

Operational plan Moehau Aerial operation 2013

Version History

Version	Author	Date Written	Change/Reason for change
1	s 9(2)(g)(ii)	2/11/11-9/11/11	
2	s 9(2)(g)(ii)	24/1/2013	Review of documents

Overview

Conservation outcome

The health and integrity of Moehau forest and fauna are protected, enhanced and maintained for future generations.

Scope

This project includes Aerial control of the Rat block in Stony bay. This plan covers the technical aspects and organisation of the logistics for doing the work in the operational phase. RTC and SMI monitoring will also be covered in this plan.

- This project does not cover FBI monitoring; this is carried out by the conservancy monitoring team.

This project ends when the Pest link report has been completed for this operation.

Outcome target

To reduce foliar browse to less than 0.5 by 2013/2014.

Improve average foliar cover to 50% for monitored Kohekohe trees by 2013/2014.

Increase North island Robin breeding pairs in the Stony bay Rat block.

Result target

RTC <3% across the control area. 20 monitor lines will be pre and post monitored across the 4500 hec.

SMI <5% Rat monitoring lines in the stony bay rat block will be used to indicate pre and post rat densities across the mountain. The rat block has 15 monitor lines covering 1600 hectares.

Control Design

Possum and Rat operations commenced in the 1600 hec Stony bay Rat block on the 1/8/ 2012 with Feracol Choliciferol paste chosen because it targets both Possum and Rat populations, The pre Possum RTC was 6%, Rat pre-monitoring was 32% SMI. Possum control was successful with a 0% post-RTC. Rat control was unsuccessful with a 12% post-SMI. Further Rat control was not initiated with anticoagulant due to budget restraints and human resources.

Ground based Possum control commenced in Port Jackson on the 8/10/12 with cyanide paste operations on the coastal reserve between Port Jackson and Fletchers bay, Farm Park leased land at Port Jackson and on the privately owned Ward farm at Port Jackson. Work in these blocks was done by Doc staff and contractors, approximately 1000 Possums were killed in these blocks.

This work coincided with Choliciferol pellets being laid in the Homebush (Doc land 60hec) and Ward Triangle (Alexander Ward land 80hec), both these blocks are in Port Jackson surrounded by farmland. Work in these blocks was done by Doc staff and contractors. Pre-monitoring in these two blocks was 16.5% RTC, Post monitoring was 3.3%.

To support this Possum trappers from Wanganui keen to recover fur have been issued a permit to trap in the lower Fantail bay catchment through Goat bay to the lower Pahi catchment, to compliment this Alexander and Anthea Ward have granted them permission to trap on all of their Farm land from Fletchers bay to Ohinewai. Since the end of November 2012 the trappers have trapped over 2000 possums in the Fantail bay, Goat bay and Port Jackson areas.

Aerial control will be applied to 4500 hec for Possums and Rats (includes 1600 hec Rat block at Stony bay).

Treatment will commence in May/June 2013 due to less food being available for the targeted pests. Pest's numbers will be reduced to target by June 30th 2013.

Rats and Possums impact on the rare ecological values on Moehau.

Possum browse on western Moehau has reached a critical level, Kohekohe mortality is almost 50% over 10 years at a FBI plot in Urarima.

Buffer control will commence in May 2013 in 80 hec of the Tehope catchment, because this area has no boundary fence it will be treated with cyanide to reduce the risk of cattle consuming pre-feed and then 1080 toxin.

100 hec of private land on the southern boundary with Urarima will be treated with cyanide to increase the control area around the monitored Kohekohe plots in the Urarima.

17 hec of Taylor's creek farm boundary (Doc farm park lease) and 1 hec of northern Poley bay (Doc farm park lease) will also be treated with cyanide to compliment the aerial work.

This work will be conducted by contractors and Doc staff.

To continue the protection and enhancement of the mountains native birds rats will continue to be maintained at less than 5% in the Rat block post 1080 operation.

Site description

Conservation values

Moehau requires ongoing protection for nationally threatened and regionally rare plant species. Within Moehau's forest can be found internationally significant ecological values including locally endemic Weta and stag beetles, Archey and Hochstetters frog, Coromandel striped Gecko, Pateke (Brown Teal), Kaka, Kakariki (parakeets), Brown Kiwi, Long tailed cuckoo, North island Robin. Flora values include *Pittosporum virgatum*, *Celmisia adamsii*, *C. incana*, Halls totara. Moehau is the northern limit for several species.

The Moehau ecological area is the highest ranked forested habitat in the Waikato conservancy for biodiversity by the department of Conservation.

Land form values include the nationally unique Paritu pluton, a geographical feature of volcanic origin.

Moehau mountain is sacred to local iwi, the summit is the burial place of the great Te Arawa chief Tamatekapua who arrived in New Zealand with the first Polynesian navigators.

The prow of his canoe is said to have been laid with him on Moehau.

There are numerous Pa sites and middens on the coastal headlands and beaches surrounding Moehau, during the musket wars local tribes fought on these beaches and headlands, Many of these sites are now Wahi Tapu

Threats

Animal pest species present in the reserve include ship rat, Norway rat, stoat, weasel, possum, cat, hedgehog, cows and mouse. The catch trap results are (Dec 2011) 90.3 possums per 100 trap nights.

Introduced pests are having major impacts on Moehau mountains flora and fauna.

Possums as well as preying on fauna are causing mortality of canopy trees like Kohekohe and Rata through defoliation.

Possums have been managed since 1989 with trapping starting in Port Jackson and then moving southward. The first toxin used between 1995 and 2000 was brodifacoum in bait stations set out on a grid approximately 150m apart. DOC discontinued the use of brodifacoum in 2000 and possums have been controlled around parts of Moehau using other toxins approximately every 4 years.

Ship rats predate heavily on Weta, beetles, spiders, moths, stick insects, cicadas, native snails and frogs, slugs, and lizards. Seasonal food includes bird eggs and chicks, all of the forest's bird eggs are predated on up to 61mm long.

Rat numbers increased on Moehau once Mustelid trapping was initiated in 1995, rat control begun with trapping using victor traps in northern stony bay in 2002 and 2003 (Murphy 2004) followed by Diphacinone in bait stations laid on a grid approx 75m apart in 2004. Since then low rat numbers have been maintained at stony bay using a 75m grid system over 1500 hec using toxins including 1080.

Mustelid especially stoats are affecting kiwi through chick predation., in 2000 a trapping grid was set up on Moehau covering approx 1800hec, 1600 traps are laid 200m apart on selected ridges, roads etc. Since trapping was introduced to Moehau kiwi chick survival has averaged 77% of all chicks produced by tagged Kiwis over the years 2000 to 2005.(De Monchy2005).

Goats were first controlled by government hunters on Moehau in 1956 but sustained control at regular intervals did not occur until 1981 with their final removal occurring in 2005, since then only a couple of goats have been shot and their presence or how they got there was unknown, but most likely from neighbouring farms.

Cattle from neighbouring farms have historically grazed the accessible parts of Moehau, In the last 10 years boundary fences have been erected around most of the mountain except in the south west corner made up of the Tehope Ongohi and Urarima catchments. Grazing is still occurring in parts of these areas and a completed boundary fence around Moehau will be a longer term goal.

Cats are controlled around Moehau to protect Pateke from predation, 43 traps have been maintained since April 2011 with 43 cats having been trapped to date.

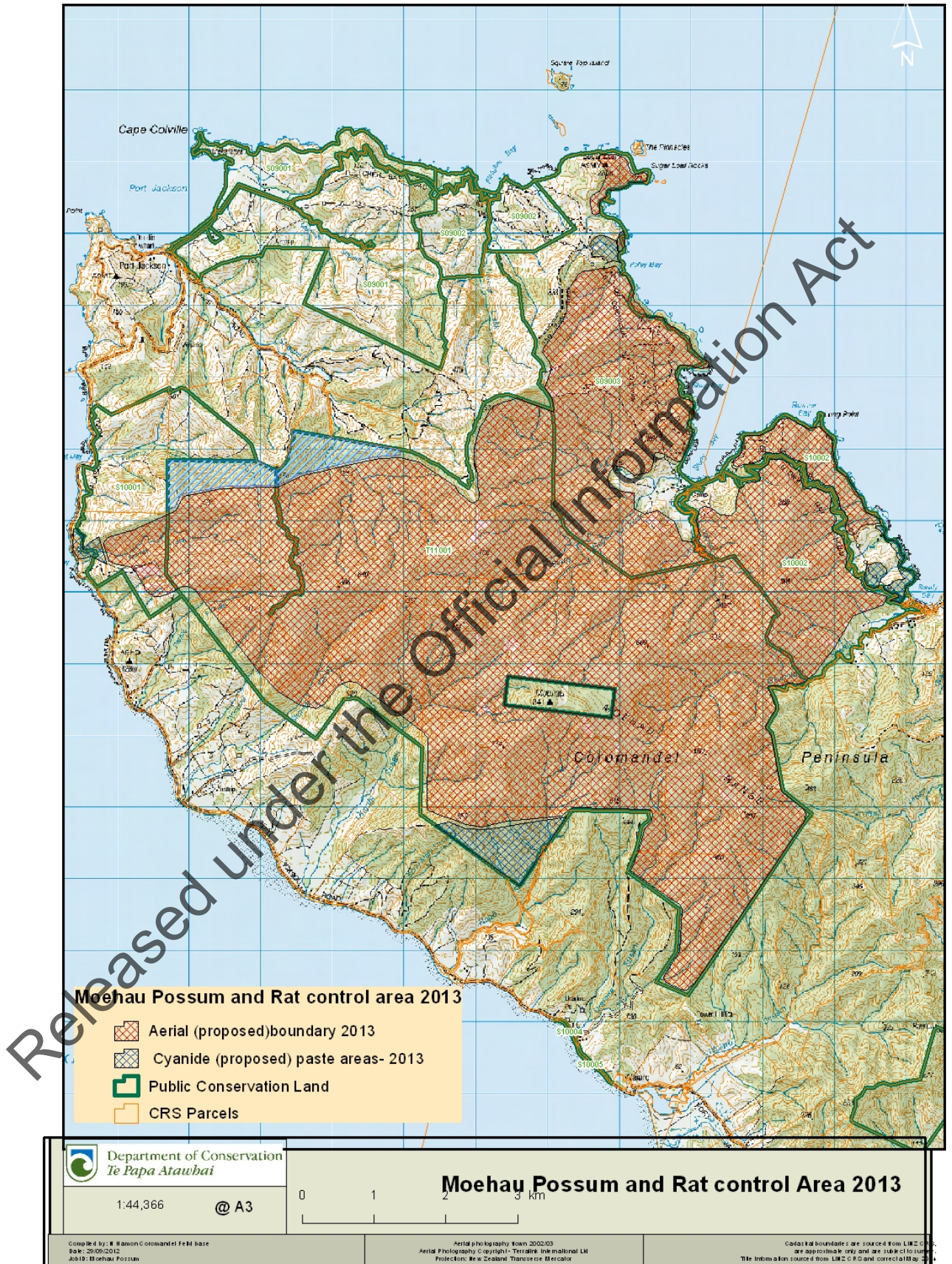
Pigs are impacting on flora and possibly kiwi nests, Rats that share the same home territory as pigs appear to interact with their environment differently to those living without them. Low rat numbers has been harder to achieve where the habitat is shared.

A seasonal ballot has been the control method for pigs in recent years. Pig traps are now being set up to help control numbers in Stony bay.

Considerable forest modification has occurred in the last 100 years, goats, possums and cattle have depleted many species on the forest floor and in the canopy. Accessible areas of the mountain were logged or cleared for farmland also in this period, parts of the land cleared for farming is now regenerating.

Where?

Map



What?

Method

Ground based Possum and Rat control 2012 Operational plan DM-1032436
 Communication plan DM-1030227
 Facts pack DM-1035739

Ground based Possum control 2012 Operational plan DM-1037753
 Communication plan DM-1046339
 Facts pack DM-1088347

Aerial application of 1080 cereal pellets to be applied to 4500 hec of Moehau including ground based buffer control using Cyanide paste over 198 hec. Operations due to start May/June 2013.
 Communication plan DM-1111509
 Facts pack DM-1093751
 Press Release Hauraki Herald 9/11/2012

Timing

Aerial operation planned start date and buffer control is the 1st May 2013.

Method detail

Brand name of pesticide 0.15% 1080 Pellets
Name of pesticide Sodium fluoroacetate
Type of bait (1080)
Toxic loading Cereal pellet Wanganui #7
 1.5 g/kg

Bait Details		Pre-feed	Toxic	Toxic
Bait type		Cereal Pellet		Cereal Pellet
Lure/mask		Orange		Orange
Lure/mask		0.3%		0.3% Double lure
Dye		None		Green
No. of drops	Pre-feed	Toxic	12 gm (20mm)	12 gm (20mm)
	1	1		
Time between	5 days	minimum		

pre-feed Helicopter
 and 2
 toxic
 Aircraft
 type
 Number
 of
 Aircraft
 Loading
 Method

ellet Weight
 Sowing Rate Details
 Planned start date 1st May 2013

Sowing Rate Details
 Planned start date 1st May 2013

PREFEED	TREATMENT AREA	BLOCK NAME	SOWING	HECTARES	RATE	BAIT
	Moehau Mountain	Moehau Possum	Prefeed	4500hec	2 kg	9000kg
			TOTAL	4500hec		9000k
TOXIC	TREATMENT AREA	BLOCK NAME	SOWING	HECTARES	RATE	BAIT
	Moehau Mountain	Moehau Possum	Toxic	4500hec	2kg	9000k
			TOTAL	4500hec		9000k

Pesticide Use 89
Cyanide 500g/kg paste in bait stations

Target Pest
 Possums

Brand Name of pesticide	Cynara50 Cyanide paste
Lure/mask (& %)	N/A
Type of pre-feed (lure/dye)	Aniseed
Number of pre-feeds (if any)	2
Toxic bait-number fills	1
Describe pattern of bait stations	Grid
Bait station spacing	30-40 metres
Bait station type	Possum pots
Other details about this method	Possum pots set on No. 8 wire when needed.

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PREFEED	TREATMENT AREA	BLOCK NAME	SOWING	HECTARES	RATE	BAIT
	Port Jackson	Moehau Possum	Prefeed	197 hec	Large handful of prefeed lure	Icing sugar and flour with aniseed lure
						60 kg icing sugar and flour with 1 litre aniseed lure.
			TOTAL	197		
TOXIC	TREATMENT AREA	BLOCK NAME	SOWING	HECTARES	RATE	BAIT
	Port Jackson	Moehau Possum	Toxic	197 hec	Handful prefeed lure	5-10 grams per pot
			TOTAL	197hec		1kg

Outcome and Result Monitoring

Outcome monitoring will be conducted post operation using the FBI plots in the Urarima; these results will be compared to the pre operation levels recorded in 2010/2011.

Residual Trap Catch method will be used to monitor pre and post levels of Possum abundance. The control area will be split into monitoring blocks based on past control.

SMI monitoring will occur across the 1500 hec Rat control area; these results will also be used to indicate the reduction in Rat abundance over the rest of the control area.

How?**CIMS Structure****Task list**

<i>Phase</i>	<i>Target Date</i>	<i>Task</i>	<i>Delegated to:</i>	<i>Task specification</i>	<i>Date Completed</i>
	21/12/2012	Possum monitoring	s 9(2)(g)(ii)		17/1/2013
<i>Pre-operational</i>	15/3/2013	MOH Consent- <i>Submit to MOH-</i>	s 9(2)(g)(ii)		
	15/3/2013	Landowner consents			
	29/3/13	Other Consents incl DOC approval	s 9(2)(g)(ii)		
	20/12/12	Bait ordered <milestone>	s 9(2)(g)(ii)		20/12/2012
	30/1/2013	Maintain Communication plan	s 9(2)(g)(ii)	See comms plan docdm-858584	<i>Iwi- Completed</i> 17/1/2013
	30/1/2013	Maintain Communication plan	s 9(2)(g)(ii)	See comms plan docdm-858584	<i>Adjoining landowners -complete</i> 1/2/2013
	28/2/2013	Maintain Communication plan	s 9(2)(g)(ii)	See comms plan docdm-858584	<i>Community -ongoing</i>
	12/4/2013	Notification tools incl sign production	s 9(2)(g)(ii)	See operation plan docdm-1111509	
8/3/2013	Pre-operational notification	s 9(2)(g)(ii)	See comms plan docdm-858584		

	12/4/2013	Pre-operational monitoring/Rat	§ 9(2)(g)(ii)	On File-Coro base	
	4/3/2013	Mapping & Boundaries	§ 9(2)(g)(ii)	G-Drive – Coro base	
	16/2/13	Tender documents	§ 9(2)(g)(ii)	Dm-1119260	
	29/3/13	Audit contractor safety plan	§ 9(2)(g)(ii)		
	25/3/2013-5/4/2013	Contractor visit	§ 9(2)(g)(ii)	See docdm-1143754	
	16/3/13	Contract finalised	§ 9(2)(g)(ii)	docdm-1111311	
	26/4/13	Staff Training	§ 9(2)(g)(ii)	See docdm-JAS for training needs analysis	
	12/4/2013	Loading site preparation	§ 9(2)(g)(ii)		
	12/4/13	Safety plans	§ 9(2)(g)(ii)		
	12/4/2013	Safety equipment organised	§ 9(2)(g)(ii)		
	12/4/2013	Safety briefing prepared	§ 9(2)(g)(ii)		
	12/4/2013	Field equipment organised	§ 9(2)(g)(ii)	See docdm-1143738	
	12/4/2013	Communication equipment	§ 9(2)(g)(ii)		
	29/4/2013-ongoing	Arrange weather forecasting	§ 9(2)(g)(ii)		
	15/4/2013	Check for pre-operational tasks in consent conditions	§ 9(2)(g)(ii)	See consents	
Operational	15/4/2013	Check for operational tasks in consent conditions	§ 9(2)(g)(ii)	See consents	

	<i>May/June</i>	24 hour notice	§ 9(2)(g)(ii)	See comms plan docdm-22869	
	<i>May/June</i>	Install signs	§ 9(2)(g)(ii)	See docdm-1143747	
	<i>May/June</i>	On-site briefing	§ 9(2)(g)(ii)		
	<i>May/June</i>	Boundary & Exclusion zone check	§ 9(2)(g)(ii)	See docdm-1143749	
	<i>May/June</i>	Safety Officer	§ 9(2)(g)(ii)		
	<i>May/June</i>	Flight line downloads	§ 9(2)(g)(ii)		
	<i>May/June</i>	Track clearing	§ 9(2)(g)(ii) Contractors	See docdm-1143751	
	<i>May/June</i>	Disposal	§ 9(2)(g)(ii)		
	<i>May/June</i>	Operation log	§ 9(2)(g)(ii)		
	<i>May/June</i>	Notes for report	§ 9(2)(g)(ii)		
	<i>May/June</i>	Security	§ 9(2)(g)(ii)		
	<i>May/June</i>	Enquiries	§ 9(2)(g)(ii)		
<i>Post-operational</i>	<i>May/June</i>	Check for post-operational tasks in consent conditions	§ 9(2)(g)(ii)	See consents	
	<i>May/September</i>	Sign maintenance & removal	§ 9(2)(g)(ii)	See comms plan docdm-22869	
	<i>May/September</i>	Bait & Carcass monitoring	§ 9(2)(g)(ii)	Task spec to come	

	<i>June/August</i>	Post operational monitoring	Contractor – Threats team	Refer monitoring plan docdm-XYZ	
	<i>August</i>	Post operational notification	§ 9(2)(g)(ii)	See comms plan docdm-22869	
	July-Oct 03	Debrief completed	§ 9(2)(g)(ii)		
	<i>March- June</i>	Police will be kept informed prior to the operation and will probably choose to have a presence based on a risk assessment that will be done after consultation. Police have had a presence at Hauraki DOCs 1080 operations in the last couple of years.	§ 9(2)(g)(ii)		

Deliverables

< Provide links to relevant documents >

- Tender documents - *docdm -1119260*
- Communication plan - *docdm-858584*
- AEE or DOC application – *AEE=docdm-1143701*
- Consents- *docdm-1143681*
- HSE plan
- Safety briefing
- Emergency Response Plan for transport
- Emergency Response Plan for storage
- Contracts- *docdm -1179841*
- Checklist of info required for operational report
- Warning sign register - *docdm -1143716*
- Safety briefing
- Costings spreadsheet

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