CONSERVATION
TE PAPA ATAWHAI

CONSERVATION ADVISORY SCIENCE NOTES

No. 87

SURVIVAL OF KAKA FOLLOWING AERIAL POISONING WITH TALON ON WHATUPUKE ISLAND

(Short Answers in Conservation Science)

This report is published by Head Office, Department of Conservation, and presents the results of scientific services or advice purchased from a consultant outside the Department or provided by Departmental scientific staff. All enquiries should be addressed to the CAS Coordinator, S&R Division.

Department of Conservation, P 0 Box 10-420, Wellington, New Zealand

ISSN 1171-9834

Reference to material in this report should be cited thus:

Pierce, R. & Moorhouse, R., 1994.
Survival of Kaka following aerial poisoning with Talon on Whatupuke Island.
Conservation Advisory Science Notes No. 87, Department of Conservation,
Wellington. 5p.

Commissioned by: Northland Conservancy
Location: NZMS

SURVIVAL OF KAKA FOLLOWING AERIAL POISONING WITH TALON ON WHATUPUKE ISLAND

By R. Pierce[1] & R. Moorhouse[2]

[1]Department of Conservation, PO Box 842, Whangarei
[2]47 Pupuke Road, Auckland 10

ABSTRACT

Five kaka *Nestor meridionalis* were monitored by radio telemetry following aerial application of talon 20P to eradicate kiore *Rattus exulans* from Whatupuke Island in November 1993. There was no evidence, either direct or indirect, of kaka consuming baits. Four radio-tagged birds were relocated alive and healthy three weeks after the poison operation and all five were alive five to six months after poisoning. No reduction in kaka numbers was detected during five-minute bird counts one month after the operation compared with counts one month before the operation.

1. INTRODUCTION

Kiore *Rattus exulans* are currently being removed from three of the four largest islands in the Marotere (Chickens) group 15-20 km off the Northland east coast. The islands also support varying numbers of kaka *Nestor meridionalis,* with perhaps as many as 100 individuals being present on the Hen and Chickens group. Kaka are considered to be a potential non-target species during aerial poison operations, whether they be of 1080 or talon and differing bait types (Spurr 1990, 1993; Lloyd & Hackwell 1993).

Whatupuke Island (35º 53' S, 174º 45' E) was the first of the Chickens group to receive an aerial application of talon, scheduled for spring 1993. The Northland Conservancy of the Department of Conservation, supported by Ngati Wai Trust Board, felt there was a need to monitor the survival of kaka during this operation. Because kaka are extremely mobile birds, simple monitoring by five-minute bird counts would have been inadequate in determining impacts on these birds and closer monitoring of individuals was required.

2. METHODS

2.1 Poison Operation

Whatupuke Island (100 ha) was poisoned by aerial application of 2 g cereal-based (Wanganui No. 7) pellets containing brodifacoum at 20 ppm (talon 20P) on 18 November 1993. The sowing rate was 12 kg/ha. A small amount of hand-sowing over 2 ha occurred as a follow-up on 22 November 1993. Baits had broken down by 10 December 1994.

2.2 Kaka Capture and Monitoring

Kaka were captured on Whatupuke Island and neighbouring Lady Alice Island in early October 1993. The birds were lured into 10 m long mist nets (10 cm in mesh size) by playing recordings of their calls. Some calls were recorded concurrently in order to increase the chances of attracting birds to the net site. Each of the captured birds was weighed, measured, colour-banded and fitted with a 17 g backpack radio transmitter before being released.

Kaka were monitored intensively on 20-22 November 1993 following application of the poison on 18 November. The directions and locations of the radio-tagged birds were noted at regular intervals from a high point on the island. Observations of feeding by kaka were made whenever possible. After 22 November the radio-tagged birds were checked irregularly as the opportunity arose up until May 1994.

Five minute bird counts were carried out from one pre-determined point high in the south-east basin of Whatupuke Island which afforded listening coverage over most of the prime kaka feeding habitat on the island. Thirty counts were completed on 10 October 1993 and twenty on 9 December 1993. Because kaka moved freely between the islands, no control station could be established.

3. RESULTS

3.1 Survival of Radio Tagged Birds

Two adult female kaka and an adult male were captured on Whatupuke Island and an adult male and a juvenile male on Lady Alice Island (Table 1).

Table 1 : Kaka Captured on Chickens Islands in 1993

Tx	Locality	Date	Age	Sex	Weight
1/1	Whatupuke Island	2 Oct	Ad	M	435
1/7	Whatupuke Island	5 Oct	Ad	F	315
1/11	Whatupuke Island	6 Oct	Ad	F	380
1/9	Lady Alice Island	30 Sep	Juv	M	435
1/10	Lady Alice Island	30 Sep	Ad	M	430

During intensive monitoring on Whatupuke Island on 20-22 November 1993 (beginning two days after poisoning), three of these radio-tagged birds were recorded on the island:-

1. Tx 1/7 : Adult female present in canopy for a few minutes only on 20

November 1993.

2. Tx 1 / 11 : Adult female present on
   - Whatupuke Island in the early morning of 20 November 1993;
   - eastern Lady Alice Island from late morning to evening the same day;
   - eastern Lady Alice Island mid morning of 21 November 1993; and
   - Whatupuke Island (flying) early on 22 November 1993.

3. Tx 1/9 : Juvenile male present in canopy of Whatupuke Island at 1800h on 21 November 1993, otherwise consistently found on south-west Lady Alice.

Of the other two birds, Tx 1/1 was not recorded at all in November 1993-April 1994, but was relocated on Whatupuke in May 1994 and near Whangarei in June 1994. Tx 1/10 was not recorded at all in November 1993, but was located consistently on Lady Alice Island in December 1993 and February and March 1994 (Table 2).

All three radio-tagged birds known to have visited Whatupuke during the post-poison period were relocated alive and healthy on 8-10 December, three weeks after the poisoning. All five radio-tagged birds present on the Chickens Islands were still alive in March-May 1994 during which time three were also reported from Little Barrier, 42 km SSE of Whatupuke Island (Table 2). The juvenile (Tx 1/9) apparently flew from Lady Alice Island to Little Barrier on 14-15 March and returned to Lady Alice Island on 15-16 March.

3.2 Foraging and Nesting

During about 25 minutes of close observations of kaka on 20-22 November, no birds were seen taking baits. At this time baits were still present in high densities on the ground in most areas and small numbers were seen caught in tree forks. Foraging kaka were typically tearing at loose bark and dead branches of pohutukawa *Metrosideros excelsa,* apparently searching for insects. Ripe fruit was scarce in November and only puriri *Vitex lucens* was seen being taken by kaka. One bird also spent some time in a supplejack *Ripogonum scandens* thicket containing ripe berries.

No kaka nests were found on Whatupuke Island, but on neighbouring Coppermine Island a nest containing two young chicks was found inside a hollow cabbage tree on 8 December 1993.

3.3 Five Minute Bird Counts

An average of 1.0 kaka (range 0-3) was recorded per 5 minute bird count on 10 October 1993 (n = 30). On 9 December 1993 an average of 1.5 kaka (range 0-4) was recorded from the same site (n = 20).

Table 2 : Relocation of Radio-tagged Kaka 1993-94

DATE	BIRD				
	Tx 1/1 Ad M	Tx 1/7 Ad F	Tx 1/9 1 Yr M	Tx 1/10 Ad M	TX 1/11 Ad F
30 Sep-6 Oct 1993	W	W	LA	LA	W
4 Nov	-	W/C	LA	-	LA
20 Nov	-	W	LA	-	W/LA
21 Nov	-	-	LA/W	-	LA
22 Nov	-	-	LA	-	W
8-10 Dec	-	W	LA/W	LA	LA/W
28 Dec	•	•	•	•	LB
30 Dec-11 Jan 1994	•	•	LB	•	•
8 Jan	-	W	LA	LA	W
9 Jan	-	W	LA	LA	W
10 Jan	-	W	LA	LA	W
10 Feb	-	-	-	LA	-
13 Mar	-	-	LA	LA	-
14 Mar	-	-	LA	LA	-
15 Mar	•	•	LB	•	LB
16 Mar	-	-	LA	LA	-
May	W	-	•	LB	LB
18 June	PB	•	•	•	•
19 June	•	•	LB	•	LB

Notes: W = Whatupuke Island, C = Coppermine Island, LA = Lady Alice Island, LB = Little Barrier Island, PB = Parua Bay, Whangarei
- = No signal detected on Chickens Islands, • = No data

4. DISCUSSION AND CONCLUSIONS

The small sample of kaka monitored on Whatupuke Island does not enable definitive

conclusions to be drawn. However, the survival of all five birds, together with no dead or dying birds being encountered and no reduction in the five minute index counts, indicates that the operation did not have a significant impact on the Chickens Islands' kaka population.

Kaka research elsewhere (Wilson *et al.* 1991; Lloyd 1993) suggests that juvenile or sub-adult kaka are more likely to take baits than are adults which show no interest in supplementary foods. The one year old kaka visiting Whatupuke Island following the poison drop was, therefore, the most likely bird in our radio tagged sample to try the 20P baits. If it did so, it took insufficient to kill it.

Monitoring of radio-tagged kaka during future aerial talon operations on the Hen and Chickens Islands is not considered necessary providing the timing (spring) and methodologies are similar to that for Whatupuke Island. Extensive checks for dead and sick birds should, however, be carried out, and could be incorporated into routine post-poisoning monitoring.

5. ACKNOWLEDGEMENTS

We acknowledge the assistance of Department of Conservation staff from Northland Conservancy & Science and Research; J. Kendrick and E. Christmas for help with catching and monitoring birds respectively; and R. Shorten and M. Thorson for providing details of the Little Barrier Island records.

6. REFERENCES

Lloyd, B. and Hackwell, K., 1993. A trial to determine whether kaka consume carrot baits, Kapiti Island, May 1993. Science & Research Series No. 62, Department of Conservation, Wellington.

Spurr, E., 1990. Effects of brushtail possum control operations on non-target bird populations. *Acta Congressus Internationalis Ornithologici :* 2534-2545.

Spurr, E., 1993. Review of the known effects of 1080 in possum control operations using carrot and cereal baits on non-target species in NZ. *Landcare Research Contract Report LC 9394/35,* Landcare Research, Christchurch.

Wilson, P R., Toft, R.J., Shepard, C. and Beggs, J.R., 1991. Will supplementary feeding of South Island kaka improve breeding success? *DSIR Land Resources Contract Report No. 91/55,* Wellington.