

Possum control in Papakai Ecological Area 2013

Version History

Version	Author	Date Written	Change/Reason for change
1	s 9(2)(g)(ii)	1 August 2012	First draft
2			Revisions to respond to peer review and consultation
3			Revisions in response to consent conditions
4			Addition of task specifications
5			Update task list with new tasks

Overview

Conservation outcome

To preserve the health and integrity of the forest plant communities within the Papakai ecological area.

Scope

This project includes possum control in the Papakai ecological area. This plan covers the details of the project's technical design and the organisation of the logistics for doing the work in the operational phases (pre-operational, operational & post-operational). It includes result monitoring.

This project ends when lessons and recommendations from the Pestlink report have been followed up. This is expected to occur by May 2014.

Outcome target

Kohekohe as an indicator species in the the Papakai ecological area reaching possum mean browse score of <0.5 by Jan 2018.

Result target

The result target for this operation:

1. A residual trap catch of less than 2% (2 possums per 100 trap-nights) by 30 June 2013 for the aerial controlled area.

Control Design

The treatment area covers 10360 ha comprising of Papakai ecological area Coromandel Peninsula(see map).

To achieve the outcome target, possums need to be controlled over the range of forest habitats in the Area. This will be achieved by using one method;

1. An aerial application of 1080 over 10360 ha of the block.

The operation is planned to take place in May 2013. This time has been chosen as the best time to conduct the operation as possums are more vulnerable to poisoning in winter/ early spring where alternative food sources are seasonally low.

Some of the treatment area shares a boundary with private pine plantations

Consideration has been given in terms of timing of the operation to ensure possums are not being drawn into the production forest at the time of pine pollination which is around the month of August.

Limiting the re-invasion of possums from habitat adjacent or near the boundary supports the conservation outcomes that this operation is looking to achieve. To aid with this, consideration has been given to a coordinated effort with Waikato Regional Council (WRC) but has not amounted to a joint operation. The author is liaising with the Mahakirau Forest Estate community located between the Goldfields (Kakatarahae) block and the 309 road, who have an effective on-going pest control programme. Also the Te Mata private forestry block which is adjacent to the Papakai block with a cyanide operation run by the consortium.

Future pest control operations in this area will depend on initial control levels achieved from this operation and on the rate of re-invasion from adjacent areas. It is expected that the possum population will take at least five years before they begin to have a measurable effect on the indicator species.

One application of 2 kg per hectare of pre-feed cereal bait will be sown by helicopter for the aerial operation. Following the pre-feed, 1080 will be applied at a rate of 2 kg per hectare, with a maximum window of 25 days between sowing the pre-feed and the 1080 baits. The timing of the sowing of the 1080 baits will require a weather window of three fine nights to achieve maximum toxin uptake.

Site Description

The Papakai ecological area and Goldfield (Kaakatarahae) block is in the Thames Ecological District. The sanctuary is 27 km north of Thames, located in two large catchment areas that feed the Manāia and the Kaakatarahae rivers. Two prominent features include Kaakatarahae (725m asl) on the eastern boundary and Horomanga (574m asl) which is central to the block. Papakai ecological block runs from the Tapu Coroglen road heading North West until it marries up with the Mania Kauri Sanctuary (Kaakatarahae), the three main features in this area are Papaki (750m asl), Rapaki (694m asl) and Pukeotahu (540m asl). The Papakai catchment area flows into two main rivers, TeMata to the West and Ounuora to the East.

(Reference to AEE DOCDM-1150929)

Conservation Values

The Papakai ecological area contains a number of different systems in the one area. The sanctuary is the largest remaining stand of kauri on the Coromandel peninsula and is home to Tanenui, the third largest kauri left standing in New Zealand. The sanctuary has an international classification (IUCN 1).

The large number of big kauri dominate the landscape, surrounded by podocarp/hardwood forests that have large mature stands of miro, rimu and rata, amongst kohekohe and tawa. King fern is present in some areas.

Korimako, tui, kereru, North Island kaka, piwakawaka and riroriro are all present. The sanctuary has a population of North Island brown kiwi and long tail bats have been reported there.

The forested catchments are home to giant kokopu, banded kokopu, short and long finned eels, inanga and red finned bully.

The diversity of plant life throughout the reserve inspires numerous visits by botanical enthusiasts throughout the year.

Manaia was gifted by Ngati Maru to Ngati Pukenga in recognition of assistance rendered by that Bay of Plenty tribe during the “ musket wars “. This is one of the few large Maori owned areas in Hauraki.

Manaia is the largest Maori community on the peninsula north of Thames. The people are of Ngati Pukenga, Ngati Whanaunga and Ngati Maru tribes. The marae is Te Kou o Rehua.

Manaia was a rich resource area: “Ko Manaia, he pataka kai” (Manaia the food store). Fishing and mussel farming employ locals. Mangrove extension and siltation are problems in Manaia Harbour, as in most other estuarine harbours of the peninsula. The Manaia Forest Sanctuary, which contains 400 kauri trees, was established in 1972 after local protest against planned logging.

Threats

The usual hosts of pests are present; these include pigs, goats, rats, hedgehogs, mice, possums, stoats, weasels and cats. Possum numbers have been measured in Jan 2012 in the Goldfields (Kaakatarahae) block and have come back at 173% RTC, 10% RTC being the known trigger point for possum palatable trees in the area.

Goats and pigs are present on Central Coromandel and both cause damage to the forest ecosystem. The Department of Conservation began goat control in the area in 1987, and intensively from 1993. Monitoring of the forest under-storey has shown significant improvement.

Mustelids (weasels, ferrets and stoats) and feral cats are present. All four species threaten conservation values by preying on vertebrate and invertebrate populations, but the most destructive is the stoat. Stoats are adept tree climbers and, along with ship rats, will predate birds, nestlings, eggs, lizards and invertebrates within the canopy. Brown rats tend to be abundant along water courses and, together with mice, are opportunists, eating both vegetation and animal matter. Hedgehogs are also present, mainly preying on native invertebrates.

Domestic stock have access to one main section of the area, the Waikawau catchment. From this point stock have travelled along old forestry roads a distance into the area. This issue is currently being addressed through fencing

Issues

Treatment area is under Treaty claim, which could raise some sensitive issues between local Iwi and the Department. Due to sufficient consultation and engagement this should be limited.

Due to the rugged terrain and potential of heavy rainfall in the area there is the possibility of possum carcasses washing down the river and on to the coast. Even though this is a small possibility it could happen if the operation was to be conducted at another time of the year, to manage this in the case of such a rain fall the beach, main water ways coming out of Manaia and surrounding area will be monitored and the local population informed.

Some of the boundaries in the area around the operational area do have unfenced or sensitive areas, this concern could be mitigated through consultation or movement of the operational boundary and or stock.

Conflict with local pig hunting groups and the lack of access after the operation will be considered during the consultation process, Bait and carcass monitoring will be put in place in order to possibly shorten the stand down period of the area after the operation is conducted.

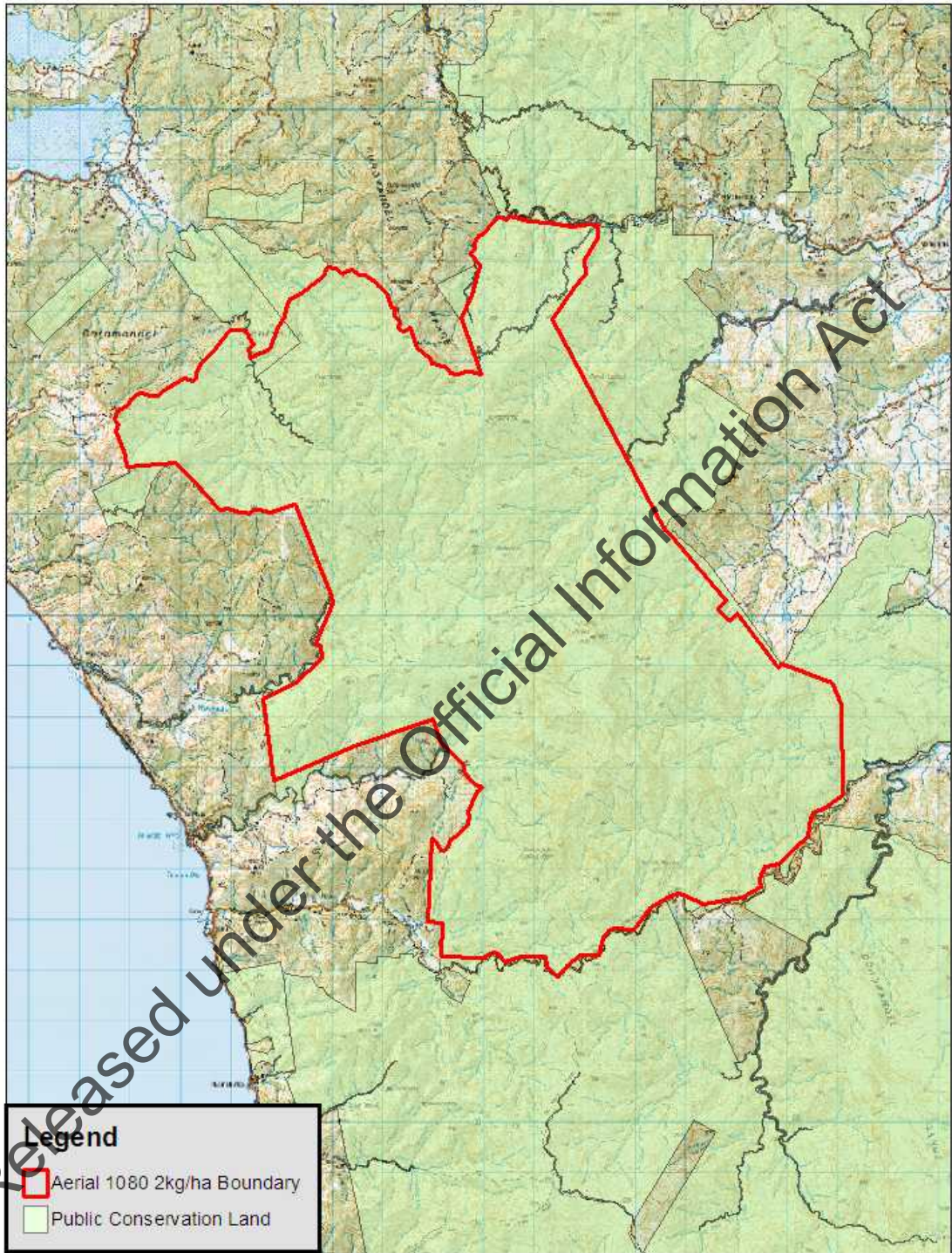
Other management at the site

Past:

Year	Operation Name	Control Method	Pestlink Ref.
2009/10	Possum control	Ground, Cyanide	
2006/07	Central Coromandel and Whenuakite Aerial	Aerial 1080	
2002/03	Possum control	Ground, various methods	
1997/98	Possum control	Ground, various methods	
1994/95	Possum control	Ground, various methods	
2012	Goat control	Ground hunting	
2001/02	Goat control	Ground hunting	
1999/00	Goat control	Ground hunting	
1997/98	Goat control	Ground hunting	
1996/97	Goat control	Ground hunting	
1994/95	Goat control	Ground hunting	
1993/94	Goat control	Ground hunting	

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Where?



Papakai Aerial 1080 2013

Coromandel



Department of Conservation
Te Papa Atarauhi

2 km

NZGD 2000 New Zealand Transverse Mercator
Av20 (S) Lite
Internal DOC use only
Crown Copyright Reserved
User: jplanning
Date: 23/04/2013

Path: S:\Animal Threats\Aerial 1080\GIS\Map and graphics\Papakai Aerial 1080 2013\Papakai 1080 2013.mxd

What?

Method

Aerial application of 1080 cereal pellets for the Papakai block.

Timing

The Aerial component of the operation is planned to take place in the period 1 May to 30 June 2013.

Method detail

The Aerial component of the operation will be conducted with the following method.

Brand name of pesticide	0.15% 1080 Pellets	
Name of pesticide	Sodium fluoroacetate (1080)	
Type of bait	Cereal pellet Wanganui #7	
Toxic loading	1.5 g/kg	
Bait Details	Pre-feed	Toxic
Bait type	Cereal Pellet	Cereal Pellet
Lure/mask	Double Orange	Double Orange
Lure/mask	0.3%	0.3%
Dye	None	Green
Cereal Pellet Weight	12 gm	12 gm
Sowing Rate Details	2 kg per hectare	2 kg per hectare
Planned start date	13 May 2013	21 May 2013

	TREATMENT AREA	BLOCK NAME	SOWING	HECTARES	RATE	BAIT
PREFEED	Papakai	Papakai	Prefeed	10360	2 KG	20720
				TOTAL		

TOXIC	TREATMENT AREA	BLOCK NAME	SOWING	HECTARES	RATE	BAIT
	Papakai	Papakai	1080	10360	2 KG	20720
			TOTAL			20720

Treatment details

No. of drops

Time between pre-feed and toxic

Aircraft type

Number of Aircraft

Loading Method

Pre-feed

1

25 days maximum

Helicopter

2

Truck mounted crane and hopper

Toxic

1

Outcome and Result Monitoring

Result monitoring

When monitoring the effectiveness of the operation, it is considered essential to measure:

- the abundance of possums in a treatment area prior to control (influences choice of control technique) (17.3% RTC current Jan 2012) and
- whether the operation has reduced possum abundance to the target residual catch rate.

The areal component of the operation the Papakai block will be set at 2% RTC. The monitoring of this will be conducted by DOC staff and done in a robust sampling method of 5 plots with 4 lines in each random selected location. The lines will be conducted in accordance with the monitoring protocol (NPCA 2005). The reason for this alternative method is cost saving.

Outcome monitoring

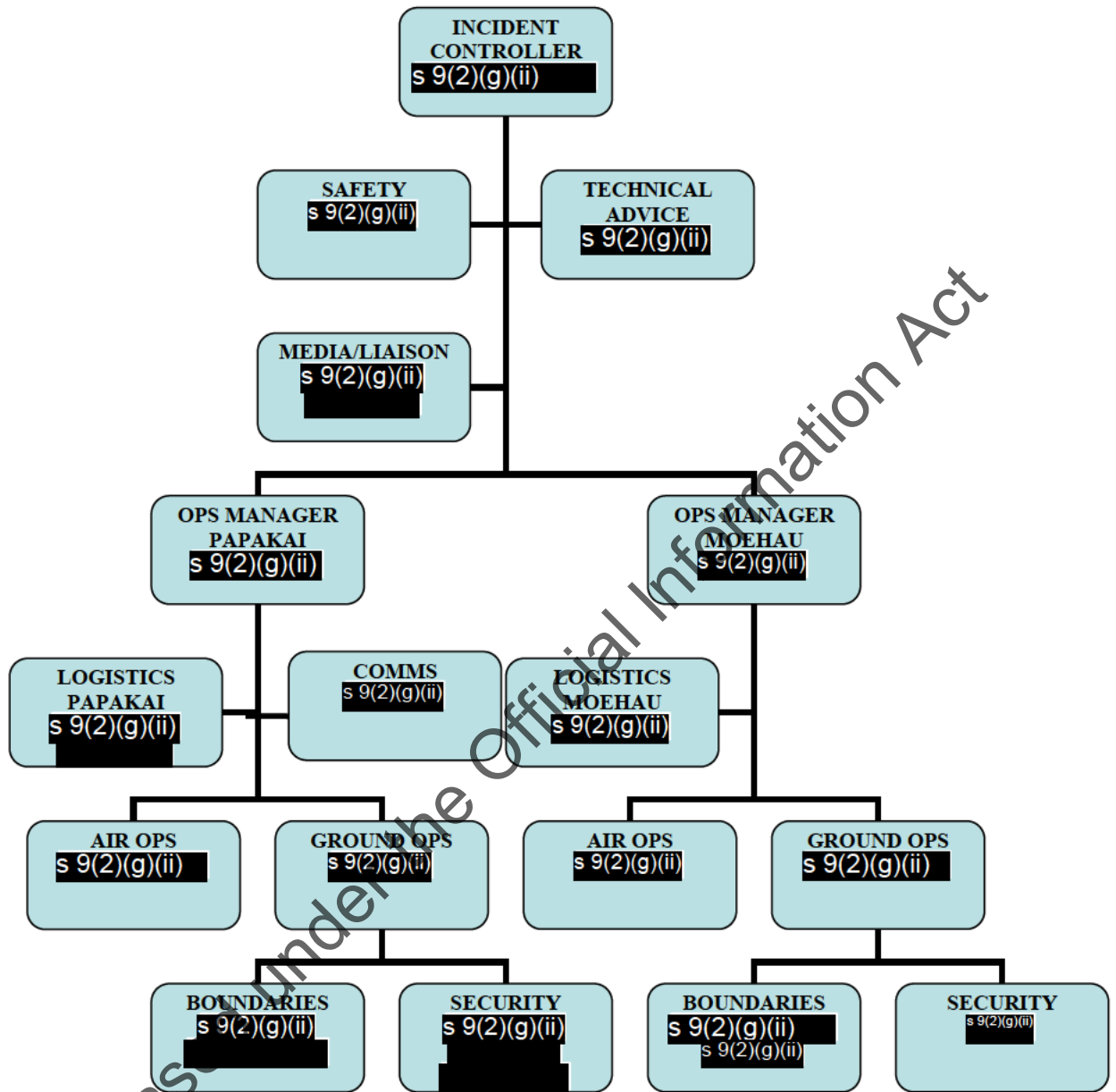
Vegetation monitoring to assess the achievement of outcome targets will be conducted every 5 years and results analysed to identify changes in forest health. Vegetation monitoring focuses on a few plant species (indicator species) known to be vulnerable to possum damage. Part of the operation's success will be assessed using vegetation monitoring results. This information will assist decisions on the timing of future possum control. Methods to be used are:

- Mean browse index: assessment.

How?

CIMS Structure

Papakai Aerial operation staff structure chart 2013 Prefeeding & Toxic drop



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Task list

<i>Phase</i>	<i>Target Date</i>	<i>Task</i>	<i>Delegated to:</i>	<i>Task specification</i>	<i>Date Completed</i>
<i>Pre-operational</i>	12/10/12	Mapping & Boundaries	s 9(2)(g)(ii)		22-01-13
	15/01/12	Pre-operational monitoring	s 9(2)(g)(ii)		31/01/12
	Ongoing until project finished	Maintain Communication plan	s 9(2)(g)(ii)	See comms plan docdm-1046144	<i>Ongoing</i>
	08/03/13	Notification tools	s 9(2)(g)(ii)	Fact sheet docdm 1153015	
	22/02/13	MOH approval	s 9(2)(g)(ii)	docdm-1150910	
	22/02/13	Other Consents incl DOC approval	s 9(2)(g)(ii)		
	22/02/13	AEE	s 9(2)(g)(ii)	docdm-1150929	
	22/02/13	Tender documents	s 9(2)(g)(ii)		
	22/02/13	Audit contractor safety plan	s 9(2)(g)(ii)		
	26/02/13	Contract visit	s 9(2)(g)(ii)		
	28/02/13	Contract finalised	s 9(2)(g)(ii)		10-04-13
08/03/13	Check for pre-operational tasks in consent conditions	s 9(2)(g)(ii)	See consents		

15/03/13	Safety plans	s 9(2)(g)(ii)		
03/13	Safety equipment organised	s 9(2)(g)(ii)	See comms plan docdm-1046144	
15/03/13	Safety briefing prepared	s 9(2)(g)(ii)		
18/03/13	Bait ordered <milestone>	s 9(2)(g)(ii)		
08/04/13	Sign production	s 9(2)(g)(ii)		
22/04/13	Loading site preparation	s 9(2)(g)(ii)		
22/04/13	Catering organised	s 9(2)(g)(ii)		
26/04/13	Field equipment organised	s 9(2)(g)(ii)		
26/04/13	Communication equipment	s 9(2)(g)(ii)		
29/04/13	Arrange weather forecasting	s 9(2)(g)(ii)		
01/03/13	Check for operational tasks in consent conditions	s 9(2)(g)(ii)	See consents	
01/05/13	Prefeed Bait transport	Contractor		
29/04/13 05/05/13	24 hour notice	s 9(2)(g)(ii)		
06/05/13	Install signs	s 9(2)(g)(ii)		
07/05/13	Toxin Bait transport	Contractor		
07/05/13	On-site briefing	s 9(2)(g)(ii)		

	01/05/13 07/05/13	Loading site set-up	Contractor		
	07/05/13	Boundary & Exclusion zone check	s 9(2)(g)(ii)		
	07/05/13	Bucket loading	Contractor		
	07/05/13	Bait sown	Contractor	See contract schedule	
	07/05/13	Safety Officer	s 9(2)(g)(ii)		
	07/05/13	Flight line downloads	s 9(2)(g)(ii)		
	07/05/13	Track clearing	s 9(2)(g)(ii)		
Operational	07/05/13	Wash-down	Contractor		
	08/05/13	Disposal	Contractor		
	07/05/13	Operation log	s 9(2)(g)(ii)		
	07/05/13	Notes for report	s 9(2)(g)(ii)		
	07/05/13	Tracking Bait usage	Contractor/ s 9(2)(g)(ii)		
	01/05/13	Security	s 9(2)(g)(ii)		
	ongoing	Enquiries	s 9(2)(g)(ii)		
	01/03/13	Check for post-operational tasks in consent conditions	s 9(2)(g)(ii)	See consents	
	Ongoing from op	Sign maintenance & removal	s 9(2)(g)(ii)		
	Ongoing from op	Bait & Carcass monitoring	s 9(2)(g)(ii)	Task spec to come	

	28/06/13	Post operational monitoring	s 9(2)(g)(ii)		
	15/07/13	Post operational notification	s 9(2)(g)(ii)	See comms plan docdm-1046144	
	31/07/13	Debrief completed	s 9(2)(g)(ii)		
<i>Post-operational</i>					

Deliverables

- Papakai Possum Monitoring Plan 2013 (docdm-xxxxxx)
- TCFPP Central Forest Condition Report 2009 (docdm-398240)
- Communication Plan for Papakai Operation (docdm-1046144)
- Assessment of Environmental Effects for Possum Control in Papakai (docdm-1150929)
- MOH – (1150910)
- Contract for aerial application of 1080 baits (docdm-xxxxxx)
- Warning sign register (docdm-xxxxxxx)
- Safety briefing (docdm-xxxxxxx)
- Costings spreadsheet (docdm-xxxxxxx)