

Howick Ward Mustelid Control Plan

Introduction

Revision No	Name	Date
4	John Tait	5 August 21

Vision Statement

To protect local and offshore bird sanctuaries from mustelids.

Project Goals and Objectives

Detect presence of mustelids adjacent to coastline and significant natural areas.

- Institute monitoring
- Create public awareness

Remove mustelids adjacent to coastline and significant natural areas.

- Institute trapping plan
- Respond to sightings

Background

Pest Free Howick Ward (PFHW) is a Howick Local Board funded project towards implementing Pest Free Auckland (Auckland Council) and nationally Predator Free 2050, vision. Households are provided with rat trap and tunnel upon request and encouraged to report and remove pest plant species. The goal is a trap at 1 in 5 households.

Trap Library East Auckland (TLEA) is a combined Rotary, Friends of Mangemangeroa and Lions community initiative, with administration support from Auckland Council, to complement the work being performed by PFHW. It loans possum and mustelid traps to households and groups working mainly but not exclusively in the Howick Ward.

This project, a mustelid control zone around the Tamaki River / Tamaki Strait coastline of east Auckland, has been developed by TLEA in response to several drivers.

The northern coastline is adjacent to inner Hauraki Gulf pest free islands. Mustelid incursions have been experienced on some of those islands and one objective of this plan is to trap any mustelids before they have an opportunity to swim across to a nearby island. Although reports of mustelid sightings are rare in the urban environment there can be no doubt that they do inhabit the area. There have been multiple sightings in the last eighteen months including Selwyn Road Cockle Bay, Bruce McLaren Retirement Village Chapel Road, and Wakaaranga Reserve. A mustelid was caught in a rat trap beside Pakuranga Creek in February 2021.

Bucklands Beach peninsula is in close proximity to the predator free islands and Lions club are striving to provide a safe haven for birds choosing to come across to the mainland.

Howick Ward contains several significant natural areas, including the Mangemangeroa and Point View Reserves. Local community groups do extensive work in the area including tree planting, weed and pest control. The Mangemangeroa stream is a ward boundary but this does not stop incursion from adjacent Franklin Ward semi-rural land. There have been numerous mustelid sightings there in the summer of 2021, as well as reports of animals being scavenged from traps in the Mangemangeroa area. A second objective of this plan is therefore to prevent mustelid incursions into the Mangemangeroa valley reserves.

Te Naupata/Musick Point is another ecologically significant area, with rat, possum and mustelid trapping being done by Ngāi Tai ki Tāmaki. Murphys Bush lies to the south of the Point View Reserve and while it is outside of the control zone it will be afforded protection from mustelid incursions coming up the Mangemangeroa valley and over the hill into that area.

The Tahuna Torea nature reserve lies on the western side of the Tamaki River adjacent to the control zone. Similarly the Airlies biodiversity project is adjacent to the control zone on the eastern side of the Turanga Creek and this project can be expected to provide some secondary benefits to those areas.

Planning

Site Description

Size of project: 1750 ha approx (based on 800m wide control zone)

Habitat: ▫ Alpine ▫ Dryland ▫ Estuary ▫ Island ▫ Wetland ▫ Coastal ▫ Urban ▫ Other

Land Status: ▫ Council ▫ Department of Conservation ▫ Private ▫ Iwi¹

Existing Species:

Predators: Mustelids (Ferrets, Stoats, Weasels)

Site Considerations / Hazards:

Community Interest:

- Friends of Mangemangeroa
- Bucklands Beach Peninsula – Lions Club
- Ngāi Tai ki Tāmaki

Outcome Target

Although this project can be expected to improve the outcome for bird populations within the area this is not the primary driver for this project. The outcome targets are

- No incursions of mustelids on offshore islands that can be attributed to the Howick Ward area.
- No incursions of mustelids across the Mangemangeroa Creek.

Result Target

No mustelids detected in the control zone during routine monitoring.

No evidence of catch scavenging by mustelids in rat control lines.

No sightings reported in the control zone.

¹ Te Naupata / Musick Point and Ōhuiarangi / Pigeon Mountain are outside the scope of this project although this plan links up with existing and proposed Ngāi Tai ki Tāmaki projects.

Methodology

Location

This control plan is for a coastal trapping zone extending from the northern side of Wakaaranga Creek in Pakuranga around to Turanga Creek near Whitford, including Bucklands Beach peninsula and the Mangemangeroa valley. Priority will be given to the Bucklands Beach peninsula and to the Mangemangeroa Reserve, Point View Reserve and Tudor Park side of the Mangemangeroa Creek.

Site Selection

The majority of the traps in the control zone will be placed in private properties. It is expected that this will reduce the incidence of theft and vandalism which has unfortunately occurred to traps in public spaces. The methodology is loosely based on that used by Predator Free Wellington, for example on the Miramar eradication project².

In conjunction with initial site inspections around the target locations a list of addresses will be generated and compared with known trappers in the locality. Where there is a trapper close by – within 50m - they will be approached first. Otherwise the selected property owner/occupier will be approached with information about this project and permission requested to install a trap. It is hoped that owner/occupiers will take some ownership of the trap but we are primarily looking for permission to install and visit a trap on that property.

The rollout of the traps will be coordinated with community events such as Pest Free Howick Ward school and community Festivals and Trap Handouts and the distribution of letters and flyers within the control zone.

Method Detail

Best practice guidelines for mustelid trapping are described in the Predator Free 2050 Practical Guide to Trapping handbook³ (“the handbook”) and are the basis of this plan. For broad control of mustelids traps should be set at 200m intervals on lines around 800-1000m apart. Mustelids have large home ranges and are believed to travel many hundreds of metres every day. Analysis of trapping data in Wellington⁴ found that mustelids were not frequently trapped (just 40 of 15,000 total catches) but were most likely to be caught in areas close to bush or coastal zones.

This project proposes a continuous line of traps adjacent to but not directly on the shoreline. In future the control zone could be expanded to the south on the western side along the Tamaki River and on the eastern side from Point View Reserve around to

2 <https://www.pfw.org.nz/miramar/>

3 <https://www.doc.govt.nz/globalassets/documents/conservation/threats-and-impacts/pf2050/pf2050-trapping-guide.pdf>

4 Balls, 2019. Understanding the distribution of introduced mammalian predators in an urban environment using monitoring tools and community trapping. <http://researcharchive.vuw.ac.nz/handle/10063/8297>

Murphys Bush, and eventually encircle the entire ward area. Additional control lines within the ward could then be introduced with the intention of achieving the Predator Free 2050 vision.



Image from Predator Free NZ

All traps are securely contained within a tunnel to protect humans, pets and bird life from harm. The handbook describes Department of Conservation 'current agreed best practice' tunnel designs which must be used with DOC series traps. In areas with domestic cats the 'extended tunnel' design is recommended and these have been specified in this document.

Traps

Trap Selection:

DOC 200 traps are sized appropriately for stoat capture but are too small for ferret control. Approximately 10% of trap locations, primarily in and adjacent to the Mangemangeroa valley, will use a DOC 250 trap.

Double set DOC 200 tunnels are useful where there are both rat and stoat populations. Approximately 10% of the traps will be of this configuration and deployed in locations with high rat capture rates.

The remaining traps will be single DOC 200 in an extended tunnel.

Trap Model and Type:

90 x DOC 200 single set in extended tunnel
 11 x DOC 200 double set in extended tunnel
 11 x DOC 250 single set in extended tunnel

Total number of traps used: 112

Lures / Baits

Lure Type:

Egg, supplemented by dried rabbit and blood lures on a rotating basis

Total number of lures used: 112

Pattern of trap lines	
Spacing between lines:	Single line, generally within 250m of coastline / river. Approximately 22km in total.
Spacing between traps:	200m target
Frequency of lure renewal:	Quarterly
Frequency of trap checking:	Monthly, but it is hoped that traps on private property will be checked by the occupier on a more frequent basis.
Trap set density:	1 trap for every 16 ha.

Outcome Monitoring

As noted earlier the primary drivers for this project indirectly relate to improved birdlife or similar outcomes and this is can reasonably be expected throughout the entire area. It is expected that Friends of Mangemangeroa, Ngāi Tai ki Tamaki, Buckland Beach Lions, among others, will engage in this type of outcome monitoring in their areas.

The outcomes to be monitored on a long term basis for this project are

- Notifications of incursions of mustelids onto offshore islands.
- Notifications of signs of mustelid presence such as scavenging of rat traps and community sightings.

Result Monitoring

Robust mustelid monitoring is difficult and advice from DOC and Predator Free 2050 experts will be sought to best implement a long term monitoring regime. It is hoped that this project can add to the limited knowledge around mustelid activity and range in urban environments.

Tracking tunnels are not always sensitive to the presence of mustelids when they are present in very low numbers and a 'Not Detected' result must be treated with caution. Tracking tunnel monitoring will be supplemented by the use of trail cameras rotated around key locations.



Image from Predator Free NZ

Ten monitoring lines, each consisting of 5 tunnels at 100m intervals will be used. The position and orientation of each line has been randomly generated in accordance with the handbook and are shown on the site plans. Monitoring will occur monthly in the period November to February and follow the documented DOC procedure⁵.

In addition to this project's trapping results the catch data from other TLEA traps will be monitored for mustelid catches. Access to the same information will be requested from other groups operating in the control zone.

Consents Required

- Landowner / Occupier consent? Yes No
- Resource consent? Yes No
- Iwi consent required? Yes No
- DOC permission? Yes No
- Council consent? Yes No (in reserve areas)

Summary of Requirements

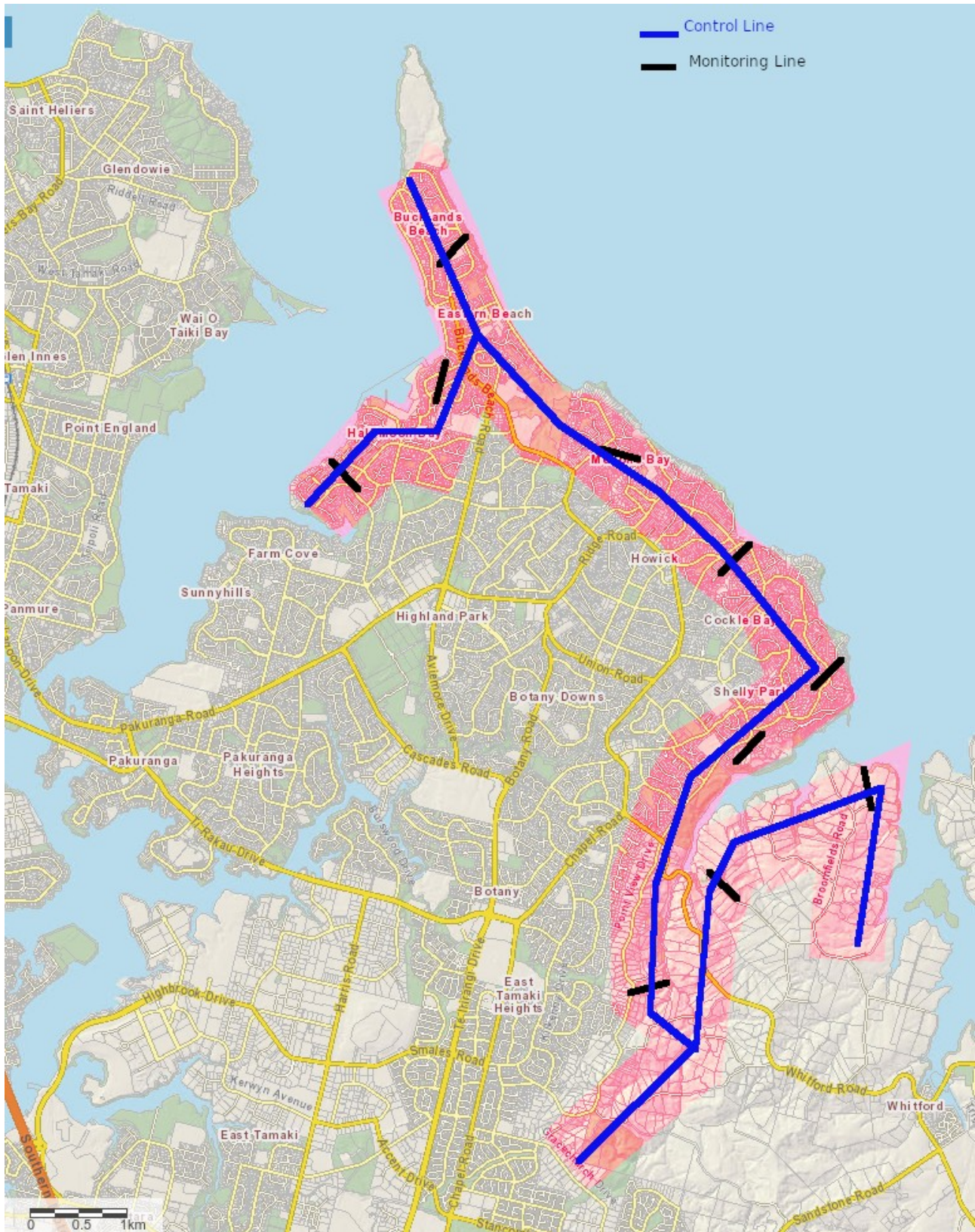
Trap numbers and monitoring tunnel numbers in the table below include a 10% contingency for spares to be used in the case of trap damage or loss.

Item	Quantity	Annual?
DOC 200 Single Set with Extended Tunnel	99	
DOC 200 Double Set with Extended Tunnel	12	
DOC250 Single Set with Extended Tunnel	12	
Monitoring Tunnels	55	
Trail Camera including SD card	5	
Eggs	112 * 4 = 448	Yes
Blood Lure	112 * 2 = 224	Yes
Dried Rabbit	112 * 2 = 224	Yes
Tracking pads	50 * 5 = 250	Yes
Rabbit Paste	250 * 20g = 5kg	Yes

⁵ <https://www.doc.govt.nz/Documents/science-and-technical/inventory-monitoring/im-toolbox-animal-pests-using-tracking-tunnels-to-monitor-rodents-and-mustelids.pdf>

Site Map

Howick Ward Mustelid Control Zone General Overview

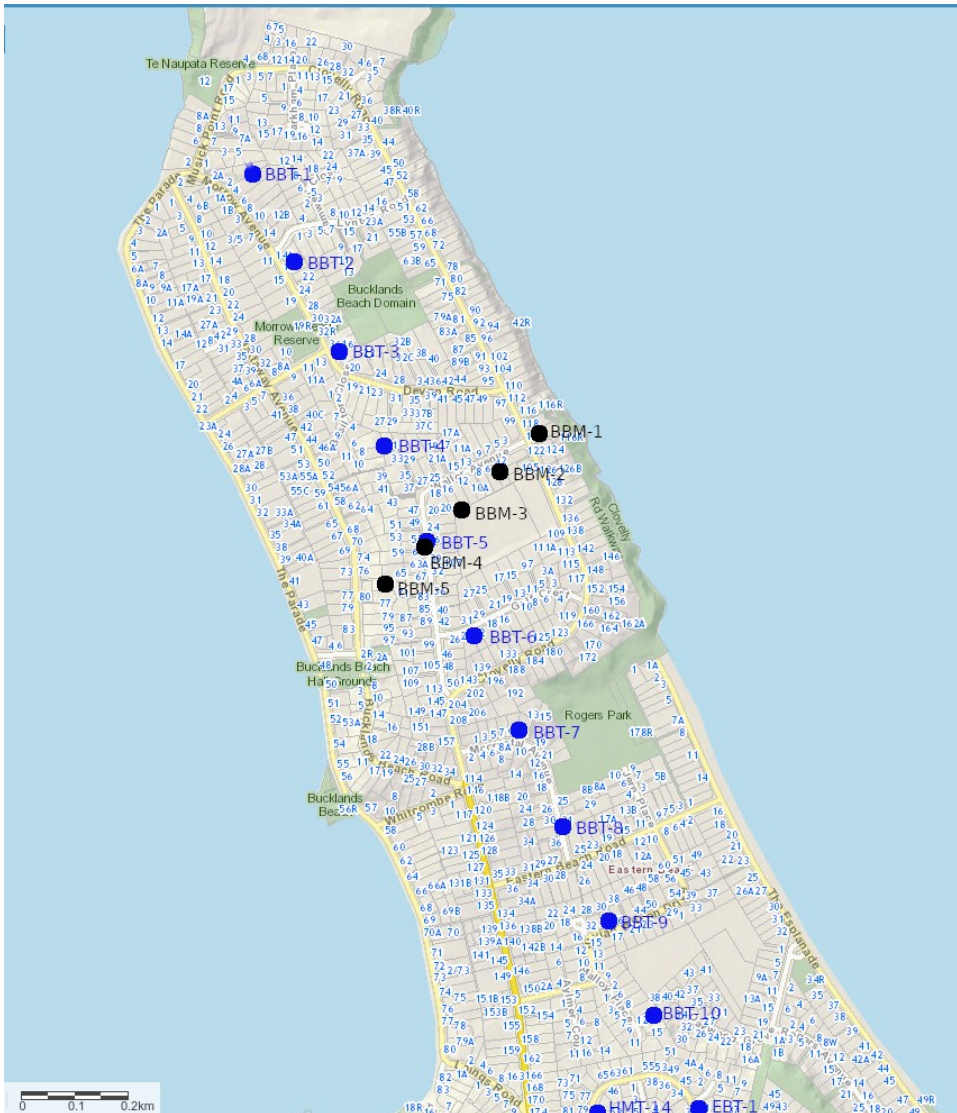


Please refer to the following detailed site maps for proposed trap and monitoring tunnel locations.

Buckland Beach Peninsula Line

Target locations for the Buckland Beach peninsula control line are shown below. The points are 200m intervals from the Te Naupata Reserve which is at the end of the Ngāi Tai ki Tāmaki iwi trapping area on Te Naupata / Musick Point.

The locations are based on the assumption that they are within the range of any mustelid on the lower portion of the peninsula, including shorelines. An alternative arrangement is multiple transverse lines across the peninsula. The optimal design will be discussed with DOC and Auckland Council specialists and will also take account of the Ngāi Tai ki Tāmaki trapping plan.



Number of trap locations : 10 (blue)

Number of monitoring points : 5 (black)

Half Moon Bay

Target locations for the Half Moon Bay area.



Number of trap locations : 14 (blue)

Number of monitoring points : 10 (black)

Eastern Beach

Target locations for the Eastern Beach area.

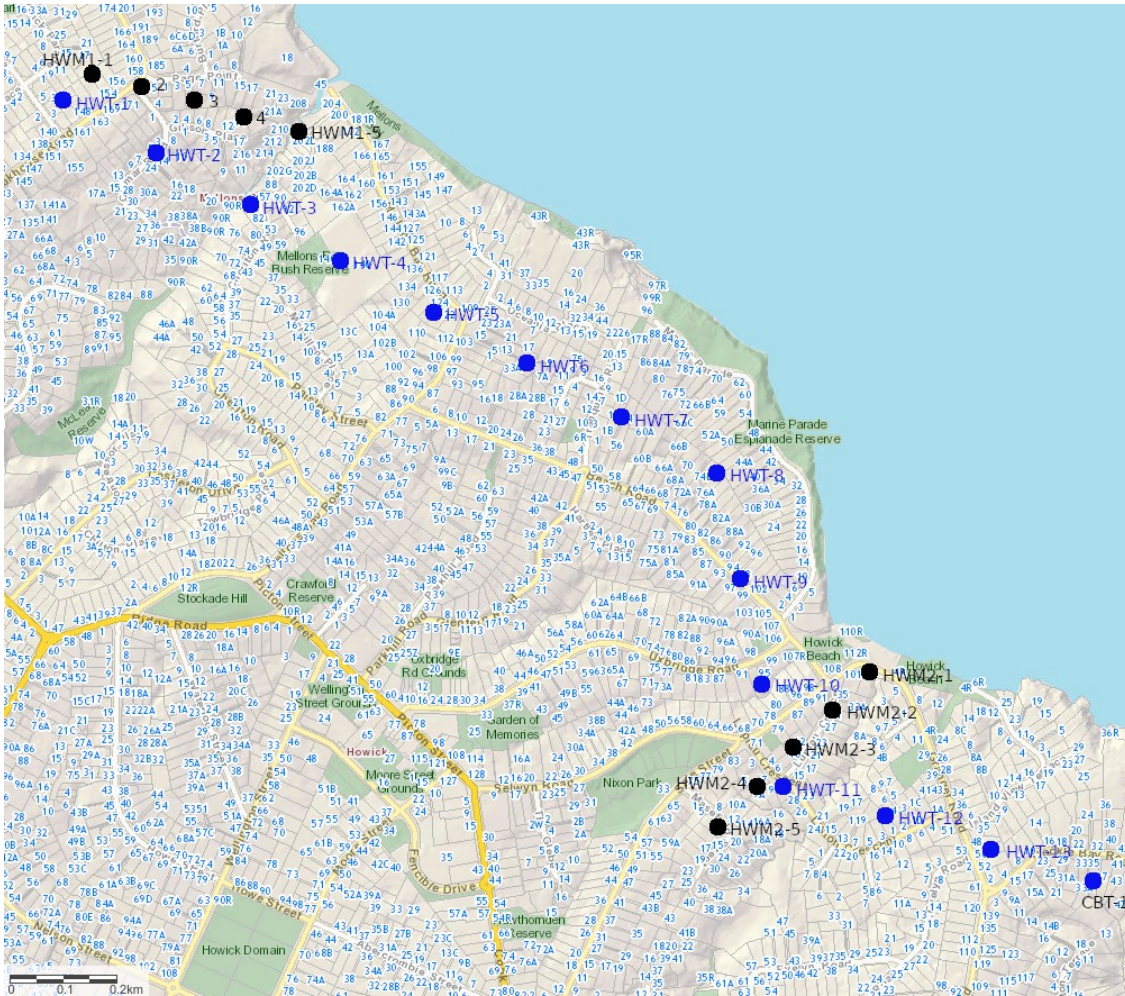


Number of trap locations : 8 (blue)

Number of monitoring points : 0 (black)

Howick

Target locations for the Howick area.

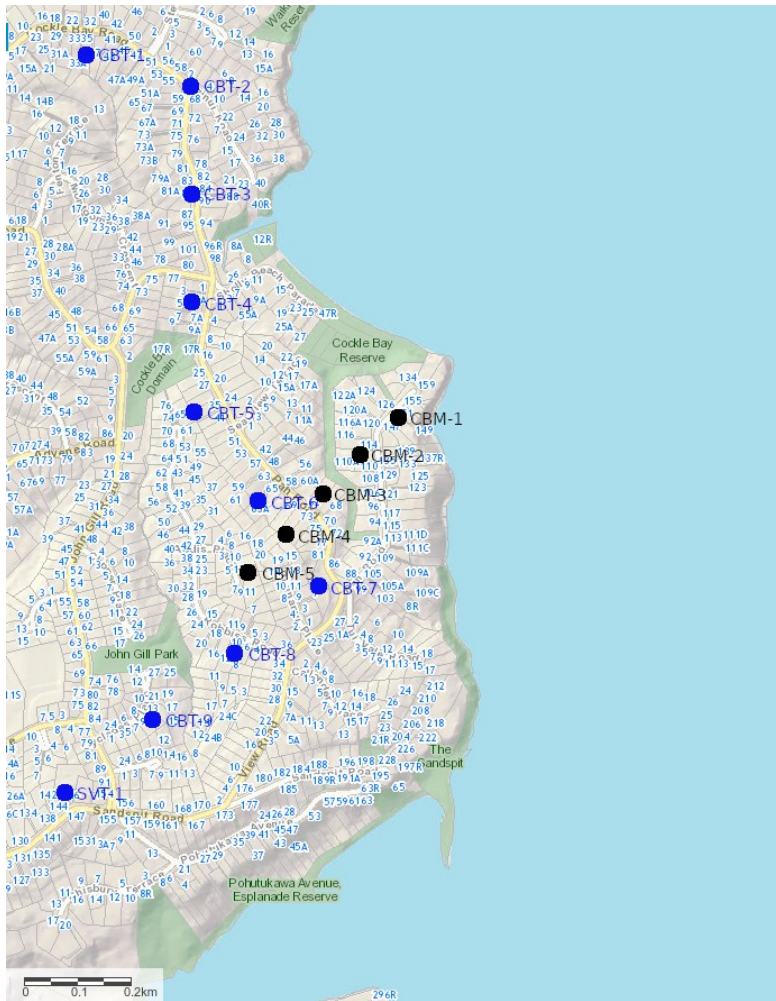


Number of trap locations : 13 (blue)

Number of monitoring points : 10 (black)

Cockle Bay

Target locations for the Cockle Bay area.

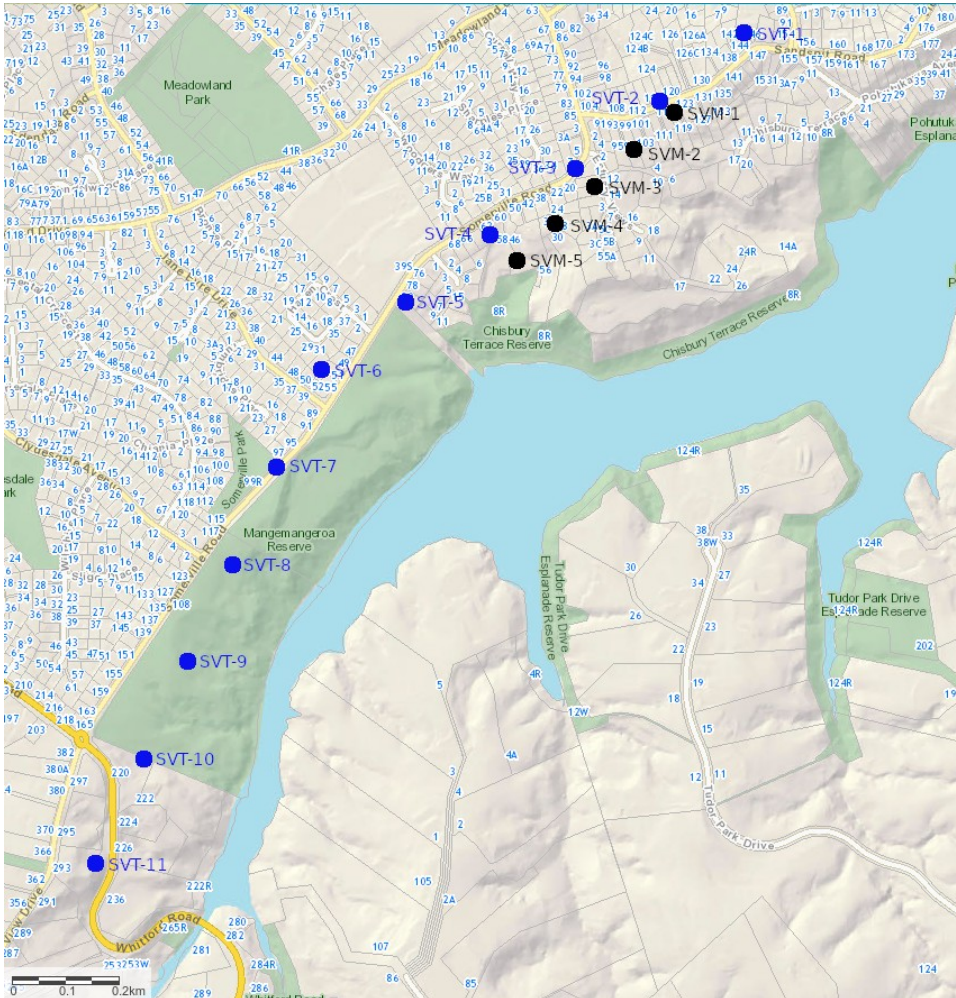


Number of trap locations : 9 (blue)

Number of monitoring points : 5 (black)

Somerville

Target locations for the Somerville area. This line partially overlaps with existing trapping activity and actual locations and responsibilities will be discussed with Friends of Mangemangeroa, Howick College and other groups in the area.

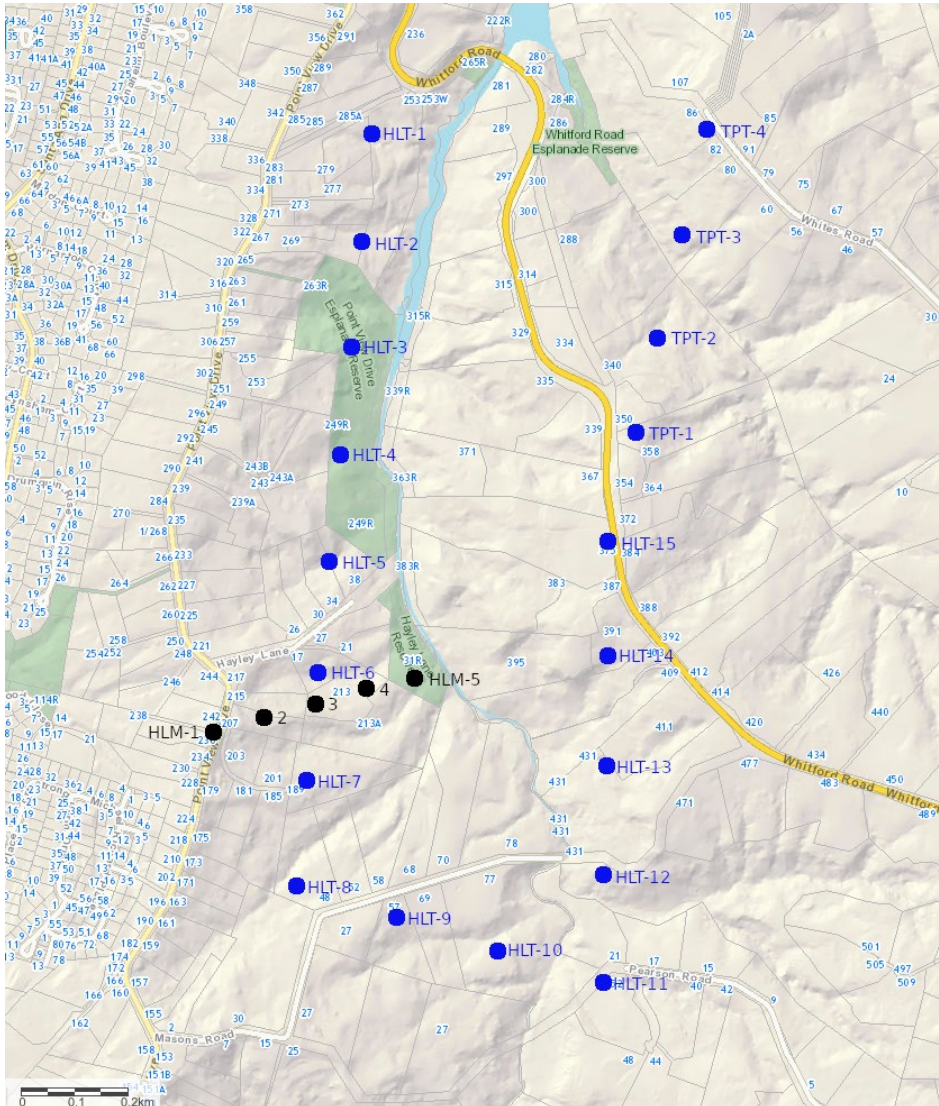


Number of trap locations : 11 (blue)

Number of monitoring points : 5 (black)

Hayley Lane

Target locations for the Hayley Lane area.

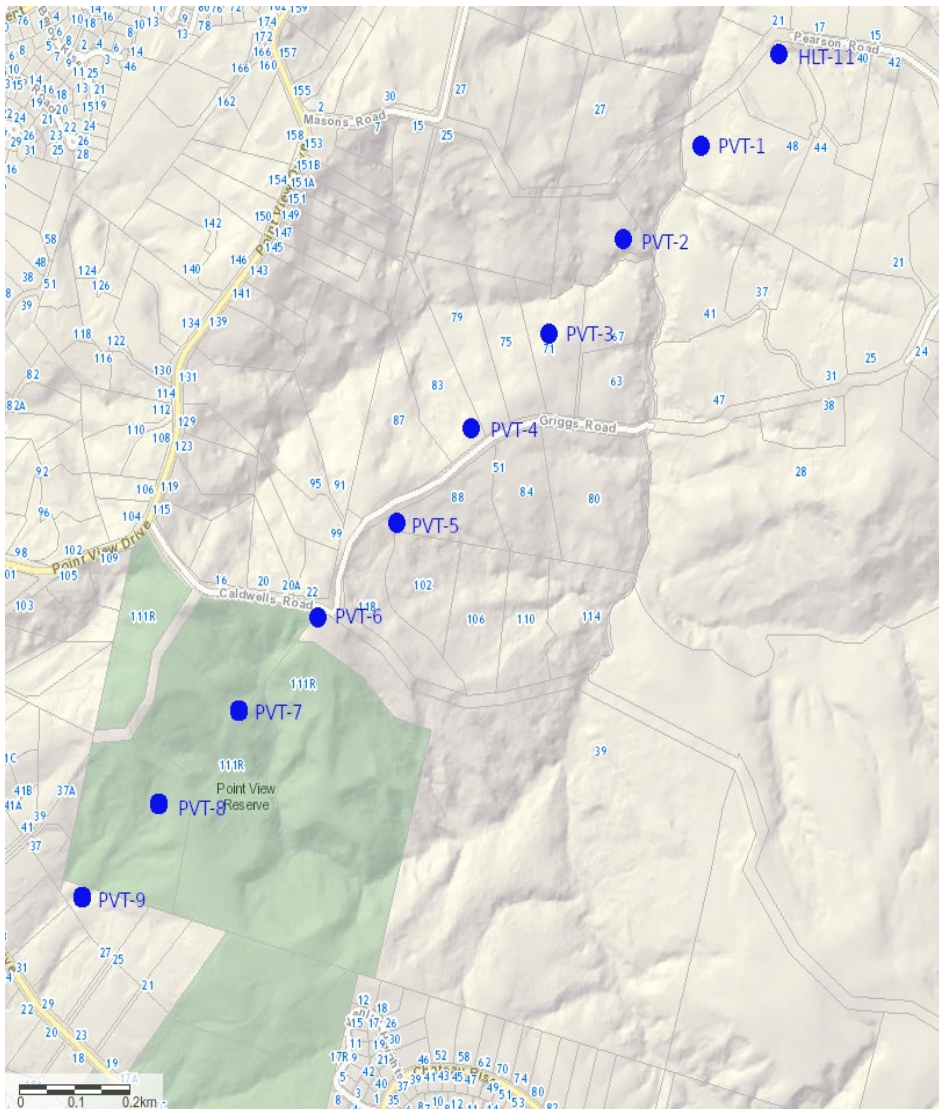


Number of trap locations : 15 (blue)

Number of monitoring points : 5 (black)

Point View

Target locations for the Point View area.

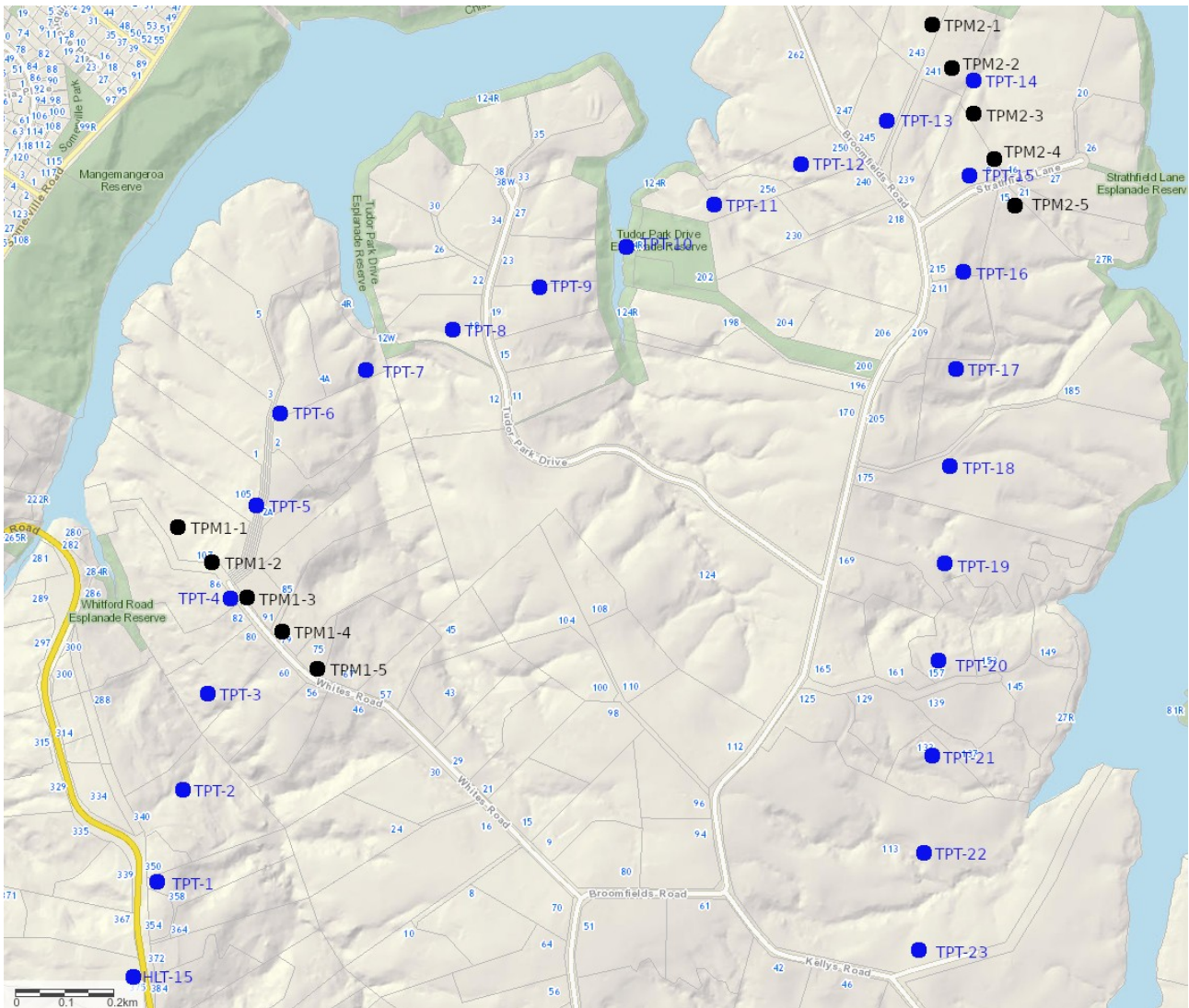


Number of trap locations : 9 (blue)

Number of monitoring points : 0 (black)

Tudor Park

Target locations for the Tudor Park area.



Number of trap locations : 23 (blue)

Number of monitoring points : 10 (black)