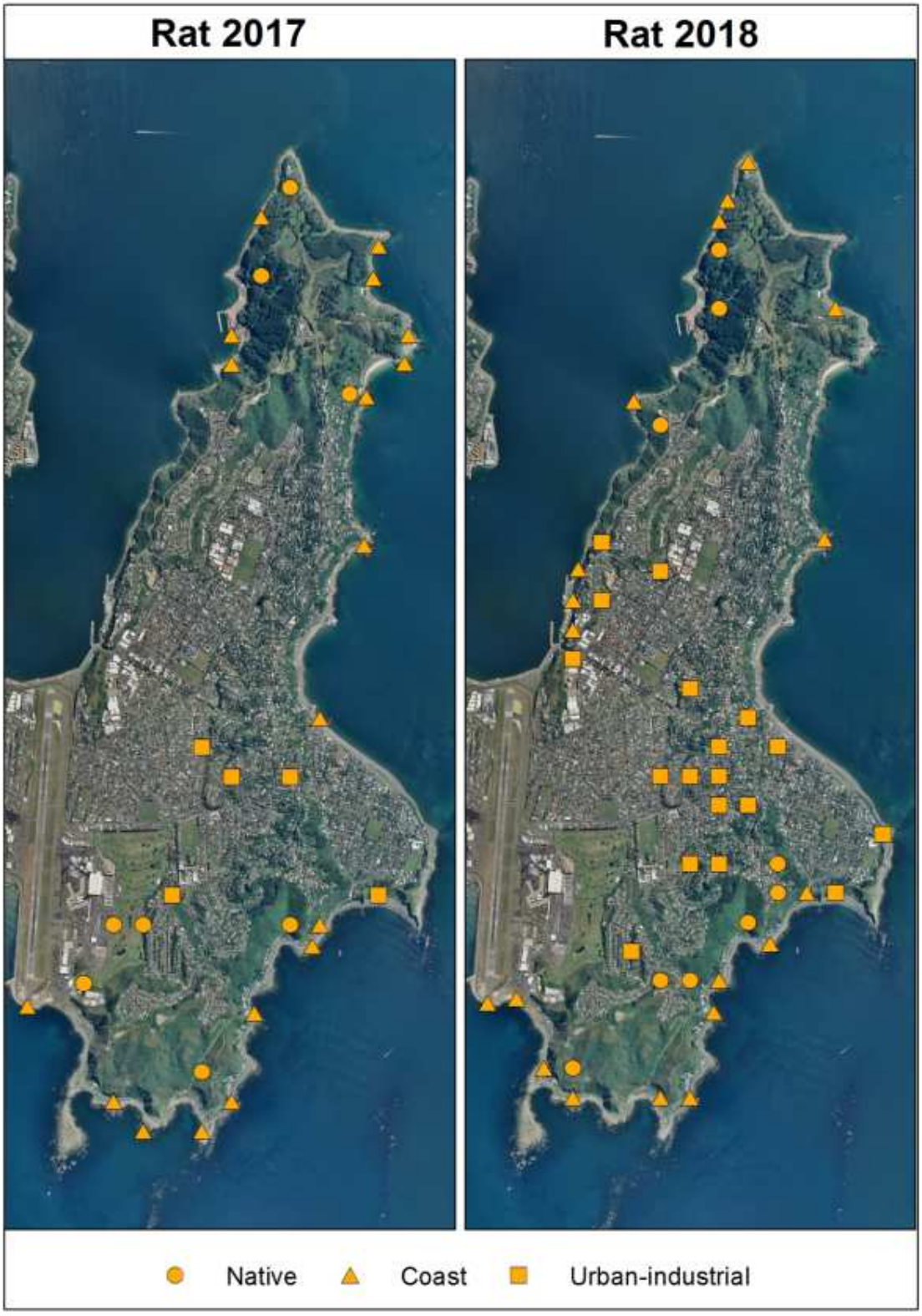
Cards were deployed and retrieved by volunteers sourced from the Wellington Orienteering Club and through Conservation Volunteers NZ. These volunteers were allocated areas that contained 17 to 20 points each. In addition to the volunteers, three cyclists put out the chew cards along the coast, each deploying around 28 chew cards, while staff at Wellington International Airport deployed 22 chew cards around the runway.

Chew cards (90mm x 180mm) were made of plastic corflute board with a peanut butter and aniseed lure injected into the flutes on opposite sides at either end of the card. Chew cards were folded in half and mounted onto an aluminium stake to present a horizontal "V" positioned within 100mm of the ground. Chew cards were deployed as close to each grid point as possible without entering private properties. They were put out on 12 March 2018 and retrieved on 14 March 2018. Volunteers were instructed to place the cards under vegetation or against a fence. Apart from cards placed on the golf course or on Defence land, the areas sampled were on road verges or public land. Over 20 volunteers took part in the project.

**Results**

More chew cards were recovered this year (95%, 268 out of 281 cards) than last year (91%). Rat chews were found on 17% of the cards (46 out of 268), an increase from 12% rat chews recorded last year. The major change appeared to be the increase in the number of rat-chewed cards found in the urban area (5 in 2017 and 18 in 2018). This may partially be attributed to improved positioning of the chew cards by volunteers after having completed this task last year, but there has been a very warm spring and summer this year which would result in an increase in the reproduction success of rats. The highest proportion of rat-chewed cards were again found on the coast where around 35% of the cards put out had rat chews.

It is understood that there has been a fantastic uptake of rat trapping in backyards on Miramar Peninsula and that large numbers of these pests have been trapped by the efforts of the volunteers. This result hopefully doesn't dishearten the individuals and groups doing this work, but this monitor highlights how rats are a challenge to control across a landscape.



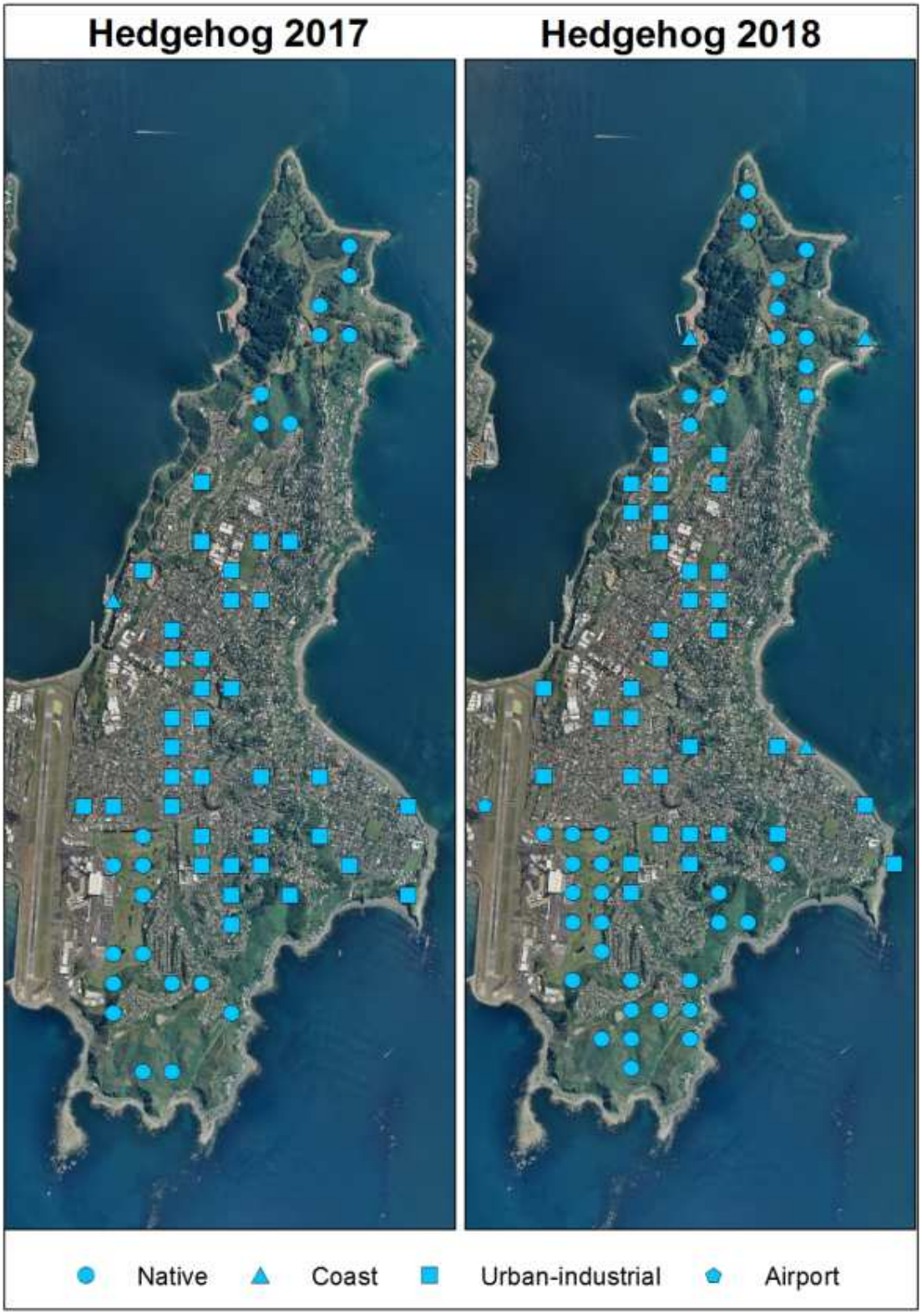

**Map 1: Rat-chewed cards recorded on the 200m x 200m grid in different landuse types in 2017 and 2018**

Only two mustelid-chewed cards were recorded this year (Map 2). This may be an artefact of the chew mark identification, but it is good news in terms eradicating this pest species. Last year 6 cards were identified as mustelid-chewed (all in native bush areas).

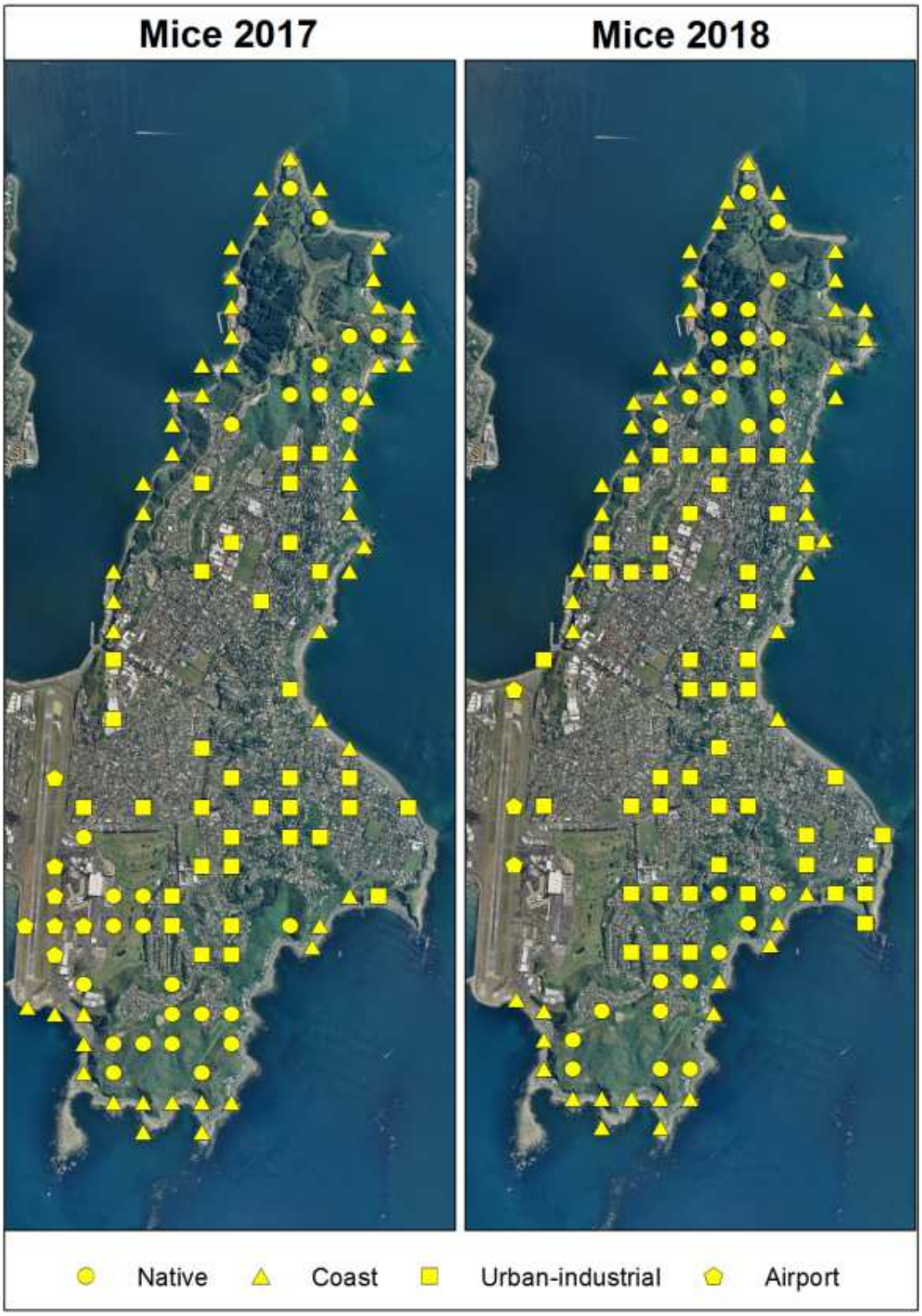
Hedgehog chew marks were recorded on 27% of cards this year as opposed to on 24% in 2017 (see Map 3). Hedgehogs were common in the native and urban areas.

Mice (Map 4) won the day again for number of cards chewed – 126 of the 268 cards (47%) and their marks were again on most of the cards chewed by rats. Cards with no chew marks are shown in Map 5, while missing cards are presented in Map 6.

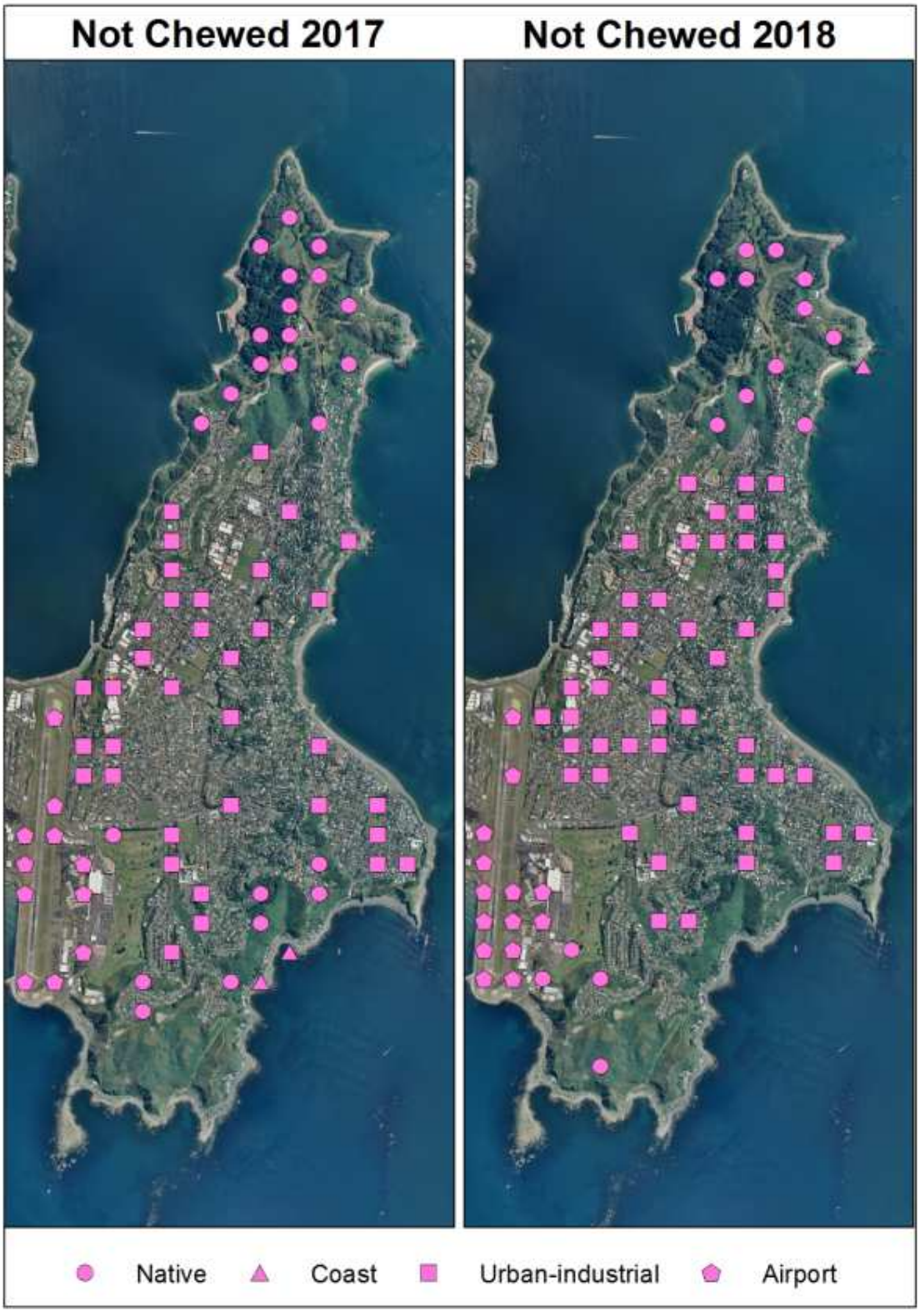

**Map 1: Mustelid-chewed cards recorded on the 200m x 200m grid in different landuse types in 2017 and 2018**




**Map 2: Hedgehog-chewed cards recorded on the 200m x 200m grid in different landuse types in 2017 and 2018**




**Map 3: Mice-chewed cards recorded on the 200m x 200m grid in different landuse types in 2017 and 2018**




**Map 4: Cards not chewed on the 200m x 200m grid in different landuse types in 2017 and 2018**


**Map 5: Missing cards on the 200m x 200m grid in different landuse types in 2017 and 2018**

**Discussion**

Thanks again to the Conservation Volunteers NZ for organising the volunteers to complete the urban area survey and to the Wellington Orienteering Club and other individual volunteers for placing and retrieving the cards in the native bush areas and around the coastline. We are grateful to Kate Irving, a Victoria University student for providing an audit of our assessment of animal sign on the chew cards. The survey continues to provide interesting results and it is recommended that the survey be repeated in March 2019.

**Philippa Crisp, Roger Uys, Faline Drummond and Barrett Pistoll, Greater Wellington Regional Council**