



Operational Report for Possum, Ship rat Control in the Hawdon Valley Aerial 1080 - Arthurs Pass National Park

03 Sep 2009 - 08 Sep 2009

5/03/2010

Department of Conservation
Waimakariri

Contents

1. Operation Summary	2
2. Introduction.....	3
2.1 TREATMENT AREA	3
2.2 MANAGEMENT HISTORY.....	4
3 Outcomes and Targets	5
3.1 CONSERVATION OUTCOMES.....	5
3.2 TARGETS	5
3.2.1 Result Targets	5
3.2.2 Outcome Targets	5
4 Consultation, Consents & Notifications	5
4.1 CONSULTATION.....	5
4.2 CONSENTS	6
4.3 NOTIFICATION	6
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	9

1. Operation Summary

Operation Name Possum, Ship rat Control in Hawdon Valley Aerial 1080 - Arthurs Pass National Park

Operation Date 03 Sep 2009 - 08 Sep 2009

Area Office Waimakariri **Conservancy:** Canterbury

Pestlink Reference 0910WMK01

Treatment Area **Size (ha)**

Hawdon Valley Aerial 1080 - Arthurs Pass National Park 3500.00

Conservation Unit Name(s)	Conservation Unit Number(s)
Arthurs Pass National Park	K33005

Treatment Block Details

Treatment Blocks	Size (ha)		
Hawdon Valley	3500.00		

Contractor Name Mount Hutt Helicopters Ltd

Treatment Dates	Start	Completion
Hawdon Valley	03 Sep 2009	08 Sep 2009

Target Pest Details

Treatment Blocks	Target Pests	Control Method	Name
Hawdon Valley		Pesticide Aerial	Pesticide - Aerial in Hawdon Valley-(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 Hawdon Valley Aerial 1080 - Arthurs Pass National Park 1.5%, 0%, 0%

time being this threshold is estimated to equate to 5% rodent tracking during the height of the OFP breeding season (November-March).

Outcome Targets

- A viable breeding Orange-fronted parakeet population will still be present in the Hawdon Valley at the conclusion of the 2009/10 breeding season. Orange-fronted parakeet encounter rates in the Hawdon Valley (from standardised monitoring lines) will not reduce from 2008/09 to 2009/10.

What we got

OFP encounter rate in November 2009 was 0.38 birds per hour, compared with 0.21 birds per hour in the same survey in 2008.

2. Introduction

2.1 TREATMENT AREA

Non-target species

Common Name	Scientific Name
Tomtit	<i>Petroica macrocephala</i>
South Island Fantail	<i>Rhipidura fuliginosa fuliginosa</i>
South Island Robin	<i>Petroica australis australis</i>
Morepork	<i>Ninox novaeseelandiae</i> subsp. <i>novaeseelandiae</i>
Australasian Harrier	<i>Circus approximans</i>

Target benefit species

Common Name	Scientific Name
Orange-fronted Parakeet	<i>Cyanoramphus malherbi</i>
Yellowhead	<i>Mohoua ochrocephala</i>

Threatened species

Common Name	Scientific Name
Yellow-crowned Parakeet	<i>Cyanoramphus auriceps</i>
Great spotted kiwi	<i>Apteryx haastii</i>

Kea	<i>Nestor notabilis</i>
South Island Kaka	<i>Nestor meridionalis meridionalis</i>
New Zealand falcon	<i>Falco novaeseelandiae</i>
Long-tailed Cuckoo	<i>Eudynamys taitensis</i>

Geographical location

The Hawdon Valley Aerial 1080 - Arthurs Pass National Park is situated 15 km West of Arthurs Pass.

TREATMENT BLOCK DETAILS:

Treatment block	Hawdon Valley	
Vegetation type	Valley sides are covered in mixed beech forest, predominantly red <i>Nothofagus fusca</i> and mountain beech <i>N. solandri</i> var. <i>cliffortioides</i> , with occasional stands of silver beech <i>N. menziesii</i> . The understorey is generally open, but is thick and diverse in places, particularly on slopes where patches of regenerating beech are interspersed with bush lawyer <i>Rubus</i> sp. and shrubs such as <i>Myrsine divericata</i> , broadleaf <i>Griselinia littoralis</i> , <i>Coprosma</i> and <i>Pseudopanax</i> species. Extensive subalpine shrublands, snow tussockland, alpine herbfields and scree slopes are present above the bushline. The valley floor is frost prone and mostly unforested being dominated by grasses, sedges and tussocks with matagouri shrubland and scattered <i>Hebe</i> sp. Wetlands, including spring fed seeps and streams, swamps provide habitat for a variety of wetland plant species.	
Bioclimatic zone	alpine sub-alpine montane	
Climate characteristics:		
Rainfall	4000 mm	
Temperature:	Average Summer	15.0
	Average Winter	5.0
Snow level	1300 m	
Altitude	600-1350 m	
Community and Iwi interests	Popular for summer tramping and camping. Tramping hut near the head of the valley and two school lodges just outside the treatment area at the lower end of the valley.	
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

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 during the height of the OFP breeding season (November-March).

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 Valley at the conclusion of the 2009/10 breeding season. Orange-fronted parakeet encounter rates in the Hawdon Valley (from standardised monitoring lines) will not reduce from 2008/09 to 2009/10.

4 Consultation, Consents & Notifications

4.1 CONSULTATION

The Department holds a five year resource consent (ref: CRC070034) for this operation. Full consultation was undertaken prior to applying for this consent (in 2006) and details of the consultation are contained in Section 4.3 of the attached AEE. The AEE and the 2006 consultation made it clear to potentially affected parties that bait sowing may have to be repeated at various intervals within the consent period (15/08/2006 to 15/11/2011) and the resource consent provides for this.

For this particular operation consultation on effects has been repeated with the adjoining land manager, iwi, the Canterbury Aoraki Conservation Board, hunting advocates and the schools with lodges adjoining the operational area in August and September 2009.

Consultation outcomes

Ngai Tahu requested that one of their iwi be involved in non-target (kea) monitoring. An adjoining neighbour queried the land status to the loading site. NZDA asked questions

about strip and spot baiting techniques.

Lessons learned

Nil

4.2 CONSENTS

Consent	Consent date	File Reference	Permission ID
Resource Consent	15/08/2006	CRC070034	CRC070034
MOH Consent	24/08/2009	2009VTA-360	2009VTA-360
DOC Consent	31/08/2009	DOCDM-468827	DOCDM-468827

Lessons learned

Nil

4.3 NOTIFICATION

7/08/09 – Conservation interest groups, recreation, Fish & Game, Community information and Concessionaires sent Key Facts pack.

24hr notice – Landowner adjoining, Medical, Local government, Police and Iwi.

Public notice in Greymouth Evening Star 8/08/09 and Christchurch Press 12/08/09

Lessons learned

Nil

5 Methods

5.1 TARGET SPECIES

Treatment Block Hawdon Valley

Control method	Name	Target pest species
Pesticide - Aerial	Pesticide - Aerial in Hawdon Valley-(1)	Possum Ship rat

Treatment Block	Control Method	Name	Target Pest Species
Hawdon Valley	Pesticide - Aerial	Pesticide - Aerial in Hawdon Valley-(1)	Possum Ship rat
Trade name of pesticide	0.15% 1080 Pellets		
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			Toxic		
Date	Rate(kg/ha)	Wind Speed Direction	Date	Rate(kg/ha)	Wind Speed Direction
03/09/2009	1.00	Moderate SE	08/09/2009	2.00	Light West

Time between pre-feed and toxic 5
End of Caution Period Date 08/03/2010
Aircraft type Hughes 500NT
Number of Aircraft 1

Sowing gear details

Description	Capacity
Retractable legged bucket, asymmetrical cone, triple pronged agitator, Honda 4 stroke - belt drive spinner, 110 metre effective swath.	450 kg

Type of navigational guidance system used Satloc M3 DGPS
Loading Method Pivot steer loader with remotely activated hopper.

Complaints and Incidents

Nil

Other Details about this method

Nil

Deviations from planned operation

Nil

Lessons Learned

Nil

5.2 ENVIRONMENTAL EFFECTS

5.2.1 Effects on Non-Target Species

Kea mortality. Great spotted kiwi mortality.

Performance standard(s)	Followed ?	Monitored ?

5.2.2 Effects on Soil and Water Quality

Bait discharge over waterways.

Performance standard(s)	Followed ?	Monitored ?

5.2.3 Effects on Ecosystems

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Effects on Ecosystems Not Applicable

5.2.4 Effects on Human Health

Bait application in drinking water catchment.

Performance standard(s)	Followed ?	Monitored ?

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 during the height of the OFP breeding season (November-March).

6.1.1 Target Species Monitoring Tracking tunnels

Method:

Species monitored Ship rat - *Rattus rattus* in Hawdon Valley Aerial
1080 - Arthurs Pass National Park

Monitor method details

20 lines of 10 tracking tunnels throughout treatment area, monitored 4 times in the six months following bait application.

Deviations

Nil

Target pest result details

	Pre	During/Post
Monitoring dates	2009 - Jan, Feb, Mar, Apr, May, Jun, Jul, Aug	Oct, Nov, Jan
Results	2%, 0.9%, 3.1%, 7.5%, 5.6%, 8.5%, 9.3%, 22.7%	1.5%, 0%, 0%

Result target met? Yes

Lessons Learned

Nil

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

No monitoring of soil and water quality was undertaken.

6.2.3 Ecosystems

No monitoring of ecosystems was undertaken.

6.2.4 Human Health

No monitoring of human health was undertaken.

6.3 OUTCOME MONITORING

Outcome targets

A viable breeding Orange-fronted parakeet population will still be present in the Hawdon Valley at the conclusion of the 2009/10 breeding season. Orange-fronted parakeet encounter rates in the Hawdon Valley (from standardised monitoring lines) will not reduce from 2008/09 to 2009/10.

6.3.1 Outcome monitoring : **Orange-fronted Parakeet - Cyanoramphus malherbi**

Monitoring Method(s) Encounter rate

Monitoring information due date 30/11/09

Method details Standardised encounter rate monitoring on 30 marked transects in Hawdon Valley.

Monitoring dates November 2009

Outcome Results

OFP encounter rate in November 2009 was 0.38 birds per hour, compared with 0.21 birds per hour in the same survey in 2008.

Outcome target met? Yes

Lessons Learned

Survey will be repeated in November 2010 to get fuller picture of how successful the whole 2009/10 breeding season was.

