Vision

The forests and beaches of Abel Tasman are once again filled with the birdsong that awakens and delights visitors.
Kia whakaoho te mauri o te Ata-hapara. Kia rongo, Kia Kite, Ki te reo koro tui o Te Tai tapu

Trapping Report - July 2019 by Alistair Sheat

Overview

Predators (mustelids and rats) of native birdlife are partly controlled in the Abel Tasman National Park through trapping. Traps are checked by Abel Tasman Birdsong Trust volunteers twice per month. The results from trap checking are recorded and entered into the DOC "Animal Pests – Trapping" internet-based application that allows systematic recording of trapping results, data analysis and reporting of rats and mustelids (stoats or weasels) trapped by volunteers.

A total of 133 mustelids and 3,104 rats have been trapped by Abel Tasman Birdsong Trust volunteers since August 2015 when records first were stored in the database. Historic records show that between October 2010 and August 2015, 158 mustelids and 2156 rats were trapped, making a **grand total of 291 mustelids and 5,260 rats trapped since October 2010.**

May 2019 to July 2019 Trapping Results

Trapping results for the **three** months of May to July 2019 (table 1) show **7** mustelids and **916** rats were trapped. This compares with 24 mustelids and 616 rats trapped in **eight** months September to April 2019.

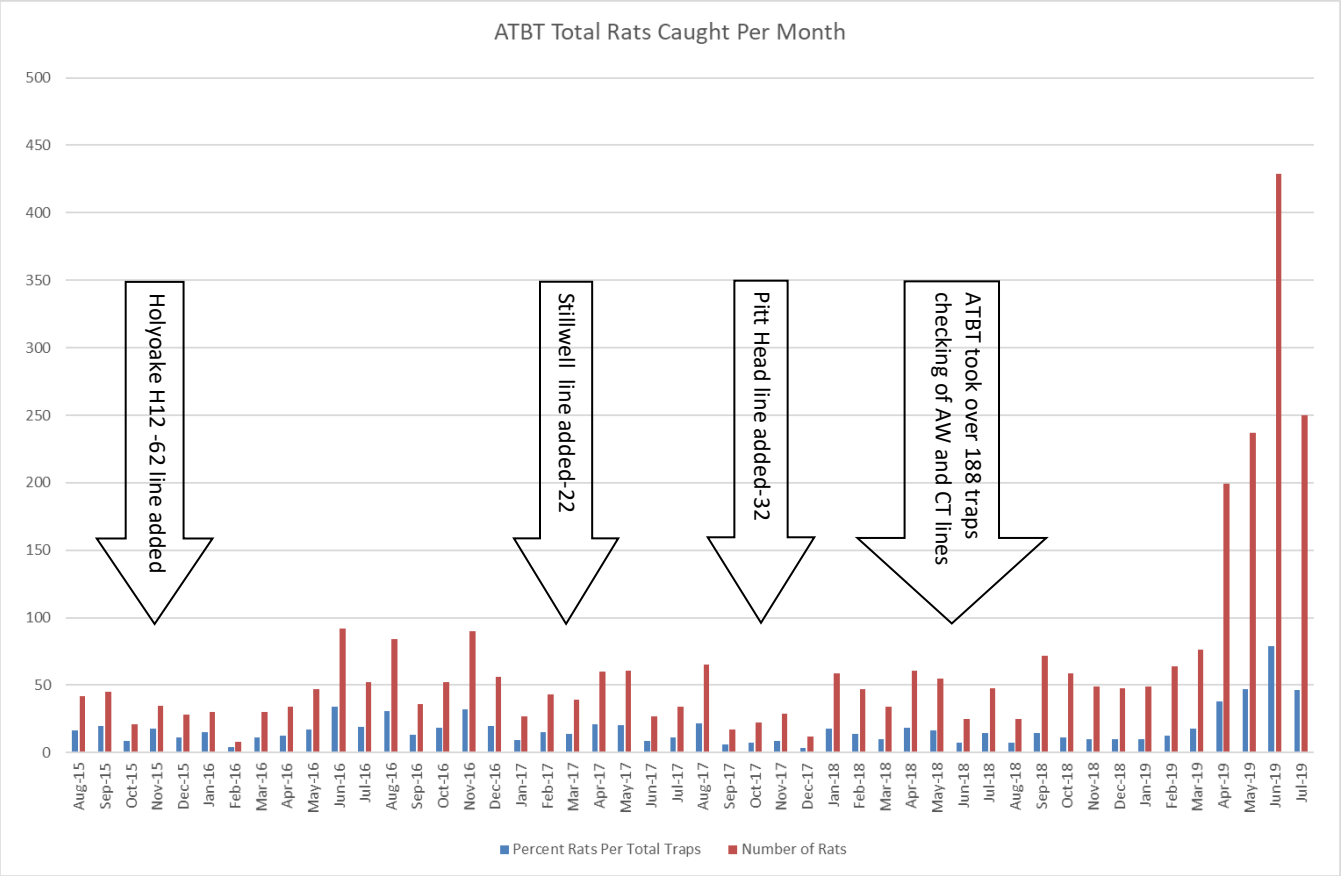
Table 1: Mustelids and rats trapped for May 2018 to July 2019

Line	Mustelids	Rats		Average Percent Rats Per Month Per Total Trap boxes	No of Trap Boxes on Line
A	2	184		42	145
B	0	50		43	39
C	1	19		28	23
H31/1 to H31/12	0	29		81	12
H1 to H62	1	118		63	62
Marahau	2	30		91	11
Stilwell	0	17		26	22
Tinline	0	14		58	8
Pitt Head	0	39		41	32
Awaroa Head	0	159		126	42
Coastal Track 1	0	61		55	37
Coastal Track 2	1	72		67	36
Coastal Track 3	0	68		69	33
Coastal Track 4	0	78		65	40
Lines Combined	7	916		57	542

Note: The rats and mustelids noted as trapped are from checking traps twice during the month, except for Stillwell, Pitt Head, and Awaroa lines that are checked monthly.

Question 1: What is the trend in rat numbers trapped by ATBT volunteers?

Chart 1 below shows the monthly % rats trapped per total trap boxes (blue line) and rat numbers trapped per month (red line) since August 2015.



The chart shows a dramatic increase in total rats trapped (red bar) in April, May and June, followed by a decrease in rats trapped from June to July. The increase in rats trapped is due to the current beech mast when an enormous amount of beech seed falls and rat numbers surge because of the abundance of food. Possible reasons for the July decrease will be discuss later. See the "2019 Beech Mega Mast" in the Appendix.

Trap checking additions since August 2015

The increase in the number of rats trapped, particularly since December 2015 and June 2019, would be in part due to more trap boxes in operation and being checked by ATBT as in the table below. In June 2018 an additional **188** traps from Anchorage to Awaroa (CT1 to CT4 lines, including Awaroa Head line) have been added to Abel Tasman Birdsong Trust volunteer responsibilities.

Date	Location	Number of Boxes	Trap type
Pre Dec 2015	A, B, C, H	211	Single set DOC150, H1-11 double set DOC150
December 2015	H12 to H62	51	Double set DOC150
March 2016	H31/1 to H31/12	12	Double set DOC150
October 2016	B32 to B39	8	Single set DOC150
May 2017	SW1 to SW22	22	11 run through double set and 11 ZIP double set
Nov 2017	PH1 to PH32	32	Double set DOC150 Pitt Head stoat line
May 2019	A128 to A145	18	Double set DOC150 Torrent River to village
May 2019	AW	42	Double set DOC200 Awaroa Head line
June/July 2019	CT1, CT2, CT3, CT4	37,36,33,40	Double set DOC150 Coastal Track
Grand total traps		**542**	

Question 2: Where were rats trapped in May 2019 to July 2019?

The map below shows the "density" clusters of rats trapped over the three months May 2019 to July 2019. Numbers in red circles represent clusters of rats trapped in adjacent traps. The higher the number in a red circle the higher the "density" of rats trapped.

Map 1: Rats trapped May 2019 to July 2019

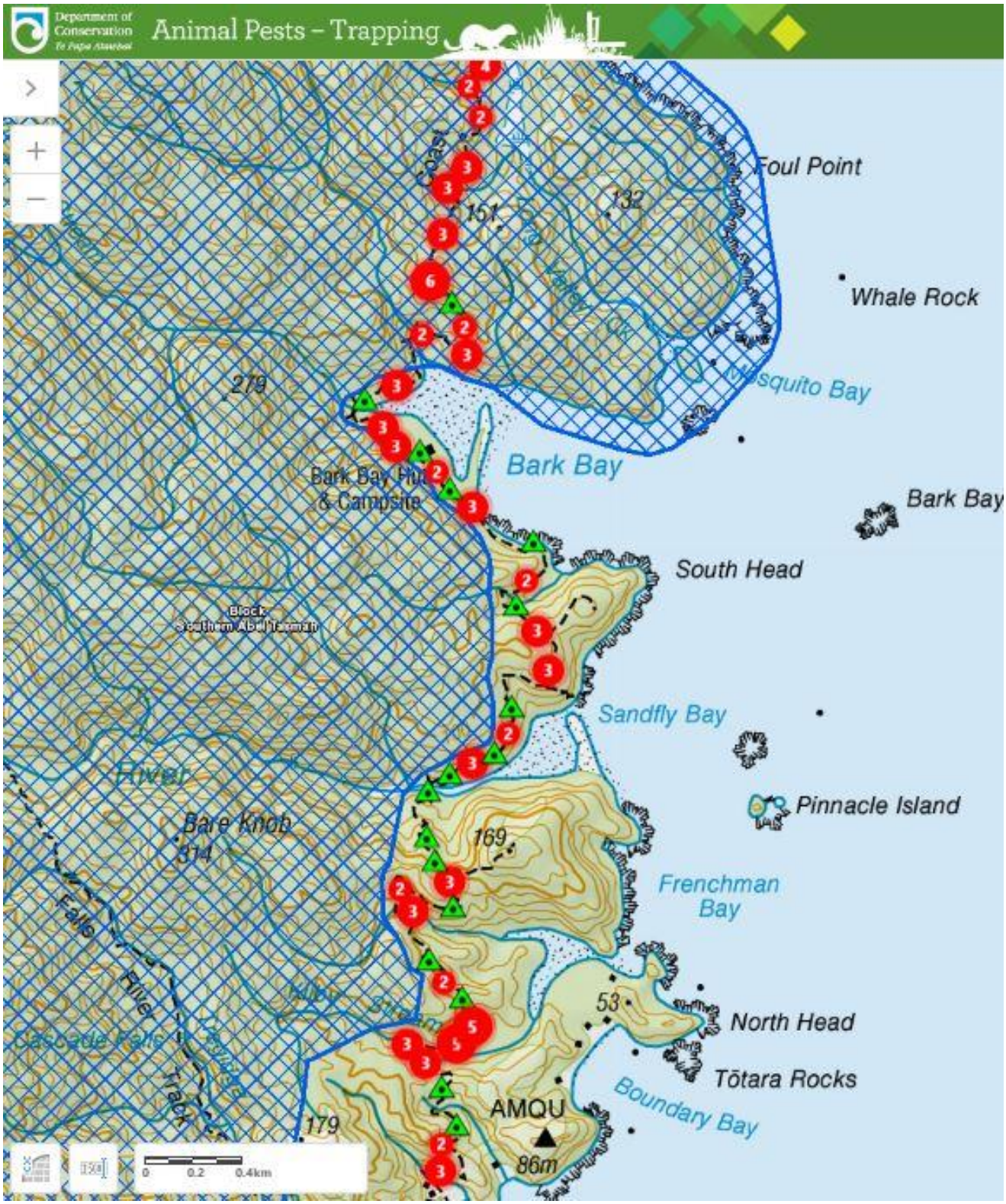
The cluster map shows in the last three months the highest density of rats trapped are all along the Coastal Track from the Marahau estuary (26, 22, 38, 20 21, 21, 21) to Anchorage/Torrent Bay; near North Head (20); and through Awaroa Head (22,19,19,19,18). See the next figures for more detail.

The blue hatched area shows were 1080 was dropped in late June 2019.

Map 2: Detail of the rat catch density from Awaroa to Onetahuti are shown below. The higher the number in the red circle the higher the density of rats trapped. Green triangles indicate only one rat trapped in a trap.

The map above shows high densities of rats trapped along the Awaroa Head trap line (6,6, 7,6, 6, 6, 6, 7) and at the South end of Onetahuti beach (10). Note these numbers may be higher as trapping data for May 2019 has not yet been received and entered into the database.

Map 3: Detail of the rat catch density near Bark Bay are shown below. The higher the number in the red circle the higher the density of rats trapped.



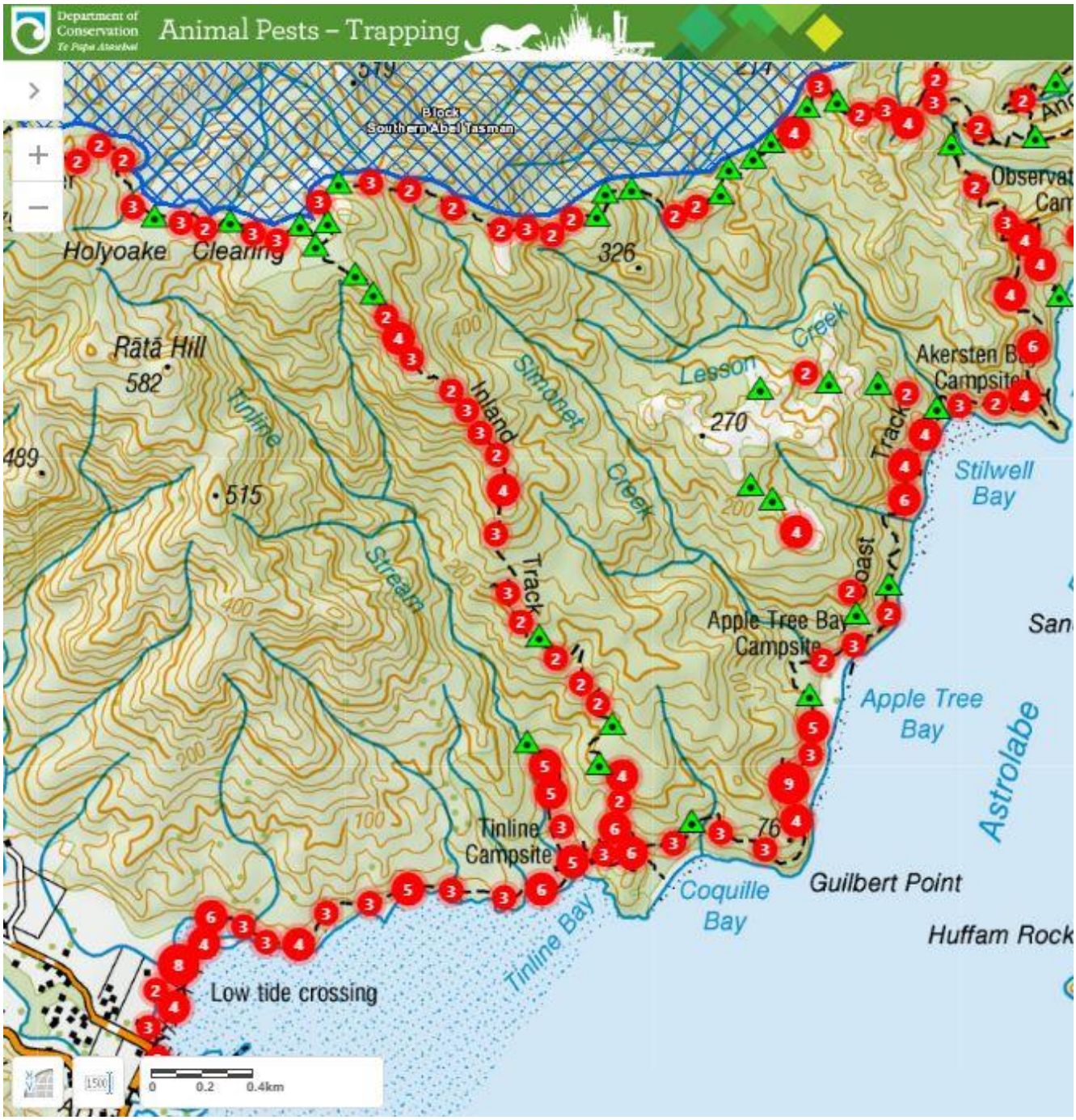
The map above shows high densities of rats trapped were on the Coastal Track north of Bark Bay (6). High densities of rats trapped were behind Frenchman Bay inlet (5) (5).

The blue hatched area shows were 1080 was dropped in late June 2019.

Map 4: Detail of the rat catch densities between Torrent Bay, Pitt Head and Stillwell Bay are shown below. The higher the number in the red circle the high the density of rats trapped.

The map above shows high densities of rats trapped were between Anchorage and Torrent Bay (11, 6), near Akersten and Cyathea (6), and near Stillwell Bay (6).

Map 5: Detail of the rat catch densities between Cyathea Cove and Marahau, including Holyoake and Stillwell lines are shown below. The higher the number in the red circle the higher the density of rats trapped.

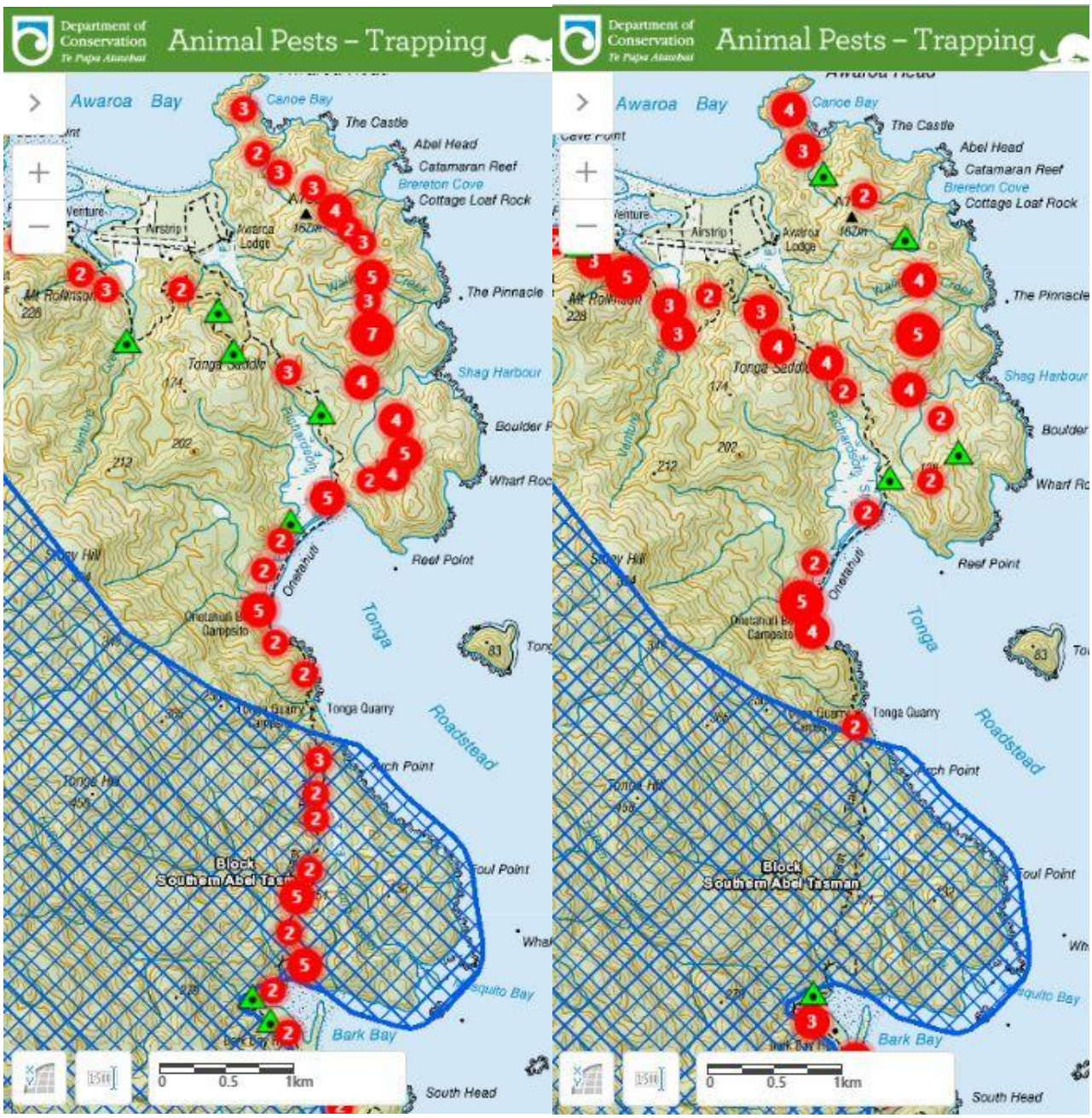


The map above shows high densities of rats trapped were near Apple Tree Bay, in the Tinline nature walk (5,5); near the Tinline Campsite (6, 5); near the beginning of the inland track (6, 6), and near the Marahau estuary at the beginning of the Coastal Track (8, 6).

Fall in rats trapped from June to July 2019

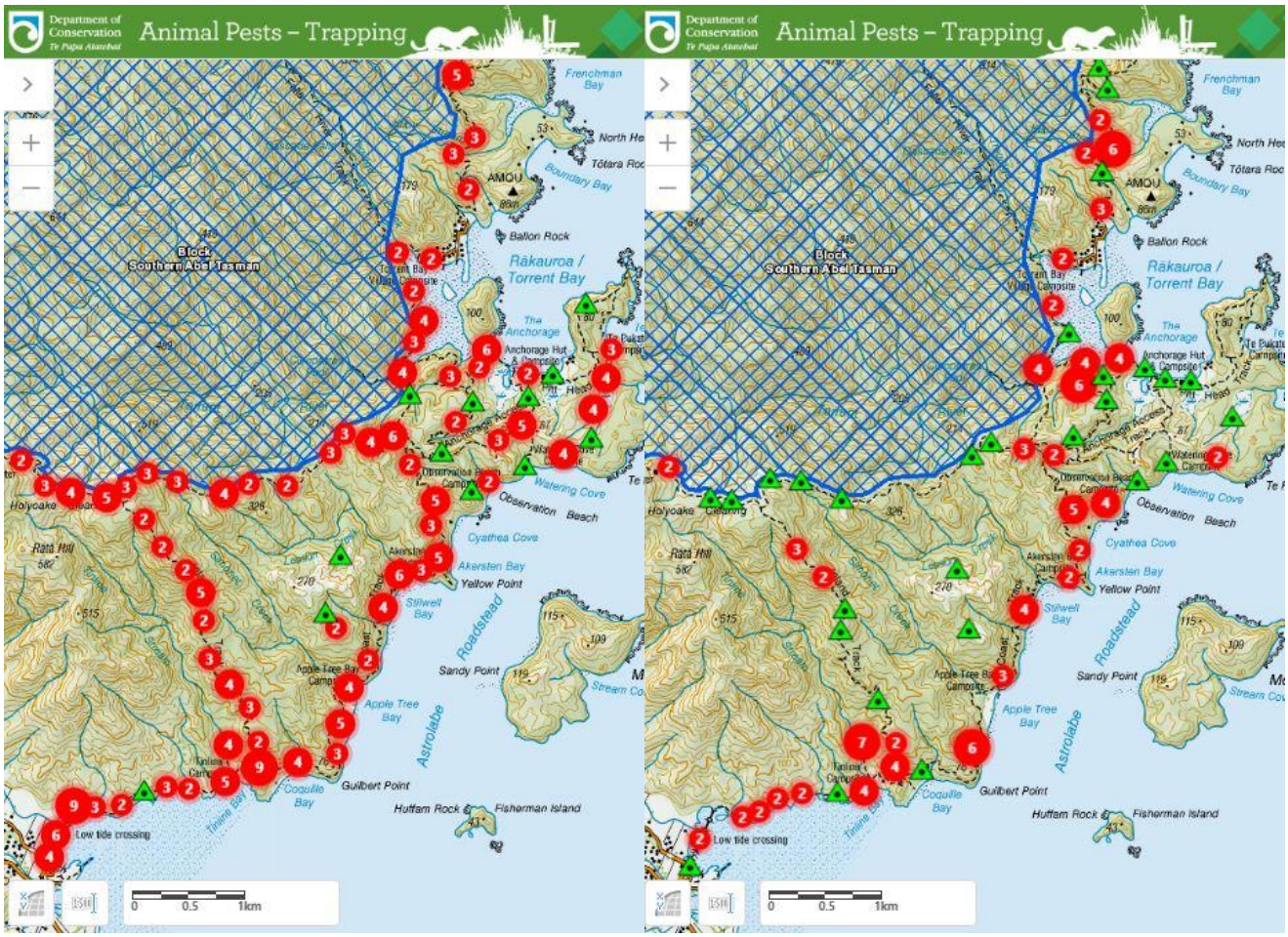
The 1080 drop happened in late June (after the June trap check and before the July trap check).

Map 6: Detail of the rat trapped densities between Awaroa and Bark Bay for June and July 2019.



The blue hatched area shows were 1080 was dropped in late June 2019. What is clear is the impact of the 1080 drop between June and July rat trapped densities. In July there were **no rats trapped at all in the 1080 drop treatment area between Bark Bay and Tonga Quarry**. This compares to **28** rats trapped in June 2019.

Map 7: Detail of the rat trapped densities between Torrent Bay, Pitt Head and Marahau for June and July 2019.



The above map shows a large drop in rats trapped in the Pitt Head area (Pitt head stoat line, B and C DOC150 lines) from June to July 2019. This is most likely due to the combined effect of the A24 network and DOC150 traps clearing out rats, although not as rapidly and complete as the 1080 treatment area between Bark Bay and Tonga Quarry.

There is also a drop in rats trapped on the Holyoake trap line, particularly on the boundary of the 1080 treatment area (blue hatched area).

There is also a drop in rats trapped in the Marahau estuary area (Marahau trap line). It is unclear why this has happened as it is not near any special treatment area (1080 or A24 trap network).

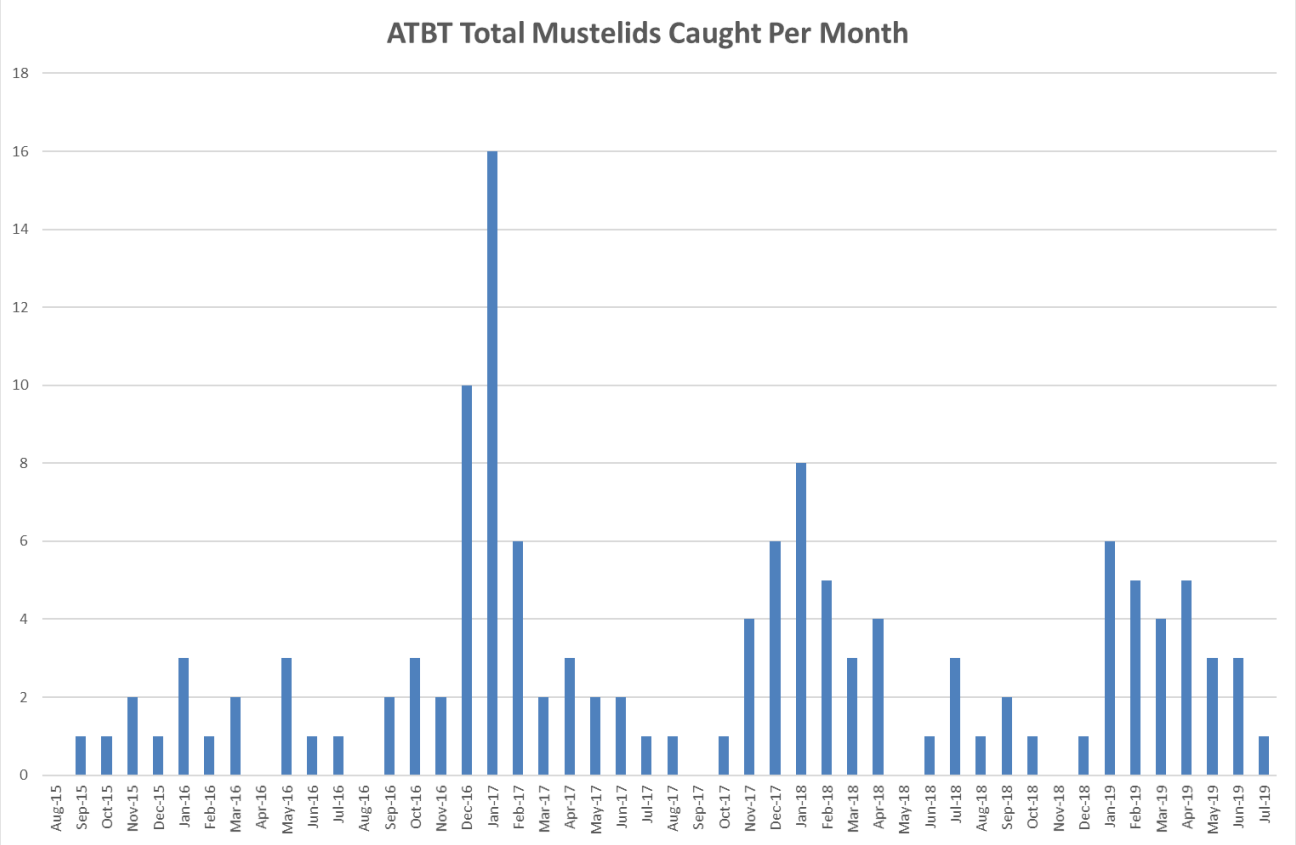
Pitt Head and Torrent Bay A24 Trapping

Abel Tasman Birdsong Trust received a Lotteries Grant called “Heart of the Park” for extending the current A24 trapping network in the Falls River and Moncrieff Reserve areas. This will help both birdlife in the area as well as reduce the risk of predators crossing the Astrolabe and invading Adele Island.

A total of 650 Goodnature A24 self-resetting traps are now in operation across Pitt Head, Torrent Bay, Falls River and Moncrieff Reserve/Cyathea areas. This is following the additional 205 A24 traps installed in the Falls River area and a further 120 A24 traps installed in the Moncrieff Reserve/Cyathea area.

Question 3: What is the trend in mustelid numbers trapped?

Chart 2: ATBT total mustelids trapped per month from August 2015.



Mustelid numbers trapped show a similar pattern compared to 2016 and 2017. The peak in mustelids trapped is in January 2019, similar to Jan 2017 and Jan 2018, but lower numbers.

Question 2: Where were mustelids trapped?

Map 8: ATBT mustelids trapped May to July 2019

Mustelids (stoats and weasels) were mainly trapped up the around Marahau and the beginning of the Coastal Track (four in total – two of which were weasels); one on the Holyoake line; one near Observation Beach (C line) and one near Bark Bay.

Small beauties in the Park

There are many small wonders that can be seen in the Abel Tasman National Park. These are some of the wonderful winter images that Beryce and Don returned with after a day out checking A82 to A50 traps in the Park.

Acknowledgements

A special thanks to all the Birdsong Trust volunteers for giving their time checking traps (and acting as impromptu visitor advisers (for consistency below), guides, and promoters of Birdsong Trust work).

Thanks to Peter Minchin for adding trapping data to the database for CT and Awaroa trap lines.

Abby Butler (Volunteer Coordinator and adviser), assisted by Fran Forsey.

Helen Otley and Jim Livingstone (DOC partners and advisors).

Andrew Macalister and team (Project Janszoon (PJ) partners and advisers)

Water taxi companies for carrying volunteers into the Park. Abel Tasman Kayaks who host the Marahau shed.

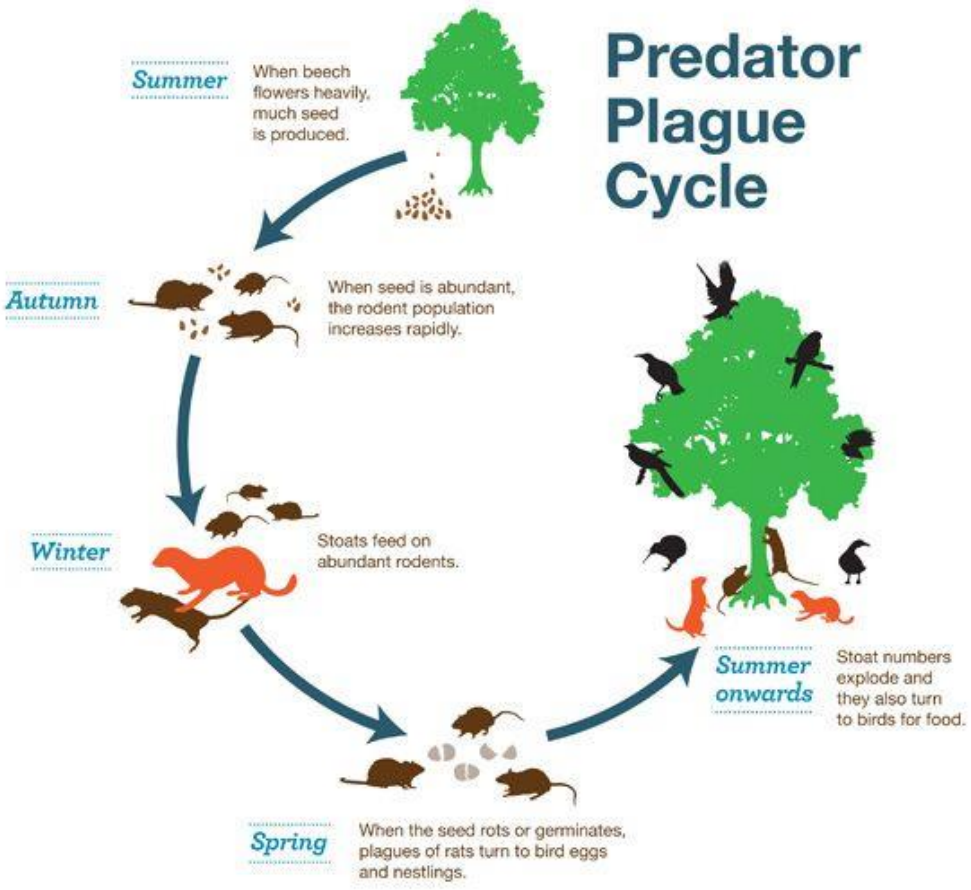
Concessionaires whose levy component contributes to funding of Abel Tasman Birdsong Trust operations. Sponsors and donors contributions.

William Sheat for updating the spreadsheet that analyses the trapping data for producing graphs and data tables in this report.

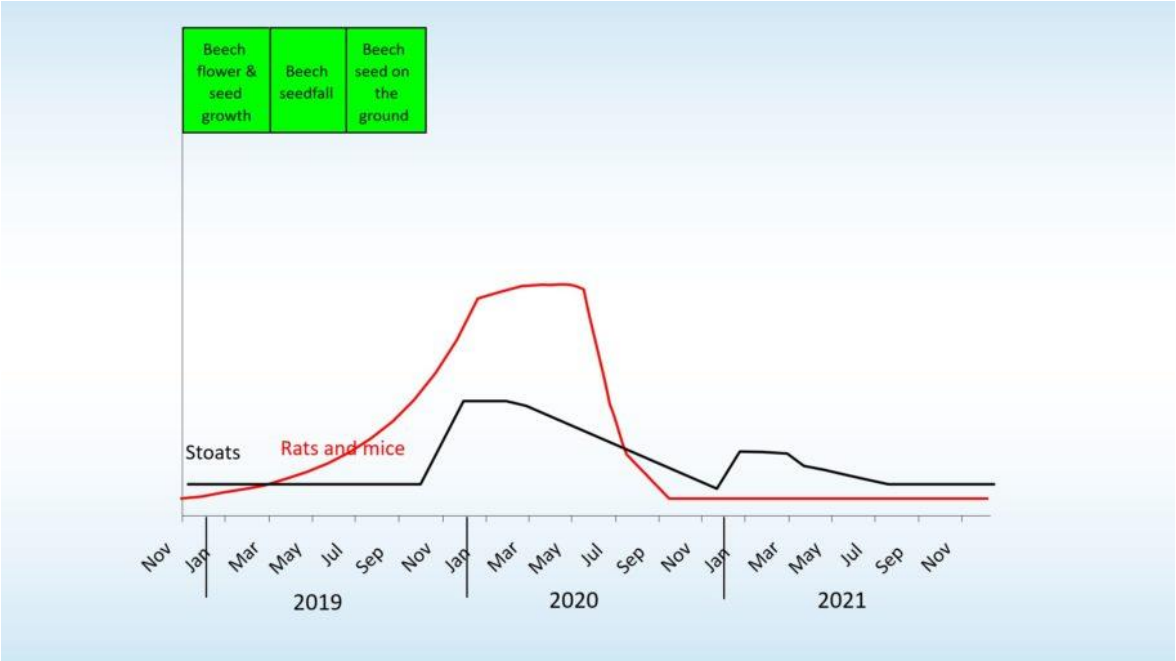
Finally, to all the Park visitors who show interest and support for all the work of the Abel Tasman Birdsong Trust.

Appendix: 2019 Beech Mega Mast

The “Predator Plague Cycle” illustrates why the predator trapping work volunteers do is so important, particularly during a beech mast year. (Key Fats about Rat Control in the Abel Tasman National Park, DOC 2019).



The graph below shows what could happen with predator numbers without intervention like trapping and 1080 treatment. https://predatorfreenz.org/what-mast-why-matters/



Stoat, rats and mice population in mast years. Credit: Graeme Elliot