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# Rodent and mustelid monitoring

# For Otari Wiltons Bush

## April 2008 monitor

Absolutely POSITIVELY Wellington

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# Rodent and mustelid monitoring report

# For Otari Wiltons Bush

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Monitoring and Investigations

# Contents

# 1. Summary

Rodent and mustelid monitoring is conducted in Otari Wilton's Bush using tracking tunnels. This is a co-operative programme involving Wellington City Council (WCC), the Otari volunteer group RAMBO (Rodent and Mustelid Blitzing at Otari) and Greater Wellington Regional Council (Greater Wellington). The purpose of the monitoring programme is to measure the success of the trapping and baiting regime in maintaining low predator numbers.

Monitoring continues to show a low incidence of rodents. Rats are being kept to levels consistent with other sites in the region where similar baiting regimes are implemented.

Predator trapping detected no mustelids during the April monitor. This monitor shows only that no mustelids were detected with this monitor, not that there are none in Otari. Mustelid tracking rates have not increased suggesting that the current trapping regime is successfully keeping mustelid populations low.

Due to the long hot summer the meat used in the mustelid monitor putrefied and was blown by flies rapidly and this may have affected its palatability to mustelids.

Hedgehogs and one possum were also detected but these are only incidental occurrences and as this monitoring tool is not designed to monitor these species, no population trends can be drawn.

Figure 1 shows the rodent tracking results to date

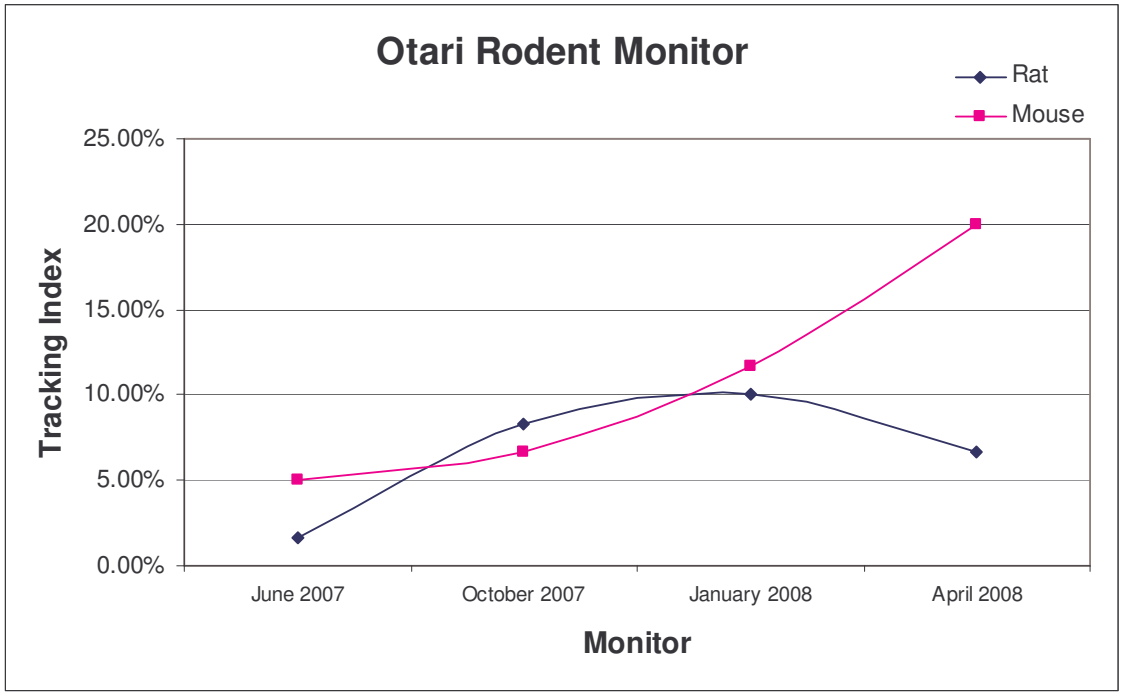
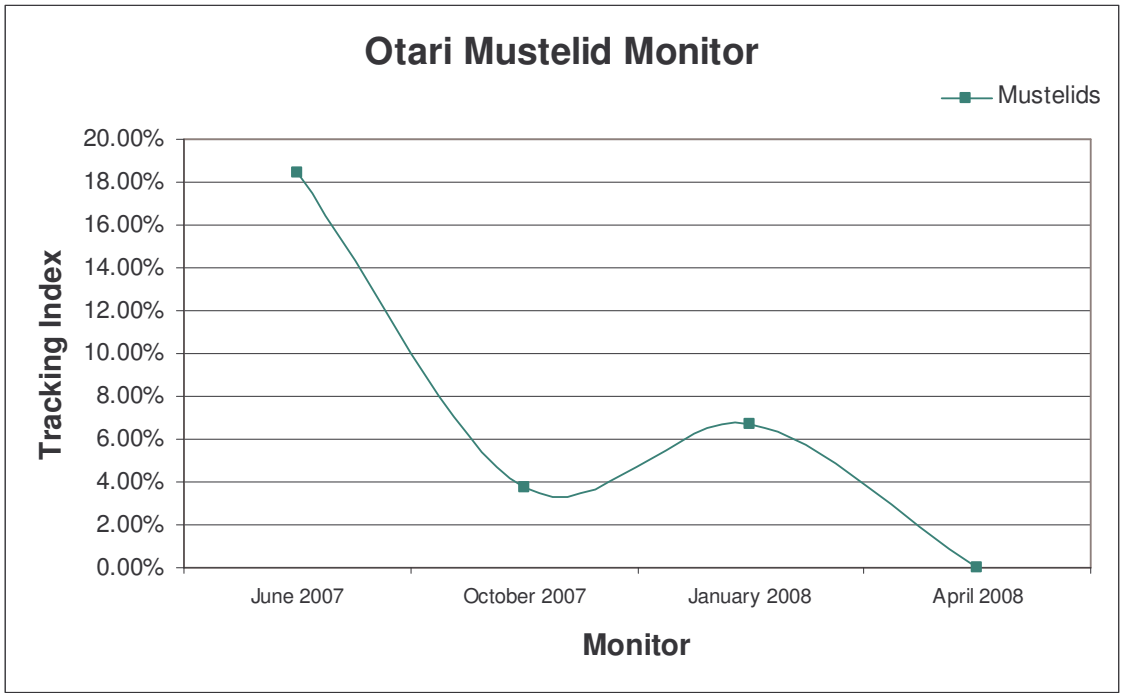


Figure 2 shows the mustelid tracking results to date




# 2. Monitoring methods

This is an ongoing monitor using permanent tracking tunnels started in June 2007.

## 2.1 Rodent monitoring

Sixty monitoring tunnels are permanently located along existing possum bait lines, and near individual bait stations, achieving a non-random but relatively even coverage of the entire reserve.

Monitoring tunnels are spaced approximately 100 -150m apart (refer to map 1). Each rodent station is treated as an independent sample unit. Monitoring is completed in one fine night and tunnels are baited with peanut butter.

## 2.2 Mustelid monitoring

Immediately following rodent monitoring, mustelid monitoring is completed over three fine nights. Tunnels are baited with salted or fresh rabbit meat.

Mustelid monitoring uses a subset of the rodent monitoring tunnels, three lines of five to nine tunnels each (refer to map 1). It is possible for one mustelid to track several tunnels as mustelids have large home ranges, and the tunnels are closely spaced. The tunnels on each line are therefore not independent and each line is treated as one sample unit, giving an effective sample size of three. The small sample size, restricted due to the small site size, does not allow reporting of percentage tracking rates with any statistics. However, importantly the monitoring does give an indication of the incidence of mustelids and is sensitive enough to track mustelids within the entire operational area.

# 3. April 2008 monitoring results

Table 1 – rodent monitoring results summary

| Species | Number of tunnels tracked | Tracking Rate | Tunnel no's tracked | Notes on Tunnel location and surrounding habitat |
|---|---|---|---|---|
| Rat | 4 | 6.7%<br>+/- 7% 95% CI | 10, 39, 45,K2 | Three tunnels detected rats along the urban boundary of the reserve. One tunnel tracked rats in the bush at the western end of the reserve. |
| Mouse | 12 | 20%<br>+/- 10% 95% CI | See map 2 | Mice were detected all through the reserve but the majority of mice detected were in the eastern half of the reserve. |
| Hedgehog | 2 | N/A | 35, 41 | Hedgehogs were detected along the northern edge of the reserve bordering farmland, and along the southern border near the office block. |
| Mustelid | Nil | N/A | N/A | |
| Other | There were 9 tunnels with invertebrate tracks, mostly weta | | | |

Table 2 – mustelid monitoring results summary

| Species | Number of tunnels tracked | Tracking Rate | Tunnel no's tracked | Notes on Tunnel location and surrounding habitat |
|---|---|---|---|---|
| Mustelid | Nil | N/A | N/A | |
| Other | Rodents: 6 tunnels tracked rats and 9 tracked mice<br>There were no hedgehogs detected<br>One possum was detected on tunnel 10 by the grass picnic area<br>There were 11 tunnels with invertebrate tracks, mostly fly larvae | | | |

# 4. Deviations

The mustelid tacking card in tunnel 7 was left out for over a week. The tunnel was missed when the cards were collected. This tunnel did not detect mustelids but did detect rats. This tunnel may not have detected rats if it had not been left open longer than the prescribed three nights.

# 5. Discussion

Rat tracking indices remain relatively low, below 10%. This indicates that the baiting regime is controlling rats in Otari to reasonably low levels equivalent to other reserves receiving similar baiting regimes.

Mice levels were up slightly from previous monitors. However, this rise is consistent with slightly increased regional mice tracking indices. Monitoring in other sites shows that mice populations are more variable than rats and are more susceptible to climatic conditions, food availability and seasonal variation. Because of this variability, and the small size of mouse home ranges

comparative to bait station spacing, it is not expected that mice population sizes will be substantially affected by the baiting regime.

One possum was detected during the mustelid monitor. The bait stations had been filled in March and this was the first fill since October 2007. Over half the bait stations were empty and the recent fill and the reduced bait availability may have influenced both possum and rat populations.

No mustelids were detected during this monitor. This is the lowest incidence of mustelid tracking recorded since tracking began in June 2007.

The extended hot summer for the region meant the rabbit meat was affected by fly larvae more than in the previous seasons. This may have affected its palatability to mustelids and availability (it was consumed by the larvae) reducing the level of tracking.

## 6. Supply of monitoring data – Terms and Conditions

The enclosed information is supplied, within the framework of our data quality system, from the best practice currently available. Greater Wellington has exercised all reasonable skill and care in controlling the contents of the information.

As we endeavour to continuously improve our service, we may amend the data on which this information is based, where necessary and without notice, at any time.

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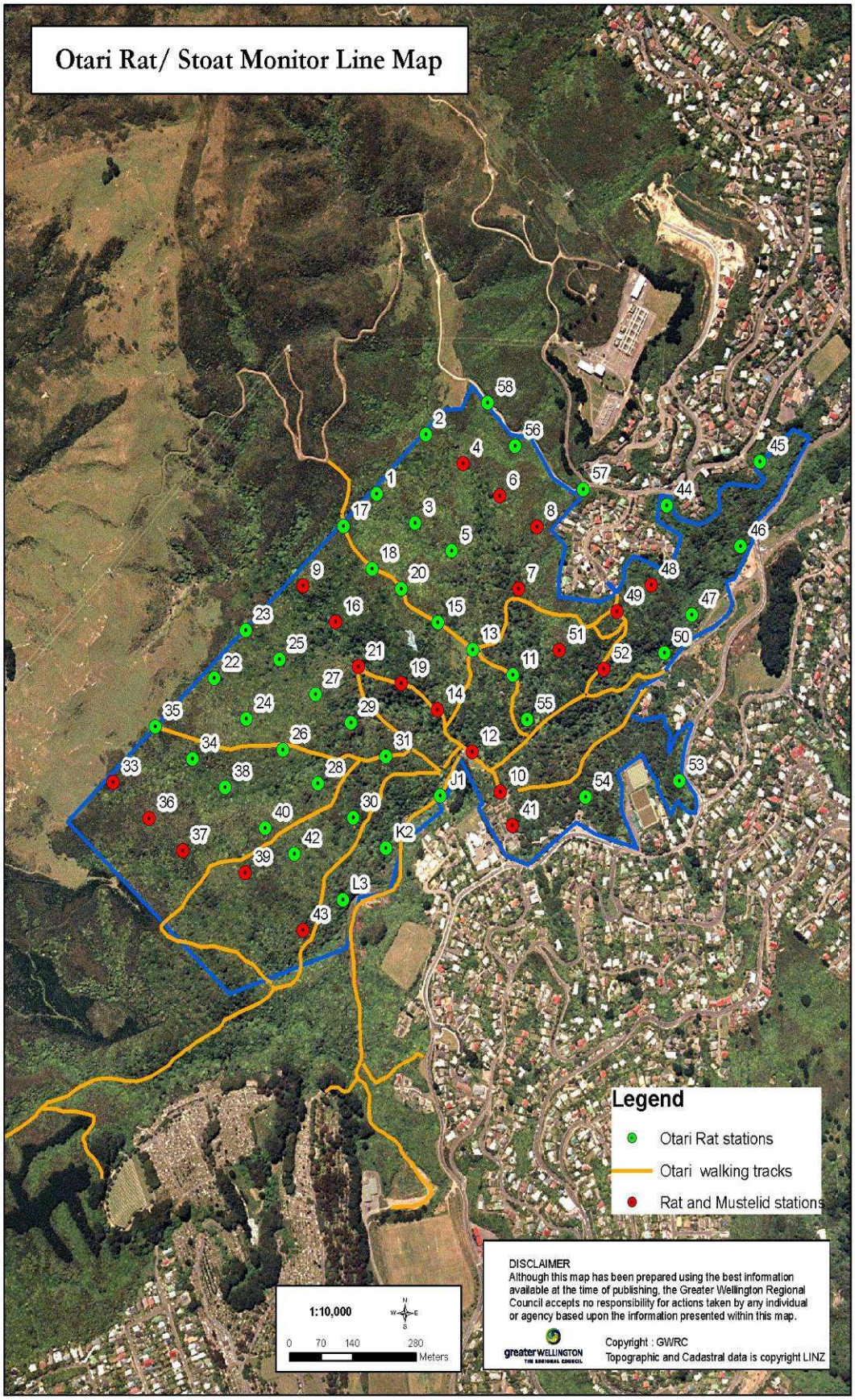
Any use of the material supplied, for example, by inclusion in a report or media release, should be accompanied by an acknowledgement of the source of the data.

Your acceptance of the enclosed material and/or services signifies your acceptance of these terms and conditions.

Report Prepared by:

**Sara Moylan**
Biosecurity Officer (Investigations)

## Map 1


Otari Rat/ Stoat Monitor Line Map
Legend
Otari Rat stations
Otari walking tracks
Rat and Mustelid stations
1:10,000
0 70 140 280
Meters
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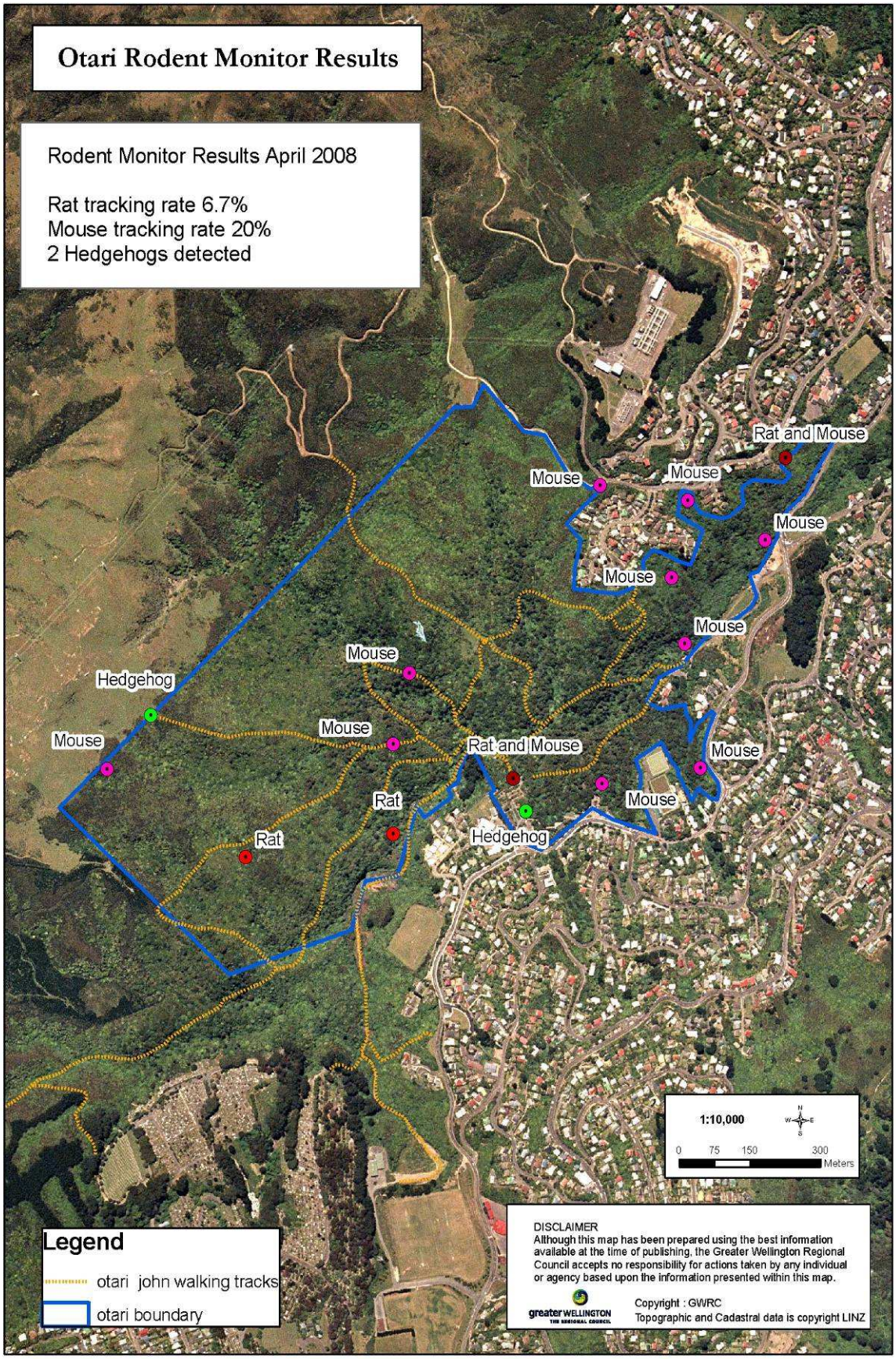
## Map 2


Otari Rodent Monitor Results
Rodent Monitor Results April 2008
Rat tracking rate 6.7%
Mouse tracking rate 20%
2 Hedgehogs detected
Rat and Mouse
Mouse
Mouse
Mouse
Mouse
Mouse
Mouse
Mouse
Hedgehog
Mouse
Mouse
Rat and Mouse
Mouse
Rat
Mouse
Rat
Hedgehog
1:10,000
0 75 150 300
Meters
Legend
otari john walking tracks
otari boundary
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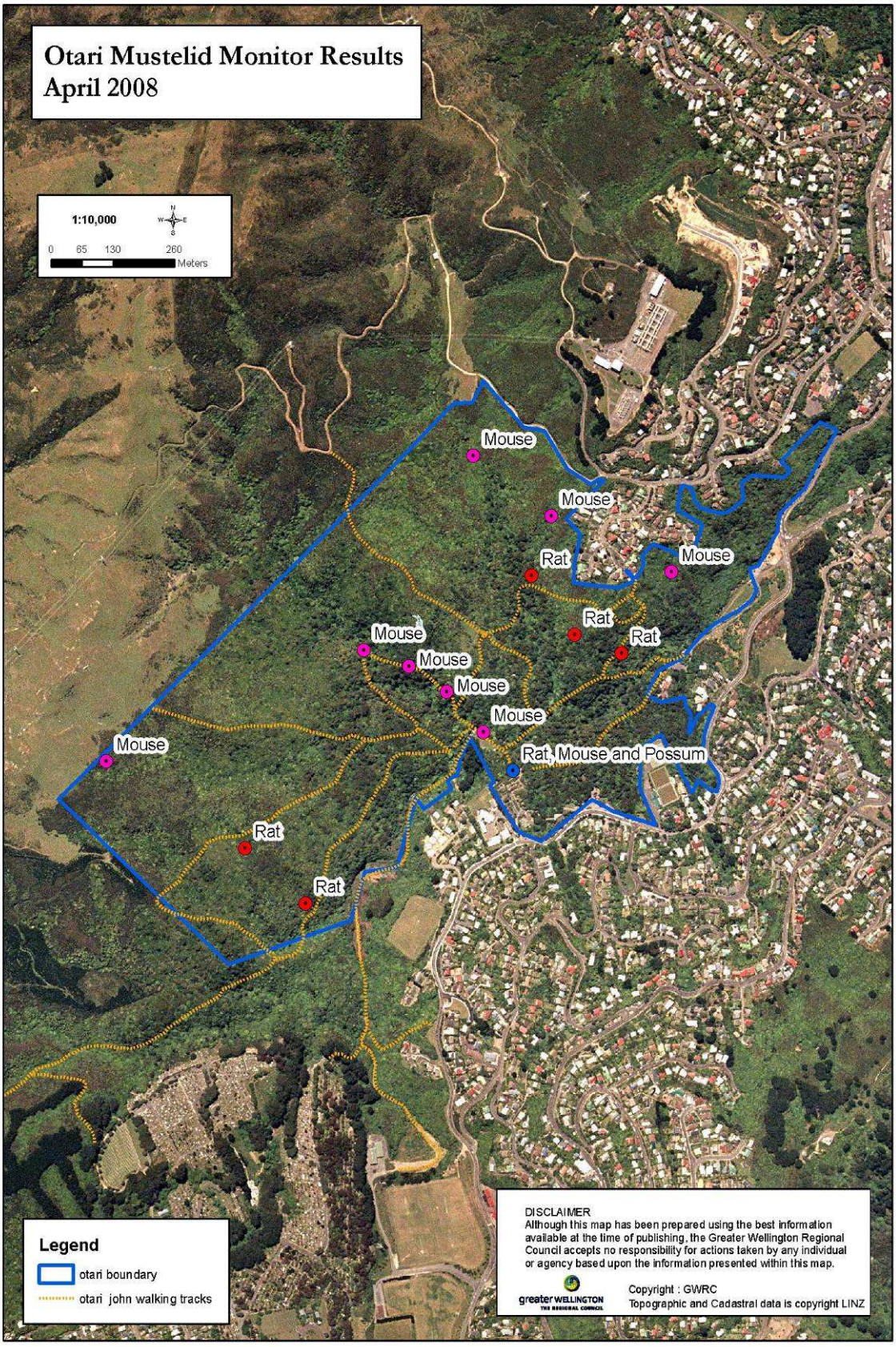
## Map 3


Otari Mustelid Monitor Results
April 2008
1:10,000
0 65 130 260
Meters
Mouse
Mouse
Rat
Mouse
Rat
Rat
Mouse
Mouse
Mouse
Mouse
Mouse
Rat, Mouse and Possum
Rat
Rat
Legend
otari boundary
otari john walking tracks
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