

Operational Report for Norway rat, Ship rat Control in the Poulter Valley - Arthurs Pass National Park

11 Feb 2015 - 17 Feb 2015

19/06/2015

Department of Conservation

Rangiroa

Contents

1. Operation Summary.....	2
2. Introduction.....	3
2.1 TREATMENT AREA.....	3
2.2 MANAGEMENT HISTORY.....	4
3 Outcomes and Targets	4
3.1 CONSERVATION OUTCOMES.....	4
3.2 TARGETS.....	4
3.2.1 Result Targets.....	4
3.2.2 Outcome Targets	4
4 Consultation, Consents & Notifications	4
4.1 CONSULTATION.....	5
4.2 CONSENTS.....	5
4.3 NOTIFICATION.....	5
5 Methods.....	6
5.1 TARGET SPECIES.....	6
5.2 ENVIRONMENTAL EFFECTS.....	8
5.2.1 Effects on Non-Target Species.....	8
5.2.2 Effects on Soil and Water Quality	8
5.2.3 Effects on Ecosystems	8
5.2.4 Effects on Human Health.....	8
6 Monitoring Results and Outcomes.....	8
6.1 RESULT MONITORING - TARGET SPECIES	8
6.2 RESULT MONITORING - ENVIRONMENTAL EFFECTS.....	9
6.3 OUTCOME MONITORING.....	10

1. Operation Summary

Operation Name Norway rat, Ship rat Control in Poulter Valley - Arthurs Pass National Park

Operation Date 11 Feb 2015 - 17 Feb 2015

Office: Rangiora

Region: Eastern and Southern South Island

Pestlink Reference

1314WMK05

Treatment Area

Size (ha)

Poulter Valley - Arthurs Pass National Park 4480.00

Conservation Unit Name(s)	GA Id(s)
Arthur's Pass National Park	2806320

Treatment Block Details

Treatment Blocks	Size (ha)
Arthurs Pass National Park	4480.00

Contractor Name

Andersons and WayToGo helicopters.

Treatment Dates	Start	Completion
Arthurs Pass National Park	11 Feb 2015	17 Feb 2015

Target Pest Details

Treatment Blocks	Target Pests	Control Method	Name
Arthurs Pass National Park	Norway rat, Ship rat	Pesticide Aerial	Pesticide - Aerial in Arthurs Pass National Park -(1)

Conservation Outcome(s)

1. To ensure the perpetuation of Orange-fronted parakeet throughout their present range. 2. To reduce the Department of Conservation species ranking of OFP from Nationally Critical. Source: 'Orange-fronted parakeet (Cyanoramphus malherbi) recovery plan 1995 - 2005' (Grant and Kearvell, 2001).

Result Target(s)

Treatment Area/Block

What we got

- Rat populations will be reduced to below the threshold density that allows Orange-fronted parakeet populations to recover. For the time being this threshold is Poulter Valley - Arthurs Pass National Park 0%

estimated to
equate to 5%
rodent tracking.

Outcome Targets

- A viable breeding Orange-fronted parakeet population will still be present in the Hawdon & Poulter Valleys at the conclusion of the 2014 / 2015 breeding season. Orange-fronted parakeet encounter rates in the Poulter will not decline.

What we got

Encounter rate has not declined significantly since last season despite the massive beech mast and consequent influx of mice, rats and stoats.

2. Introduction

2.1 TREATMENT AREA

Non-target species

Common Name

Red deer

Pig

Chamois

Scientific Name

Cervus elaphus scoticus

Sus scrofa

Rupicapra rupicapra

Target benefit species

Common Name

Malherb's parakeet, kakariki,
kakariki, kakariki karaka,
kakariki karaka, orangefronted
parakeet, or

Scientific Name

Cyanoramphus malherbi

Threatened species

Common Name

Kea

South Island Kaka, bush
parrot, brown parrot, kawkaw

Blue duck, Whio, mountain
duck, blue mountain duck

mistletoe

Great spotted kiwi, roa, roroa

Mohua, Yellowhead, bush
canary, mohoua, houa

Scientific Name

Nestor notabilis

Nestor meridionalis
meridionalis

Hymenolaimus
malacorhynchus

Loranthus spp.

Apteryx haastii

Mohoua ochrocephala

Geographical location

The Poulter Valley - Arthurs Pass National Park is situated 15 k km West of Arthur's Pass.

TREATMENT BLOCK DETAILS:

Treatment block	Arthurs Pass National Park		
Vegetation type	Beech Forest and Alpine / subalpine shrublands.		
Bioclimatic zone	sub-alpine		
Climate characteristics:			
Rainfall	4500 mm		
Temperature:	Average Summer	18.0	
	Average Winter	8.0	
Snow level	1200 m		
Altitude	600 to 1800 m		
Community and Iwi interests	All at risk bird species are of interest to various communities and Iwi.		
Historic sites	-		

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

1. To ensure the perpetuation of Orange-fronted parakeet throughout their present range.
2. To reduce the Department of Conservation species ranking of OFP from Nationally Critical. Source: 'Orange-fronted parakeet (*Cyanoramphus malherbi*) recovery plan 1995 – 2005' (Grant and Kearvell, 2001).

3.2 TARGETS

3.2.1 Result Targets

The result targets for the treatment area were:

- Rat populations will be reduced to below the threshold density that allows Orange-fronted parakeet populations to recover. For the time being this threshold is estimated to equate to 5% rodent tracking.

3.2.2 Outcome Targets

The outcome targets for the treatment area were:

- A viable breeding Orange-fronted parakeet population will still be present in the Hawdon & Poulter Valleys at the conclusion of the 2014 / 2015 breeding season. Orange-fronted parakeet encounter rates in the Poulter will not decline.

4 Consultation, Consents & Notifications

4.1 CONSULTATION

Twenty eight identified parties were consulted about the proposed activity prior to the original resource consent being sought in 2006. These parties included the local runanga, adjoining landowners/managers, recreational user groups, concessionaires, NGO's and conservation interest groups.

Prior to each of the four occasions (2006, 2008, 2009 and 2012) that the resource consent needed to be exercised, proposed operations were publicly notified (note - current consent is for 2011-2016). Based on the responses from the original 2006 consultation and the subsequent public notices, all parties that had previously expressed an interest were contacted in respect of the current consent application between April 2014 and February 2015.

The proposal was discussed with the Canterbury Aoraki Conservation Board at one of their meetings. All other parties received details, and an invitation to meet or respond, by post or email.

A detailed record of all the consultation undertaken with these parties written correspondence sent and received was maintained.

The Runanga were sent an initial email outlining the application and inviting further discussion. They subsequently replied advised that they have no objection to a new resource consent being granted, provided existing consent conditions remained.

The adjoining land manager/occupier Mt White Station was contacted by phone and sent a follow up e-mail on 05/10/2012 outlining the proposed application and seeking written affected persons approval. In a follow-up phone conversation confirmed there was no objection.

Consultation outcomes

Confirmed the boundaries of areas where the operation could be undertaken.

Lessons learned

Nil

4.2 CONSENTS

Consent	Consent date	File Reference	Permission ID
Resource Consent	26/05/2014	NHT 02 04 04	CRC 146296
MOH consent	08/01/2015	NHT 02 04 04	14-31-CHRPB-BW
DOC permission	10/02/2015	NHT02 04 04	1537913

Lessons learned

Nil

4.3 NOTIFICATION

All appropriate user groups, adjoining owners and effected parties were notified. For 24 hour notice adjoining landowners, medical facilities, regional council, police, Iwi and neighbouring DOC offices were notified on 15/02/2015. It was also publicly notified in the Christchurch Press, North Canterbury News and Greymouth Evening Star on 17/01/2015.

Lessons learned

NIL

5 Methods

5.1 TARGET SPECIES

Treatment Block Arthurs Pass National Park

Control method	Name	Target pest species
Pesticide - Aerial	Pesticide - Aerial in Arthurs Pass National Park -(1)	Norway rat Ship rat

Treatment Block	Control Method	Name	Target Pest Species
Arthurs Pass National Park	Pesticide - Aerial	Pesticide - Aerial in Arthurs Pass National Park -(1)	Norway rat Ship rat

Trade name of pesticide	0.15% 1080 Pellets RS5
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
11/02/2015	1.50	Light	NW

Toxic			
Date	Rate(kg/ha)	Wind Speed	Direction
17/02/2015	1.50	Light	West

Time between pre-feed and toxic	6 days
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End of Caution Period Date 17/11/2015
Aircraft type Squirrel AS 350
Jet Ranger

Number of Aircraft 3

Sowing gear details

Description	Capacity
Purpose built sowing bucket. No retractable legs.	750 kg

Type of navigational guidance system used DGPS

Loading Method Hiab and hand loaded into dummy hopper then into heli bucket. Helicopters were disconnected from buckets at each loading to avoid dust issues.

Complaints and Incidents

There were issues with bait procurement, storage, tracking and quality. - We somehow had 400 kg of 12 gram instead of 6 gram baits on our bait truck. This was only picked up from a check of the loading dockets and most of that bait was already on the hill. The remainder which was already in a dummy bucket was eventually spread as well. This was reported to both MOH and DOC because of possible breach of consent conditions. - This did also highlight some discrepancies in the bait tracking process. - On inspection in a loading bucket some baits appeared both clumped and crumbly. Some baits had come from other operations and may have been shrink wrapped in storage for a long time and sweated. - This prompted a ground check of an already treated area to see if there were bait issues on the ground from baits possibly disintegrating. The baits in the area checked were OK although many had already been chewed by mice only 2 to 3 hours after sowing. - 5 or 6 very sick mice were found. - There were a large number of bees at the loading site that were very keen on the cinnamon smell from the baits. 1 or 2 staff were stung. This was along day for the pilots and other staff. A standby machine for odd jobs such as bait and sign checks would have eased the workload.

Other Details about this method

The 2 helicopter companies were using their own loaders and staff which was somewhat inefficient. On site portaloos both inside and outside of the toxic zone would be good so loading staff inside the toxic zone would not have to strip off and decontaminate when needing to go to the loo.

Deviations from planned operation

As above - Variations in bait size and quality. - Some bait had come from other operations.

Lessons Learned

Order and supply of bait should be as close as possible to when it is to be used to avoid storage / sweating issues. More rigorous bait tracking and quality control is required for future operations. - Make sure there are no beehives anywhere near your loading site. Have some antihistamines in the first aid kit. - Allow for a standby helicopter to assist for backup, other helicopter tasks and manage fatigue / lunch breaks for the main pilots. Having the loading site split by a public road is not ideal.

The toxic loading zone was on one side of the Mt White road and the command unit on the other. This is a remote, dead end gravel road but still has quite a bit of traffic with 20 to 30 vehicle movements during the course of the day. - Look at other handy alternative loading site options for the next operation.

5.2 ENVIRONMENTAL EFFECTS

5.2.1 Effects on Non-Target Species

Potential for by kill of both introduced pest and native species.

Effects on Non-Target Species- Not Applicable

5.2.2 Effects on Soil and Water Quality

Possible pollution of waterways

Effects on Soil and Water Quality- Not Applicable

5.2.3 Effects on Ecosystems

Potential for adverse ecosystem effects.

Effects on Ecosystems -Not Applicable

5.2.4 Effects on Human Health

There is always potential for humans to ingest toxins. The risk to public health during this operation particular is considered very low, due to the low public use of the operational area

Performance standard(s)	Followed	Monitored
	?	?
DOC and MOH standards including signage advertising and notifications	Yes	Yes

Effectiveness of performance standards

Effective

6 Monitoring Results and Outcomes

6.1 RESULT MONITORING - TARGET SPECIES

Result target(s)

Rat populations will be reduced to below the threshold density that allows Orange-fronted parakeet populations to recover. For the time being this threshold is estimated to equate to 5% rodent tracking.

6.1.1 Target Species Monitoring Tracking tunnels

Method:

Species monitored

Ship rat - *Rattus rattus* in Poulter Valley - Arthurs Pass National Park

Monitor method details

Standard tracking tunnel protocol for rodents. Tunnels run both pre and post operation (see docdm-610567)

Deviations

Some of the tracking tunnel lines run across the borders of buffer areas such as river flats. Because not all of some lines were subject to 1080 treatment the results data could have been skewed i.e. rats (potentially) not killed in those buffer zones.

Target pest result details

	Pre	During/Post
Monitoring dates	29/11/2014	10/03/2015
Results	9%	0%

Result target met? Yes

Lessons Learned

Place all tracking tunnel lines at a reasonable distance from potential buffer zones or conversely exclude those lines or part lines from any subsequent results data.

6.2 RESULT MONITORING - ENVIRONMENTAL EFFECTS

6.2.1 Non Target Species

Monitoring of: Non Target species mortality

Monitor Method details

Observations by staff when in the area monitoring predators and parakeet and bait spread on the day of toxic drop.

Deviations

Nil

Monitoring dates 17/02/2015

Results 5 or 6 very sick mice were observed only 2 or 3 hours after 1080 was dropped.

Lessons Learned

Mice like 1080. Make sure that high mice numbers are allowed for when planning 1080 operations.

6.2.2 Soil and Water Quality

Monitoring of: Water quality

Monitor Method details

Ensure no baits are sown over or near waterways greater than 5 metres wide. Ground truth and exclude critical areas from the operational area. - GPS track and check all bait spread.

Deviations

N/A.

Monitoring dates 17/02/2015

Results No issues.

Lessons Learned

N/A.

6.2.3 Ecosystems

No monitoring of ecosystems was undertaken.

6.2.4 Human Health

Monitoring of: Warning signs, Bait spread in critical areas as per DOC and MOH requirements.

Monitor Method details

Regular scheduled checks of all warning signage. Ground truth to exclude all huts and waterways over 5 metres.

Deviations

Nil

Monitoring dates Various. - mandatory before school and public holidays (see sign register)

Results No issues reported. No signs missing or damaged. No baits in waterways or near huts.

Lessons Learned

Sign checking of remote signs by helicopter is expensive and arguably unnecessary in areas that are seldom visited by the public. Make sure that MOH is aware of operational issues and logistics of checking remote signs and advocate for some latitude.

6.3 OUTCOME MONITORING

Outcome targets

A viable breeding Orange-fronted parakeet population will still be present in the Hawdon & Poulter Valleys at the conclusion of the 2014 / 2015 breeding season. Orange-fronted parakeet encounter rates in the Poulter will not decline.

6.3.1 Outcome monitoring : Malherb's parakeet, kakariki, kakariki, kakariki karaka, kakariki karaka, orangefronted parakeet, or - Cyanoramphus malherbi

Monitoring Method(s) Encounter rate

Monitoring information due date Ongoing

Monitoring contact name DOC, Rangiora

Method details Encounter rate

Monitoring dates Various

Outcome Results

Encounter rate has not declined significantly since last season despite the massive beech mast and consequent influx of mice, rats and stoats.

Outcome target met? Monitoring ongoing

Lessons Learned

These birds are notoriously hard to monitor when they are at low density in high canopy beech forest.