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Kaharoa Kokako Trust Post-operational report for 2009 ground-based operation

Summary

The Kaharoa Kokako Trust (KKT) applied pindone and Feratox (encapsulated cyanide) in the Kaharoa Conservation Area for the purpose of reducing possum and rat numbers prior to the 2009 kokako nesting season.

Toxic bait was placed in bait stations on 19 September, 2009 by a total of 12 suitably qualified volunteers and one contractor. Removal of the bait began on 31 October 2009 and was completed on 14 November. The operation was conducted with the collaboration of the Kaharoa community and no opposition was expressed.

KKT would like to sincerely thank Environment Bay of Plenty, who supervised the operation, and the volunteers, who made it possible.

The Kokako Recovery Group (KRG) recommends that possums and rats are reduced to 1% RTC and 1% tracking index respectively. The post-operational monitoring for possums show 2.4% RTC, falling outside the recommended target. The tracking index for rats was 18%, also suggesting a higher than desirable survival rate. This result reflects the fact that bait station spacing is not optimal. However, these results are the best achieved at Kaharoa when not using 1080.

The KKT has adopted targets of 5% for possums and 10% RTC for rats. These targets have proven over time to be achievable and practical, resulting in breeding success to a reasonable level. The KKT recognises that the current bait station network is not sufficient to reliably meet this rat target and that improvements to the network may be required.



Photo courtesy of Nga Manu Images

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The Operation

The ground-based operation was carried out by a mostly volunteer workforce using an established network of 550 bait stations. The area covered by the operation includes the Aislabies block, Onaia West and Onaia East. The operation was supervised by Greg Corbett (Environment Bay of Plenty).

The operation was undertaken in accordance with the following consents:

- Medical Officer of Health – 09/015/WRP/ROTPH (Ground based operation), dated 27 July 2009. (Issued to Brian Wayne Clements – Environment Bay of Plenty).
- Department of Conservation – DOCDM-470619, dated 26 August 2009.

The operation was completed as planned according to the timetable below. All the requirements of MoH and DoC consents were met.

Step	Action	Date completed
1	Conduct community notification	31 Aug 2009
2	Install warning signs	15 September
3	1 st toxin application – pindone and Feratox	19 Sept 2009
4	Possum carcass monitored for physical breakdown	Started 19/09/09
5	2 nd toxin application – pindone only	26 Sept 2009
6	Removed remaining toxin	14 Nov 2009
7	Conduct post-op possum and rat monitoring	Nov and Dec 2009
8	Disposal of toxin (incineration by Epro Ltd)	17 Dec 2009
12	Post-operational update notification	5 Dec 2009
13	Remove signs	Planned for February 2010

- **Approx 1350 kg of pindone was applied in two fills (approx 1.4 kg/bait station)**
- **The first fill included 5 Feratox tablets per bait station (2800 tablets in total).**
- **An estimated 150 kg of pindone was recovered, and 95 Feratox.**

Bait handling

The pindone was bagged prior to the operation in the Environment Bay of Plenty Store (Scott St, Rotorua). For the first fill, Feratox tablets were added to the bait bags. This method reduced the amount of handling required for the Feratox, since these tablets were touched only once during the entire process under highly controlled conditions.

Licensed handlers

The distribution of baits was carried out by the following licensed handlers, who were assisted by other volunteers:

- Gregory Corbett – CSL003217
- Graeme Young - CSL004376
- Anne Managh - CSL000635
- John Paterson - CSL000566
- Carmel Richardson - CSL004381
- John Coleman - CSL004382

- Hugh Caulton – CSL004418
- Peter Williams – CSL004375
- Laurence Kirk – CSL003616
- Dave Edwards – CSL004470
- Gregory Brown – CSL 004732
- Paul Chapman – CSL004569
- Phil Tucker - Approved handler test certificate 87482

Health and safety

No health or safety issues were reported in association with the toxin application or retrieval.

Operational incidents

Injury: The Contractor slipped and fell while conducting bait clean-out in the Onaia East block on 29 October 2009. He wrenched his shoulder, resulting in a light muscle-strain injury. Although he did not require medical attention for this injury, it did prevent him from finishing the clean-out by the due date of 31 October, 2009.

Margaret Horner contacted Pete Corson (DOC) and the Medical Officer of Health to notify them of the delay and apply for an extension to the consent. Trust members continued to clear-out bait stations in the area until the operation was completed two weeks later. All bait stations were cleared by 14 November 2009.

In future, the Trust will apply for extra time in the consent period to allow for any delays of this nature.

Results - Pest Control

The Kokako Recovery Group recommends that possums and rats are reduced to 1% RTC and 1% tracking index respectively. It should be noted that these results have never been achieved by the KKT, yet breeding success has still been achieved at Kaharoa over the past 11 years.

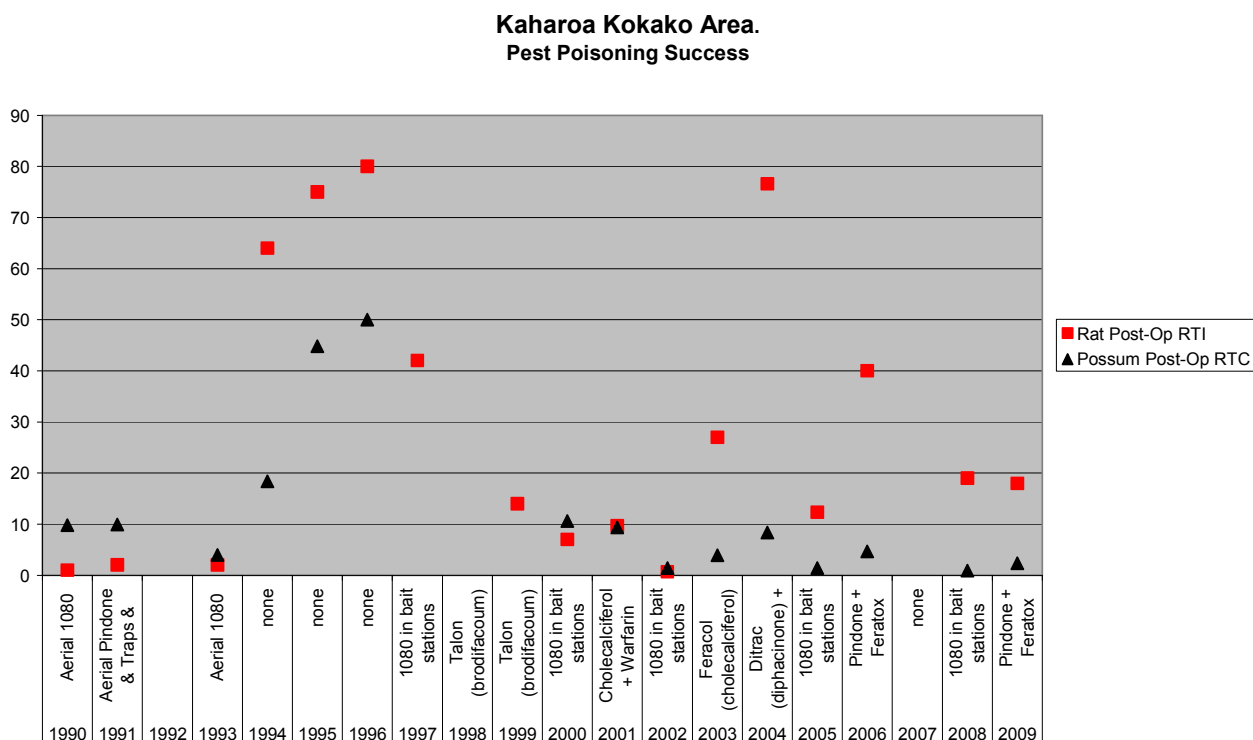
Possums: Post-operational monitoring for possums show 2.4% RTC (see Appendix A). Eight possums were caught on 13 lines, with the lowest RTC occurring in the Onaia East block. This result illustrates the benefit of having a uniform 100x100 bait station grid over this area. Unfortunately, this grid layout is not conducive to servicing with voluntary labour.

Rats: The tracking index for rats was 18% (see Appendix B). This result suggests a higher than desirable survival rate for rats, which is not unexpected. This is due to the fact that bait station spacing is not optimal for effective rat control over most of the block and is consistent with previous years.

As shown by the graph, these results are comparable with those achieved using 1080. It would therefore appear that this pindone/Feratox is the best non-1080 option used so far.

During the clean-out operation, the Trust required all workers to report on the condition of every bait station. This ensured that every bait station in the block was visited and emptied out.

Figure 1: Results of pest control operations at Kaharoa since 1990



Results - Communications

The goal of the communication plan was to notify the Kaharoa community and other interested parties that pest control was being undertaken in the Kaharoa Conservation Area. The Trust achieved this goal by notifying all neighbouring land owners, the wider community and relevant authorities about the operation through signage, letters and notices. (see Appendix C)

The communication plan was completed according to the timetable below.

Activity	Date completed
Prepared information kit (fact sheet and letters).	14 July
Loaded information on website	25 July
Requested PF Olsen to cancel all non-essential access permits	20 Aug
Distributed KKT newsletter with notice of operation	15 Aug
Sent notification letter to neighbours and interested parties	15 Aug
Distributed notice to all residents of Kaharoa and Kapukapu Roads prior to application – <i>Bob Adler delivered</i>	27 Aug
Installed warning signs	15 Sept
Post operational update	5 Dec
Remove warning signs	To be completed February 2010

Following the tampering of bait stations experienced last year, the Trust requested PF Olsen Ltd to prevent access of all non-essential personnel into the Pinnacles Block adjacent Onaia East. There was no evidence of tampering during this operation.

Results - Costs

A total of 425 man-hours of voluntary labour were contributed by 30 people. Assuming a nominal labour cost of \$15/hr, this represents an in-kind contribution by the Trust of \$6375.00.

Operational costs

The costs associated with the operation are as follows:

Pest Control	Cost ex GST	Funding Provider
Pindone	4977.00	EBOP
Feratox	1110.00	EBOP
Gloves	50.00	EBOP
Plastic bags	154.80	EBOP
BBQ	200.00	KKT
Bait disposal	500.00	Epro Ltd
Pre and post rat monitoring	2500.00	DOC
Post-op monitoring	6000.00	DOC
Contractor – Onaia East	3000.00	First Sovereign Trust
Sub-total	18481.80	
Communication		
Copying + postage	300.00	EBOP
Warning signs (12)	50.00	DOC
Sub-total	350.00	
Labour – in kind	6375.00	KKT
Total	\$25 216.80	

Funding support

The Trust is enormously grateful to the sponsors who supported this pest control operation, particularly Environment Bay of Plenty, Department of Conservation, First Sovereign Trust and Epro Ltd.



Conclusions

The Trust is grateful to the Department of Conservation for allowing us to trial Feratox mixed with pindone in bait stations, a combination not normally permitted on DoC estate. It was pleasing to achieve results using this combination that are comparable with 1080. We acknowledge the assistance of Environment Bay of Plenty who agreed to oversee the operation according to DoC requirements. Last, but not least, we sincerely thank the volunteers, who give their valuable time to make the operation possible.

Use of the baits in combination enabled minimal handling of toxins. Such efficiencies are valuable when working with a limited number of suitably qualified volunteers and make for a much safer operation.

The Trust acknowledges that post-operational rat and possum numbers are above the target recommended by the Kokako Recovery Group. Data held by the Trust over 11 years suggests that pest control to the target low levels is not necessary to enable kokako recovery at Kaharoa. The Trust recommends that the KRG review the level of pest control needed to protect kokako.

We will also request that the acceptable rat density and RTC possum limits at Kaharoa be amended in future to work within the limitations of the current network within Onaia West and Aislabies. We have found that the 100x100grid network used in Onaia East, although ideal in terms of pest control, cannot be maintained using volunteer labour. We therefore believe that a recalibration of expectations is necessary to recognise the challenge of achieving extremely low pest numbers using a volunteer workforce.

A key lesson is that the Trust will apply for more time on consents in future to allow for unforeseen delays in completing the operation.



Appendix A

Possums - Residual Trap Catch Summary

ANALYSIS OF STRATIFIED RTCI.

RTCI = Residual Trap Catch Index

Area of Native Forest Stratum = 705ha

Line	BLOCK	Possums Captured	Possums Escaped	Non- target	Sprung but empty	Corrected trap-nights	Mean possums per trap- night
1	Aislabies	1	0	0	0	30	0.033
2	Aislabies	1	0	0	0	30	0.033
3	Aislabies	0	0	0	0	30	0.000
4	Aislabies	0	0	0	0	30	0.000
5	Aislabies	1	0	0	0	30	0.033
Stratum - Indigenous Forest						Mean RTC/% SE	2.00 ± 4.42
8	Onaia West	1	0	0	0	30	0.033
9	Onaia West	2	0	0	1	29.5	0.068
10	Onaia West	1	0	0	0	30	0.033
Stratum - Indigenous Forest						Mean RTC/% SE	4.48 ± 7.75
12	Onaia East	0	0	0	0	30	0.000
13	Onaia East	0	0	0	0	30	0.000
14	Onaia East	1	0	0	0	30	0.033
Stratum - Indigenous Forest						Mean RTC/% SE	1.11 ± 1.91
Combined Result						Mean RTC/% SE 95% CL	2.40 ± 1.50 ± 3.00

SE = Standard Error

SE = Standard deviation(Mean possums per trap night) / $\sqrt{\text{no. trap-lines} \times 100}$

95% CL = 95% Confidence Limit

95% CL = 2 x Combined SE

Appendix B

Summary of rat tracking results

Rodent monitoring results – Kaharoa/Onaia – results reported as % of cards tracked.
For full report of DoC results see DoC File note 16 November 2009

		Cyanide/ Pindone	Cyanide/ Pindone
Block	Line no.	Pre control rat tracking – 2009 (%)	Post control rat tracking 2009 (%)
Aislabies	1	60	0
	2	60	20
	3	90	10
	4	60	40
	5	42	50
	6	74	21
Onaia West	1	60	12
	2	40	30
	3	100	30
	4	84	10
Onaia East	1	80	40
	2	100	0
	3	90	0
	4	70	0
	5	70	0
Overall Treatment Area Rat Tracking (%)		71% (+/- SE 13%)	18% (+/- SE 4%)

Appendix C

Notification was sent to the following interested parties:

- All residents of Kapukapu, Kaharoa and Penney Roads 27/08/09
- Kaharoa School 15/08/09
- Kaharoa Hall & Community Association Inc. 15/08/09
- Western BOP District Council 15/08/09
- Rotorua District Council 15/08/09 (positive reply received)
- Bay of Plenty Pig Hunting Club 15/08/09
- NZ Deerstalkers Association 15/08/09
- Mangorewa Hunting Club 15/08/09
- Rotorua Veterinary Service 15/08/09
- VetPlus 15/08/09
- Central City Vets 15/08/09
- Ngongotaha Vet Club 15/08/09
- Lakes District Health Board 15/08/09
- Lakeland Health Ltd 15/08/09
- Ngongotaha Medical Centre 15/08/09
- Rotorua Police 15/08/09
- Te Ranga school 15/08/09
- Forest & Bird – Rotorua branch 15/08/09