

Possum home range and movement behaviour on Mahia Peninsula

Annual progress report, June 2021.

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Introduction

Whakatipu Mahia–Predator Free Mahia is part of Predator Free Hawke’s Bay. One component of that initiative is the eradication of possums from the Mahia Peninsula. This will be done primarily using an intensive network of bait stations, supplemented by wireless monitored leghold traps. To achieve an optimal placement (i.e., one that provides a high chance of catching all possums while minimising costs) of these control devices requires knowledge about possum home ranges and movement behaviour, particularly of survivors. To address this need, Manaaki Whenua – Landcare Research is studying changes in possum home range and movement patterns following initial possum knockdown on Mahia Peninsula.

Progress to date

Twenty possums were GPS-collared in May 2019, and data were retrieved from 16 of these by September 2019. This revealed a mean pre-control home range of 18.9 ha (range: 3.0–101.1). Initial possum knockdown took longer than expected and was not completed in much of our study area until December 2020. Therefore, the batteries expired in all pre-control collars before the rollout of control was completed, requiring a new sample of possums to be GPS collared to assess post-control movement patterns. This was undertaken in late January 2021 when 10 adult possums were GPS-collared in the same area as the 2019 sample (Figure 1). Collared possums were captured and released in native forest (6) and pine plantation (3), and in small native vegetation patches on farmland (1). Ground-based telemetry searches and data downloading are currently in progress and will be repeated in September/October 2021, when an effort will be made to recapture all 2021-collared animals.

Next steps

Once we have GPS data from a sample of possums post-control, we will begin comparative analyses assessing home range sizes and movement behaviour over the two periods (pre-intensive control and post-intensive control).

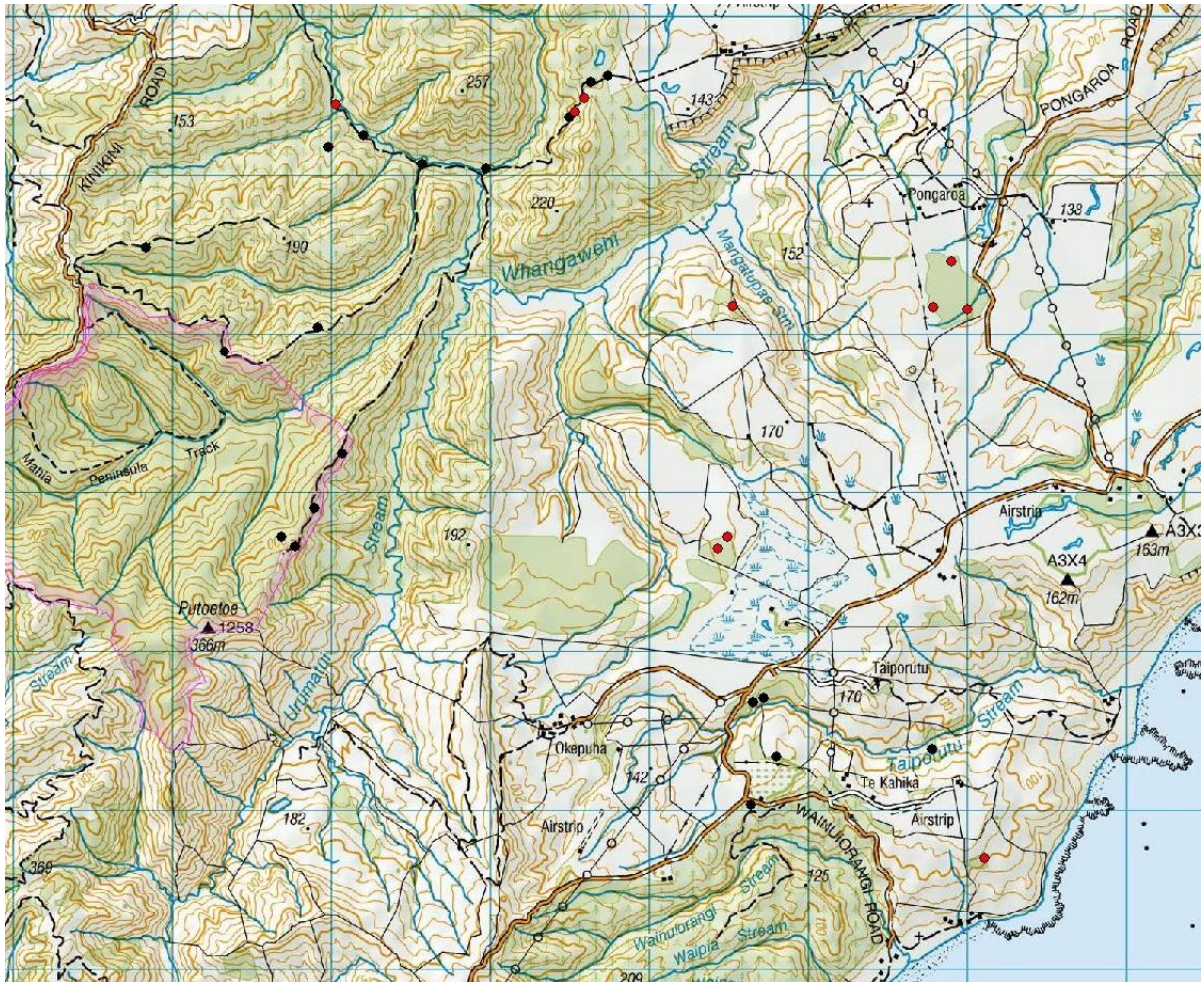


Figure 1. Capture locations of possums fitted with GPS collars in May 2019 (black dots) and January 2021 (red dots) on Mahia Peninsula.