

Bat Surveying in Taranaki 2015-16 Report



Native Birds Taranaki

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Dave Bell

Cover picture by Dave Bell: Rerekapa Falls, Moki Forest, Taranaki. 18 December 2015.

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1. Introduction

New Zealand bats use a form of sonar known as echolocation to navigate, orientate and forage. The frequencies of bat echolocation calls are generally much higher than humans can hear (ultrasonic). Bat detectors can be used to listen to these calls, and are useful tools to unobtrusively survey, monitor and identify bat species (Sedgeley, 2008).

Following acquisition of Automatic Bat Monitors (ABM's) in 2012, a project monitoring of and surveying for these rare and endangered species has been undertaken in Taranaki and this report details the activities and results for the 2015-16 season.

Bats are New Zealand's only endemic terrestrial mammal but are under significant threat from not only introduced predators but also by competition from numerous introduced species for food.

2. New Zealand Bats

Three bat species, all of which are endemic, are known from New Zealand, the lesser short-tailed bat (*Mystacina tuberculata*), greater short-tailed bat (*M. robusta*) and long-tailed bat (*Chalinolobus tuberculatus*) (O'Donnell et al 2013). Greater short-tailed bats are considered to be very likely now extinct.

The long-tailed bat 'North Island' has been recorded widely throughout the North Island, whilst the 'Central' lesser short-tailed bat is present in forests of the central North Island and has been recorded from northern Taranaki (O'Donnell et al 2010).

Under the New Zealand Threat Classification System the long-tailed bat (LTB) 'North Island' is classed as Threatened – Nationally Vulnerable whilst the 'Central' lesser short-tailed bat (STB) is regarded as At Risk – Declining (O'Donnell et al 2013).

3. Monitoring/Surveying during Previous Seasons

Monitoring for bats in Taranaki commenced in the 2012-13 summer season, by concentrating in the Waitaanga area in northern Taranaki. Results (Bell, 2013) indicated both STB and LTB were still present at sites for where surveying and a population study was undertaken in 1998/99.

Surveying for the 2013-14 season concentrated in ascertaining the presence of bats in Northern and North-eastern locations in Taranaki. But the opportunity was also taken, to return to Waitaanga and to Mt Damper to again monitor the continual presence of LTB and STB. Results (Bell, 2014) were very pleasing and in keeping with those obtained during the 2012-13 season.

Surveying for the 2014-15 season was focused in Egmont National Park to determine if bats were present. Both LTB and STB passes were recorded from within the National Park and results (Bell, 2015) confirm the existence of Long-tailed bats but the presence of Short-tailed bats must remain unconfirmed.

4. Surveying for 2015-16 Season

Surveying for the 2015-16 season was again mainly undertaken in northern Taranaki but two surveys inland from Hawera and Waverley were also successfully completed as were surveys from where additional historic records had been received. This included a return to Waitaanga to ascertain the continual presence of short-tailed bats.

Ten surveys were completed between November 2015 and April 2016 encompassing a total of 1,080 nights using ten newly acquired Frequency Compression Bat Recorders from the Department of Conservation (DOC).

5. Results of Surveying for 2015-16 Season

During the 1,080 nights a total of 14,316 bat passes were recorded, 13,473 for long-tailed bats and 843 for short-tailed bats. A detailed summary of these results is shown at Annex A, a copy of this data has been forwarded for inclusion in the DOC National Bat Database.

A map illustrating the results for 2015-2016 is at Annex B, whilst an additional map displaying all the results for all four seasons is at Annex C.

6. Discussion

There were a number of highlights and valuable results obtained during the season's surveying, involving new areas, specific areas re-surveyed and some outstanding records achieved, these are now briefly discussed as follows:

6.1 Survey 33 – Rerekapa

On 5 April 2015 Tui Wright recorded three long-tailed bat passes whilst staying at the Rerekapa Hut (more commonly known as the Boys Brigade Hut) in the Moki Conservation Area. Surveying in the vicinity along the Rerekapa road and track produced valuable results, including 107 passes recorded at the hut over 10 nights.

6.2 Survey 35 – Pehu

Ron Lambert, Senior Researcher at Puke Ariki Museum and Library in New Plymouth provided a copy of an old file note that recorded 5-7 bats being seen hawking insects at 9 pm on Saturday 18 February 1984 on a property at Maikaikatea Road Pehu.

Surveying in the area in January 2016 produced very pleasing results with 1,031 long-tailed bats passes being recorded over nine nights, of which 948 of these passes being from locations along Maikaikatea Road.

6.3 Surveys 36 and 37 – South Taranaki

Surveys 36 and 37 ventured into South Taranaki, with locations inland from Waverley and Hawera:

6.3.1 Survey 36 had five recorders at the entrance to and on the Mt Hiwi Charitable Trust conservation land off Omahinia Road, with the remaining five recorders on the adjacent Braemore Road. The results were varied with mostly lower numbers recorded at the Mt Hiwi land but on the Braemore Road there were better results; in particular Site 10 recorded 1,243 long-tailed bat passes, the second-best tally at one site over ten nights.

6.3.2 Survey 37 was along what is known as the Meremere Track, consisting of the unformed Tarere, Kaitoke and Meremere Roads. Again pleasing results with long-tailed bat passes being recorded on all eight recorders, with Site 7 recording 321 passes over the 10 nights.

6.4 Surveys 38, 40 and 41 – Mt Damper and Waitaanga CA

Surveys 38, 40 and 41 were undertaken in areas where both long-tailed and short-tailed bats had been seen and/or recorded in the past and all three provided valuable data for the continual presence of particularly the short-tailed bat.

6.4.1 Survey 38 re-surveyed along the DOC hunters track in the north of the Waitaanga Conservation Area (CA) from where in February 2014 both short-tailed and long-tailed bats were recorded. All nine recorders again recorded both species of bats during the ten nights of Survey 38.

6.4.2 Survey 40 was undertaken on Arthur and Marie Masters farm at Mt Damper on the south-western edge of the Waitaanga CA, both had previously seen bats at various locations on their land. Exceptional results were obtained during the ten nights of surveying especially for long-tailed bats at all ten sites. The recorder located on the edge of an exotic pine plantation picked up 1,751 passes in 10 nights, the most ever from one site.

Short-tailed bats were also recorded at all five sites within the bush block that borders the Waitaanga CA, including at Laurence's Hut from which a record exists for 7 November 1998, during the population survey undertaken that year.

6.4.3 Survey 41 was the last survey undertaken for the 2015-16 season and was conducted along the ridge leading from NG Tucker SR to spot height 565 - Te Araohakere in the north-eastern corner of Waitaanga CA. An historic record for short-tailed bat pass was known for along this ridge for 3 November 1999.

The recorders were placed out at 150m spacing, using a hip-chain. These remained in place for 10 nights. A total of 1,017 bat passes were recorded of which 481 were for short-tailed bats and the remaining 536 for long-tailed bats. All recorders recorded bat passes from both species for all the nights deployed, this was an outstanding result.

7. Conclusion

Overall there were pleasing results for the season's surveying that also reinforced the benefits of surveying where bats have been sighted/recorded from before, no matter how long ago and for surveying on the edge and inside exotic pine plantations.

8. Acknowledgments

A project like this could not be undertaken nor successfully completed without the assistance from a number of people and acknowledgement is given to the following with much appreciation to;

Pat Burnside and Raewyn Caskin at Mataro Rd, Urenui for surveying there.

Tui Wright for her Rerekapa Hut record from 2015 and Grump Irwin for permission to use ATV across his land at Rerekapa to access the Rerekapa Track.

Nick Beckers and the Schumachers for surveying on their respective properties at Purangi, their help and Erin Griffith and Sian Potier for assistance with that survey.

Ron Lambert, Senior Researcher at Puke Ariki for sharing the historic bat record from Maikaikatea Road at Pehu.

Mt Hiwi Charitable Trust for permission to survey on their land at Waverley.

Blue Cumberworth for OK to survey on his land and for access to Waitaanga CA and to David Cumberworth-Lane for his assistance and good company.

Holly Johnson and Simon Bailey at the top of Dover Road for permission to survey on their property.

Arthur and Marie Masters for the opportunity to survey on their farm at Mt Damper.

Brent Dunnet and Shakira Derbyshire for the enjoyable company and assistance during the last survey of the season.

Stu Cockburn at the DOC Conservation Electronics Team for help with clarifying the analysis of the data.

Elise Smith for her very patient tuition on the use of QGIS program that allowed the author to produce the maps in this report.

Jane Hart for editorial assistance.

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Annex A to
Bat Surveying in Taranaki
2015-16 Report

Results from Bat Surveying in Taranaki 2015-2016

Note: that all these results have been forwarded to the Department of Conservation for inclusion in the National Bat Database.

Survey No	Det No	Location				Total No Nights	Bat Passes		
		Eastings	Northings	Description	Site		STB	LTB	Total
32	1	1721519	5673556	Mataro Road Urenui	Road	12		13	13
	2	1721411	5673151	Mataro Road Urenui	ATV	12		11	11
	3	1720803	5673359	Mataro Road Urenui	ATV	12			0
	4	1720453	5673632	Mataro Road Urenui	ATV	12			0
	5	1720531	5673460	Mataro Road Urenui	ATV	12			0
	6	1720524	5673745	Mataro Road Urenui	ATV	12			0
	7	1720969	5673550	Mataro Road Urenui	Farmland	12			0
	8	1720955	5673289	Mataro Road Urenui	ATV	12			0
	9	1721437	5673726	Mataro Road Urenui	Road	12		3	3
	10	1721217	5673912	Mataro Road Urenui	Farmland	12		37	37
33	1	1752454	5685847	Rerekapa Road Moki Forest	4x4	10		163	163
	2	1752339	5686200	Rerekapa Road Moki Forest	Clearing	10		181	181
	3	1752148	5686563	Rerekapa Road Moki Forest	4x4	10		151	151
	4	1751913	5686903	Rerekapa Road Moki Forest	4x4	10		54	54
	5	1751613	5687194	Rerekapa Road Moki Forest	4x4	10		57	57
	6	1750164	5687417	Rerekapa Track Moki Forest	Track	10		56	56
	7	1749887	5687723	Rerekapa Track Moki Forest	Track	10		34	34
	8	1749430	5688291	Rerekapa Track Moki Forest	Track	10		22	22

	9	1749283	5688826	Rerekapa Track Moki Forest	Clearing	10		19	19
	10	1749158	5689106	Rerekapa Track Moki Forest	Clearing	10		107	107
34	1	1733454	5664271	Beckers Property Purangi	Bush	20		23	23
	2	1733168	5664527	Beckers Property Purangi	ATV	20		225	225
	3	1733416	5664990	Schumachers Property Purangi	ATV	20		50	50
	4	1733969	5665429	Schumachers Property Purangi	ATV	20		84	84
	5	1733827	5665597	Schumachers Property Purangi	ATV	20		95	95
	6	1733975	5666266	Schumachers Property Purangi	ATV	20		72	72
	7	1733359	5666934	Schumachers Property Purangi	Farmland	20		92	92
	8	1733350	5665849	Schumachers Property Purangi	ATV	20		1	1
	9	1733176	5665535	Schumachers Property Purangi	ATV	20		44	44
	10	1733535	5664030	Beckers Property Purangi	Clearing	20		280	280
35	1	1740853	5672827	Tarawai Road Pehu	4x4	9		34	34
	2	1739678	5674045	Tarawai Road Pehu	4x4	9		23	23
	3	1739649	5674635	Tarawai Road Pehu	4x4	9		26	26
	4	1739633	5675015	Maikaikatea Road Pehu	Road	9		85	85
	5	1739633	5675314	Maikaikatea Road Pehu	Road	9		366	366
	6	1739544	5675802	Maikaikatea Road Pehu	Road	9		12	12
	7	1739635	5675935	Maikaikatea Road Pehu	Road	9		74	74
	8	1739356	5676529	Maikaikatea Road Pehu	Road	9		265	265
	9	1739323	5676483	Maikaikatea Road Pehu	Road	9		101	101
	10	1739382	5676669	Maikaikatea Road Pehu	Road	9		45	45
36	1	1745616	5608641	Omahinia Road Waverley	Road	10		10	10
	2	1745501	5608854	Mt Hiwi Track Waverley	ATV	10		2	2
	3	1745399	5608796	Mt Hiwi Track Waverley	ATV	10		10	10
	4	1745209	5609111	Mt Hiwi Track Waverley	Track	10		8	8
	5	1744866	5609531	Mt Hiwi Track Waverley	Track	10		160	160
	6	1742645	5607392	Braemore Road Waverley	4x4	10		295	295
	7	1742333	5607848	Braemore Road Waverley	4x4	10		5	5
	8	1741917	5608358	Braemore Road Waverley	4x4	10		108	108

	9	1742003	5609119	Braemore Road Waverley	4x4	10		107	107
	10	1742013	5609196	Braemore Road Waverley	4x4	10		1243	1243
37	2	1729550	5623211	Tarere Road Hawera	4x4	10		47	47
	3	1728879	5623402	Tarere Road Hawera	4x4	10		212	212
	4	1728317	5622931	Tarere Road Hawera	4x4	10		146	146
	5	1727802	5622501	Tarere Road Hawera	4x4	10		290	290
	6	1726952	5622729	Kaitoke Road Hawera	4x4	10		157	157
	7	1726383	5623021	Kaitoke Road Hawera	4x4	10		321	321
	8	1726264	5622159	Meremere Road Hawera	4x4	10		11	11
	9	1726197	5620280	Meremere Road Hawera	4x4	10		38	38
38	2	1760909	5699543	Blue Cumberworth's property	Clearing	10	1	751	752
	3	1761177	5699205	Waitaanga CA Waitaanga	ATV	10	4	415	419
	4	1761363	5699035	Waitaanga CA Waitaanga	ATV	10	18	386	404
	5	1761612	5698842	Waitaanga CA Waitaanga	Clearing	10	13	955	968
	6	1761785	5698866	Waitaanga CA Waitaanga	Clearing	10	20	209	229
	7	1761899	5698659	Waitaanga CA Waitaanga	Bush	10	18	99	117
	8	1761842	5698193	Waitaanga CA Waitaanga	Bush	10	33	17	50
	9	1761917	5698091	Waitaanga CA Waitaanga	Bush	10	145	8	153
	10	1762012	5697938	Waitaanga CA Waitaanga	Bush	10	65	81	146
	39	1	1683268	5657957	Dover Road Okato	Farmland	10		
2		1683224	5657977	Dover Road Okato	Farmland	10			0
3		1683199	5657929	Dover Road Okato	Road	10			0
4		1683562	5657952	Dover Road Okato	ATV	10			0
5		1683376	5658074	Dover Road Okato	ATV	10			0
6		1683202	5658317	Dover Road Okato	ATV	10			0
7		1683052	5658573	Dover Road Okato	Clearing	10			0
8		1683149	5658518	Dover Road Okato	Bush	10			0
9		1683101	5658516	Dover Road Okato	Bush	10			0
10		1683388	5657885	Dover Road Okato	Road	10			0
40	1	1756450	5686690	Masters Property Mt Damper	Farmland	10		909	909

	2	1756492	5687041	Masters Property Mt Damper	Farmland	10	2	221	223
	3	1756416	5687341	Masters Property Mt Damper	Pond	10		166	166
	4	1756419	5687256	Masters Property Mt Damper	Farmland	10		319	319
	5	1756724	5687128	Masters Property Mt Damper	Clearing	10	21	33	54
	6	1757044	5687415	Masters Property Mt Damper	Clearing	10	1	37	38
	7	1757423	5687233	Masters Property Mt Damper	Clearing	10	14	169	183
	8	1756927	5687485	Masters Property Mt Damper	Clearing	10	5	112	117
	9	1756776	5687605	Masters Property Mt Damper	ATV	10	2	224	226
	10	1754828	5687091	Masters Property Mt Damper	Pines	10		1751	1751
41	1	1766869	5697004	Waitaanga CA Waitaanga	Bush	10	15	110	125
	2	1766710	5697015	Waitaanga CA Waitaanga	Bush	10	5	40	45
	3	1766585	5696993	Waitaanga CA Waitaanga	Bush	10	19	51	70
	4	1766457	5696957	Waitaanga CA Waitaanga	Bush	10	63	4	67
	5	1766325	5696863	Waitaanga CA Waitaanga	Bush	10	29	14	43
	6	1766229	5696805	Waitaanga CA Waitaanga	Bush	10	95	29	124
	7	1766128	5696711	Waitaanga CA Waitaanga	Bush	10	69	26	95
	8	1766080	5696588	Waitaanga CA Waitaanga	Bush	10	123	12	135
	9	1765960	5696498	Waitaanga CA Waitaanga	Bush	10	33	247	280
	10	1765815	5696467	Waitaanga CA Waitaanga	Bush	10	30	3	33
Totals =						1080	843	13473	14316

Site Description:

Road – Formed public road sealed or metal surface

Farmland – Bush edge and surrounding farmland

Bush – no formed/unformed access way

Pond – Small farm dammed waterway

4x4 - Unformed non-public road requiring 4 wheel drive

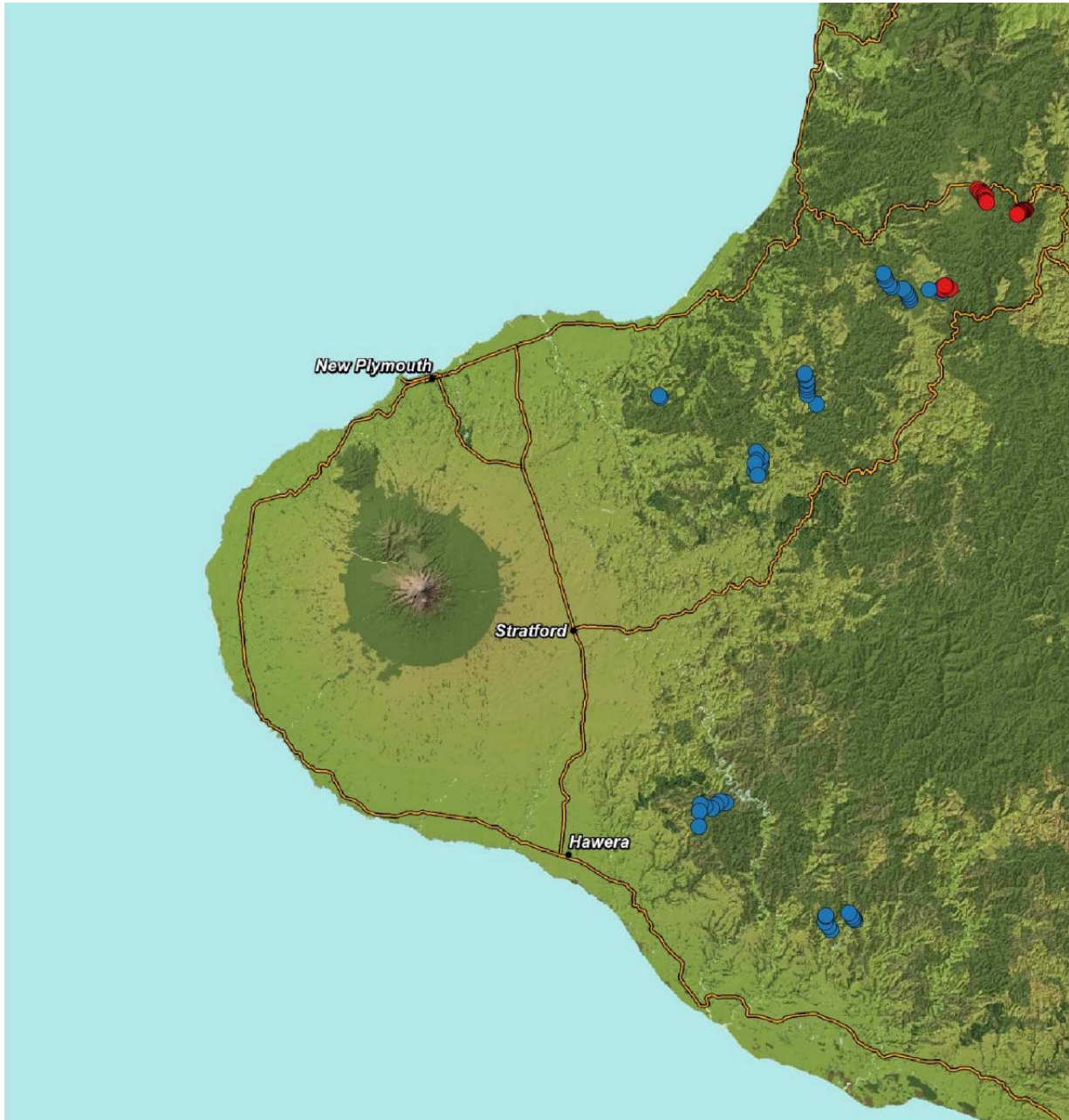
Track – formed walking track

Clearing – bush clearing, often forestry skid site

ATV - Track requiring ATV bike, often forestry/bench tracks

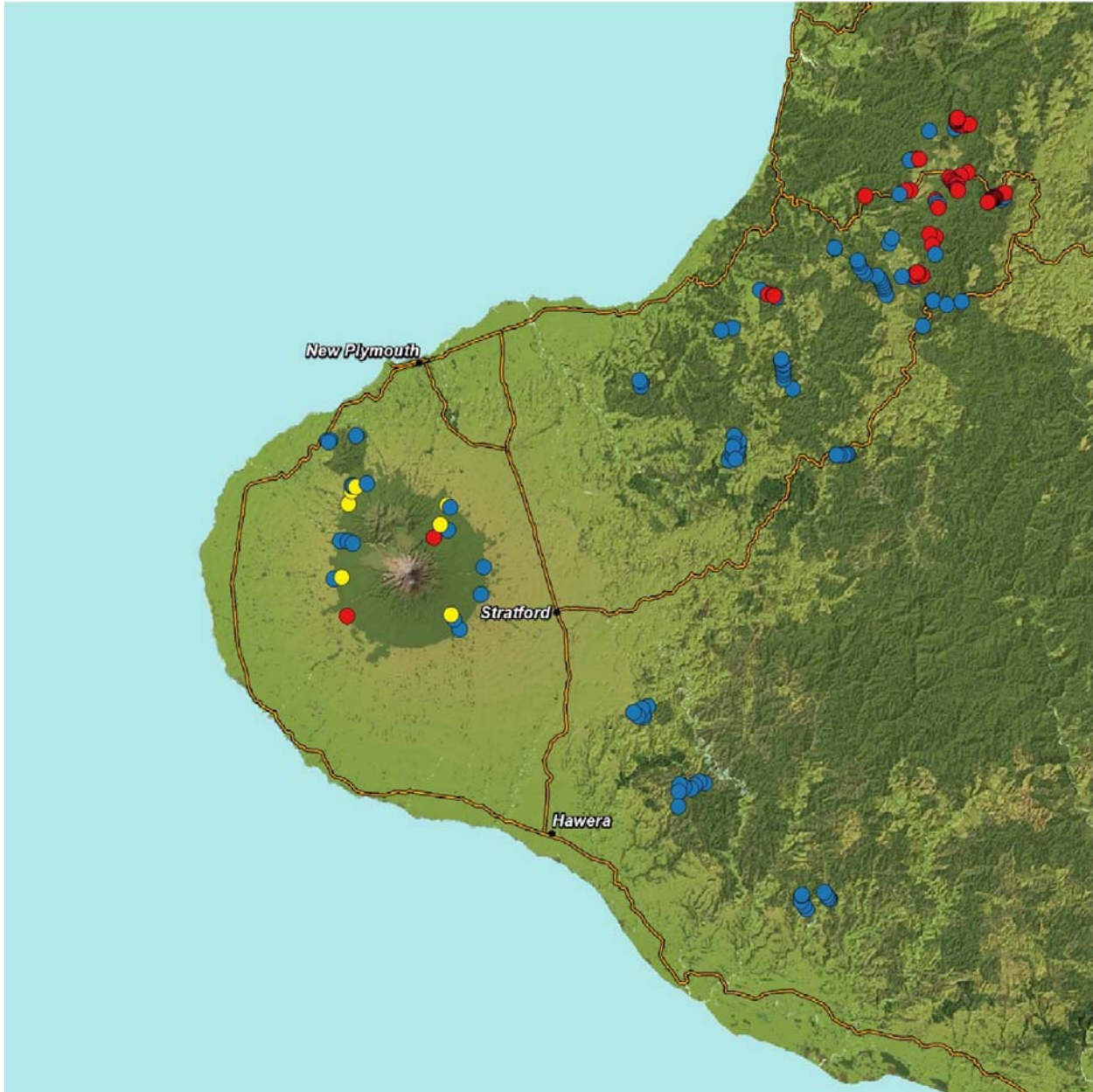
Pines – Small exotic pine plantation

Taranaki Bat Survey Results 2015- 2016



- Key to Symbols:**
- - Long-tailed bat
 - - Short-tailed bat
 - - Both Long-tailed and Short-tailed bats

Taranaki Bat Survey Results – All Seasons



- Key to Symbols:**
- - Long-tailed bat
 - - Short-tailed bat
 - - Both Long-tailed and Short-tailed bats