



EPA Report: Verified

Source: Pestlink

Operational Report for Norway rat, Possum, Ship rat Control in the Rotoehu Forest (including Pongakawa Ecological Area)

12 Sep 2020 - 17 Oct 2020

15/03/2021

Department of Conservation

Tauranga

Contents

1. Operation Summary

Operation Name	Norway rat, Possum, Ship rat Control in Rotoehu Forest (including Pongakawa Ecological Area)		
Operation Date	12 Sep 2020 - 17 Oct 2020		
District	Tauranga	Region:	Central North Island
Pestlink Reference	2021TAU03		
Treatment Area	Rotoehu Forest (including Pongakawa Ecological Area)	Size (ha)	2821.05

Conservation Unit Name(s)	GA Id(s)
Pongakawa Ecological Area	2793848
Rotoehu Forest	2793890

Treatment Block Details

Treatment Blocks	Size (ha)	Grid Ref	GIS Ref
Rotoehu Forest (including Pongakawa Ecological Area) Aerial	2821.05	BE38 11976 90076	

Contractor Name Epro

Treatment Dates	Start	Completion
Rotoehu Forest (including Pongakawa Ecological Area) Aerial	09 Oct 2020	16 Oct 2020

Target Pest Details

Treatment Blocks	Target Pests	Control Method	Name
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Rotoehu Forest (including Pongakawa Ecological Area)	Norway rat, Possum, Ship rat	Pesticide Aerial	Pesticide - Aerial in Rotoehu Forest (including Pongakawa Ecological Area) Aerial-(2)
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Conservation Outcome(s)

A large area of native forest receives animal pest control to protect the resident kokako population, allowing population growth and connectivity between remnants of the fragmented kokako population.

Result Target(s)	Treatment Area/Block	What we got
<ul style="list-style-type: none"> RTC of less than 2% by November 1st 2020 	Rotoehu Forest (including Pongakawa Ecological Area)	0.42%
<ul style="list-style-type: none"> Less than 2% tracking for rats by November 1st 2020 	Rotoehu Forest (including Pongakawa Ecological Area)	0%

Outcome Targets

- The number of breeding pairs of kokako in the Rotoehu Forest increases to 200 by 2025.

What we got

2. Introduction

2.1 TREATMENT AREA

Non-target species

Common Name	Scientific Name
dama wallaby	Macropus eugenii eugenii
Red deer	Cervus elaphus scoticus
Pig	Sus scrofa
cat	Felis catus
Mouse	Mus musculus
Stoat	Mustela erminea
Ferret	Mustela furo
Weasel	Mustela nivalis vulgaris
Rabbit	Oryctolagus cuniculus cuniculus

Target benefit species

Common Name	Scientific Name
bellbird	Anthornis melanura
pigeonwood	Hedycarya arborea
North Island fantail	Rhipidura fuliginosa placabilis
grey warbler	Gerygone igata

morepork	<i>Ninox novaeseelandiae</i>
shining cuckoo	<i>Chrysococcyx lucidus lucidus</i>
silveryeye	<i>Zosterops lateralis</i>
New Zealand Kingfisher	<i>Halcyon sancta</i>
-	<i>Prothemadera novaeseelandiae</i>
whitehead	<i>Mohoua albicilla</i>
North Island robin	<i>Petroica longipes</i>
North Island rifleman	<i>Acanthisitta chloris granti</i>
tomtit	<i>Petroica macrocephala</i>
Australasian harrier	<i>Circus approximans</i>

Threatened species

Common Name	Scientific Name
North Island kokako	<i>Callaeas wilsoni</i>
bush falcon	<i>Falco novaeseelandiae</i> "bush"
short-tailed bat	<i>Mystacina tuberculata</i>
long-tailed bat	<i>Chalinolobus tuberculatus</i>
	DON'T USE
North Island kākā	<i>Nestor meridionalis</i> <i>septentrionalis</i>

Geographical location

The Rotoehu Forest (including Pongakawa Ecological Area) is situated 16 km NW of Paengaroa.

TREATMENT BLOCK DETAILS:

Treatment block	Rotoehu Forest (including Pongakawa Ecological Area) Aerial	
Vegetation type	Predominantly a rata/tawa-kohekohe-kamahahi forest association with smaller areas of rewarewa-kamahahi and rata/tawa-pukatea forest cover associations	
Bioclimatic zone	semi-coastal	
Climate characteristics:		
Rainfall	1500 mm	
Temperature:	Average Summer	17.2
	Average Winter	8.1
Snow level	0 m	
Altitude	200-355m m	

There are no official walking tracks in the area although there are numerous old logging trails throughout the block. Some of the old logging are used by 4-wheel drive groups. Deer and pig hunting is allowed and the area is popular for game bird shooting, i.e. pheasants.

Community and Iwi interests There are no leases within the forest. plantation forests surrounding most of Rotoehu Forest as the major adjacent land use. These forests are currently managed by Timberlands Limited and PF Olsen Ltd for Ngati Mankino's Te Kohanga block. Ngati Markino are supportive of this operation. There is a community group, Rotoehu Ecological Trust who work in the area, and are support/involved with the operation.

Historic sites	Nil
Treatment block	Rotoehu Forest (including Pongakawa Ecological Area) Ground Control
Vegetation type	Predominantly a rata-tawa-kohekohe-kamaha forest association with smaller areas of rewarewa-kamaha and rata/tawa-pukatea forest cover associations
Bioclimatic zone	semi-coastal
Climate characteristics:	
Rainfall	1500 mm
Temperature:	Average Summer 17.2 Average Winter 8.1
Snow level	0 m
Altitude	200-355 m
Community and Iwi interests	There are no huts or official walking tracks in the area although there are numerous old logging trails through the block. Some of the old logging tracks are used by 4-wheel drive groups. Deer and pig hunting is allowed and the area is popular for game bird shooting, ie.. pheasants. There are no leases within the forest. Plantation forests surround most of Rotoehu Forest as the major adjacent land use. These old forests are currently managed by Timberlands Limited and PF Olsen Ltd for Ngati Makin's Te Kohanga block. Ngati Makino are supportive of the operation. There is a community group, Rotoehu Ecological Trust who work in the area, and are support/involved with the operation.
Historic sites	Nil.

2.2 MANAGEMENT HISTORY

Management history was not chosen to be shown in this operational report. This history is, however, available via Pestlink

3 Outcomes and Targets

3.1 CONSERVATION OUTCOMES

A large area of native forest receive animal pest control to protect the resident kokako population, allowing population growth and connectivity between remnants of the fragmented kokako population.

3.2 TARGETS

3.2.1 Result Targets

The result targets for the treatment area were:

- RTC of less than 2% by November 1st 2020
- Less than 2% tracking for rats by November 1st 2020

3.2.2 Outcome Targets

The outcome targets for the treatment area were:

- The number of breeding pairs of kokako in the Rotoehu Forest increases to 200 by 2025.

4 Consultation, Consents & Notifications

4.1 CONSULTATION

See DOC-6292078

Consultation outcomes

Iwi, neighbouring landowners and effected parties were all notified - minimal negative feedback received for operation

Lessons learned

Leave ample time for notification - consult deer stalkers early if possible, attended meeting at start of op

4.2 CONSENTS

Consent	Consent date	File Reference	Permission ID
DOC Permission	07/10/2020	DOC-6474014	6443544
Makino Landowner Permission Form	17/09/2020	DOC-6438506	
Rotoehu Aerial - Timberlands - Landowner Permission	15/09/2020	DOC-6438507	
Rotoehu PHP Permission	01/10/2020	DOC-6455470	20-013-CEN-RotP

Lessons learned

Leave ample time for notification as additional people will need notification as a result of the first round of notification.

4.3 NOTIFICATION

DOC-6292078

Lessons learned

Leave ample time for notification as additional people will need notification as a result of the first round of notification.

5 Methods

5.1 TARGET SPECIES

Treatment Block			
Rotoehu Forest (including Pongakawa Ecological Area) Aerial			
Control method	Name	Target pest species	
Pesticide - Aerial	Pesticide - Aerial in Rotoehu Forest (including Pongakawa Ecological Area) Aerial-(2)	Possum Norway rat Ship rat	
Treatment Block	Control Method	Name	Target Pest Species
Rotoehu Forest (including Pongakawa Ecological Area) Aerial	Pesticide - Aerial	Pesticide - Aerial in Rotoehu Forest (including Pongakawa Ecological Area) Aerial-(2)	Possum Norway rat Ship rat
Trade name of pesticide			0.15% 1080 Pellets RS5 Orillion
Name of pesticide			Sodium fluoroacetate
Type of bait			Cereal pellet
Toxic loading			1.5 g/kg
Bait quality sampling			Not Conducted
Bait Details			
	Pre-feed	Toxic	
Bait type	Cereal pellet	Cereal pellet	
Lure/ mask/ deterrent	Cinnamon	Cinnamon	
Lure/ mask/ deterrent	0.30%	0.30%	
Dye	None	Green	
Individual Bait Weight	6.0g	6.0g	
Sowing Rate Details			
Pre-feed			
Date	Rate(kg/ha)	Wind Speed	Direction
09/10/2020	1.53	Light	SW
Toxic			
Date	Rate(kg/ha)	Wind Speed	Direction
16/10/2020	2.31	Light	SW

Time between pre-feed and toxic 7
End of Caution Period Date 16/04/2021
Aircraft type Squirrel AS 350
Number of Aircraft 1
Sowing gear details
Description Bucket with retractable legs, swath width 120m for
prefeed and toxic. **Capacity** 1000 kg
Type of navigational guidance system used TracMap: Flight 3

Loading Method Hiab Truck - loading directly into the bucket with 300kg bags

Complaints and Incidents

Nil

Other Details about this method

GPS lines checked on the site after boundary flight and downloaded at each re-fuelling to verify swath and accuracy of sowing rate.

Deviations from planned operation

Nil

Lessons Learned

Nil

5.2 ENVIRONMENTAL EFFECTS

5.2.1 Effects on Non-Target Species

No non target native species deaths have been reported.

Performance standard(s)	Followed ?	Monitored ?
As per DOC P/S #1 for Aerial Ops	Yes	No

Effectiveness of performance standards

Performance standard #6, the baits must be dyed green or blue, appears to be effective in protecting on-target species.

Bykill of non-target species

No by kill of non-target species was identified in this operation.

5.2.2 Effects on Soil and Water Quality

No bottled water was supplied - no iwi or landowners requested bottled water.

Performance standard(s)	Followed ?	Monitored ?
Landcare Research Protocol for sampling and testing water for 1080	Yes	Yes

Effectiveness of performance standards

Water samples were taken on the 16/10/20 directly after the drop. Both samples came back clear.

5.2.3 Effects on Ecosystems

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Effects on Ecosystems Not Applicable

5.2.4 Effects on Human Health

Warning signs at all public entry points met SOP Standards and MOH requirements. Clearing of road and 4WD tracks for public safety as per MOH condition 16.

Performance standard(s)	Followed ?	Monitored ?
DOC SOP and MOH Standards 19 & 20	Yes	Yes
MOH Standard 16	Yes	Yes

Effectiveness of performance standards

All warning signs were made to the required standard. Warning signs have not been vandalised to date, a log is being kept of all checks, replacement signs are available if needed. All required roads were cleared of baits on the day of the operation, gloves and masked were used during road/ track clearing.

6 Monitoring Results and Outcomes

6.1 RESULT MONITORING - TARGET SPECIES

Result target(s)

RTC of less than 2% by November 1st 2020

Less than 2% tracking for rats by November 1st 2020

6.1.1 Target Species

Monitoring Method:

Species monitored

Residual trap-catch index (RTCI)

Possum - *Trichosurus vulpecula* in Rotoehu Forest (including Pongakawa Ecological Area)

Monitor method details

For this operation 16 lines of 10 leg hold traps will be randomly spaces in accordance with the NPCA A1 Possum population protocol published in November 2015

Deviations

N/A

Target pest result details

	Pre	During/Post
Monitoring dates	19/09/2020	12/11/2020
Results	3.66%	0.42%
Result target met?	Yes	

Lessons Learned

N/A

6.1.2 Target Species

Monitoring Method:

Species monitored

Tracking tunnels

Norway rat - *Rattus norvegicus* , Ship rat - *Rattus rattus* in Rotoehu Forest (including Pongakawa Ecological Area)

Monitor method details

For this operation 21 lines of 10 tracking tunnels will be installed at random places and directions in accordance with DOC best-practice and advise from the technical support team.

Deviations

For this operation, the recommended number of lines were randomly selected and mapped (30 lines). Due to capacity, it is not possible for us to run the full 30 lines. Based on advice from the technical support team 21 of the 30 lines were selected randomly by generating a random number in excel.

Target pest result details

	Pre	During/Post
Monitoring dates	25/09/2020	26/11/2020
Results	74%	0%
Result target met?	Yes	

Lessons Learned

N/A

6.2 RESULT MONITORING - ENVIRONMENTAL EFFECTS

6.2.1 Non Target Species

No monitoring of non target species was undertaken.

6.2.2 Soil and Water Quality

Monitoring of: Water samples were taken from the Whakahaupapa stream

Monitor Method details

The following protocol was used and followed:
<https://www.landcareresearch.co.nz/resources/laboratories/toxicology-lab/raotry/services/advice-and-protocol-for-sampling-and-testing-water-for-1080>

Deviations

Nil

Monitoring dates 16/10/2020

Results Both water samples came back clear of 1080

Lessons Learned

Easy process to complete to give landowners piece of mind around the effects of 1080 in waterways.

6.2.3 Ecosystems

No monitoring of ecosystems was undertaken.

6.2.4 Human Health

Monitoring of: **Public Warning Signs. Road and tracks in the operation area.**

Monitor Method details

All warning signs are checked regularly and are always checked before public holidays. Roads and tracks were cleared of all baits immediately after the aerial operation.

Deviations

Nil.

Monitoring dates

Signs: ongoing. Roads: completed 16 Oct 2020

Results

To date no signs have been vandalised. All roads were cleared of baits, with no feedback from the public that bait had been missed.

Lessons Learned

Warning signs: Nil. Road clearing: MOH have given feedback to ensure all roads to be cleared are specified in the MOH application. good to do a recce before road clearing due to logging and understand how long it will take to clear roads. Epro on stand by as back up if needed to help clear roads.

6.3 OUTCOME MONITORING**Outcome targets**

The number of breeding pairs of kokako in the Rotoehu Forest increases to 200 by 2025.

No monitoring of outcomes was undertaken