



WAIMATE NORTH LANDCARE GROUP OUTCOME MONITORING REPORT FOR JUNE 2007

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Report prepared for:

WAIMATE NORTH LANDCARE GROUP
NORTHLAND

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1.0 INTRODUCTION

The Waimate North Landcare Group is undertaking ecosystem and species restoration over a large area of the Waitangi River catchment (refer Anon 2004). Following a site visit and meetings held with Daryl Way (group coordinator) and others on 25 August 2006, several monitoring recommendations were made to help determine outcomes of the management (refer Pierce 2006). Significant monitoring effort was already in place for some biota including brown kiwi and kukupa and these are not reported on here. On 4 June 2007 I returned to the site to assist in establishing further monitoring, namely seedling plots, possum browse and general bird counts. Several members of the Group participated in this exercise.

2.0 SEEDLING PLOTS

Objective

Determine seedling responses to pest management in different and representative parts of the Waimate North Landcare Group area. The sites selected comprised diverse podocarp-broadleaf forest on the properties of Messrs Harmon, Hanley and Cook.

Methods

Formak methods were generally followed, comprising 5 x 1 m radius plots every 10 m. The only deviation from the FORMAK approach was to include an additional seedling height category, i.e. seedlings < 15 cm in height. This additional category will allow short term responses to be better assessed. All seedling plots were pegged, labelled and photographed with a digital camera. It is intended to re-measure and photograph the plots annually.

Results

Five plots were established in three sites in June 2007, seedlings measured (refer Appendix 3) and photographed. Although no conclusions can be drawn at this stage, the area in which intensive pest control of possums and rats is occurring showed a high diversity and number of small seedlings.

3.0 POSSUM BROWSE AND TREE PHENOLOGY

Objective

Determine the level of possum browse on key indicator species (kohekohe) and their responses to apparent release from intensive possum browse.

Methods

Only Hanley's and Cook's forest remnants contained kohekohe trees suitable for monitoring. Transect lines were established through these areas and trees were selected and tagged. Virtually all trees found were selected unless they were too small to provide useful data. Plant browse, possum sign, flowering and fruiting were all scored on a 5 point scale (0-4).

Results

Of the 14 trees examined, none had any sign of recent possum browse (refer Appendix 1). No other possum sign (e.g. scratching) was found, and only two trees exhibited fallen flower stalks near the trunk that could possibly have been broken off by possums. Seven (50%) of the trees had healthy flowering or fruiting.

4.0 BIRD COUNTS

Objective

Determine the diversity and potential responses of bird populations in the Waimate North forest remnants.

Methods

A total of ten 5-minute bird counts were undertaken on 4 June 2007 following standard approaches. These comprised three stations, one in each of Harmon's, Hanley's and Cook's, each with several replicate counts. These were used mainly as a demonstration of the methodology for Group members to apply at more appropriate times of the year, e.g. during the breeding season when birds are more territorial and vocal.

Results

The expected diversity of bird species was recorded during the counts, including kukupa, tui and NI tomtit (refer Appendix 2). The numbers of kukupa recorded were impressive – all three remnants had kukupa and an average of 1.3 individuals (maximum 4) was recorded per count. If this is representative of Waimate North (more counts are needed) it probably represents currently one of the highest counts of any monitored site on the Northland mainland and similar to those at Trounson Kauri Park and on pest-free Chickens Islands (pers. obs.). These kukupa counts are consistent with observations of kukupa flock sizes at Waimate North, which appear to be increasing (D Way pers. comm.).

5.0 CONCLUSIONS AND RECOMENDATIONS

Preliminary outcome monitoring results at Waimate North are encouraging. Recommended consolidation of outcome monitoring includes the following:

- Increase the sample of kohekohe trees to 10 per management segment if this is feasible.
- Increase the sample of seedling plots to at least 5 per management unit.
- Photograph other key trees (e.g. northern rata if present) for monitoring purposes.
- Bird counts – either:
 - carry out a series of ten-minute observations over a wide area of forest or habitat mosaic (potentially from verandahs), ideally undertaken in September-December when birds are breeding and spread out across the habitat (refer Pierce 2006), or,
 - increase the sample of standard 5-minute bird count stations as carried out in June 2007 and repeat in the core areas annually initially – this approach is favoured by the Group.
- Kiwi chick survival using a certified kiwi-dog and handler to sample 15-20 birds across the management area in the population to determine age structure (Pierce 2006).
- Kauri snails - follow updated advice from Department of Conservation (contact is Andrea Booth at Northland Conservancy office).

ACKNOWLEDGMENTS

Thanks to Daryyl Way (Waimate North) and Helen Moodie, Northern Region Coordinator of the New Zealand Landcare Trust for arranging for this work.

REFERENCES

Anon 2004. Waimate North Landcare Trust work plan for the recovery of kiwi and other biota in the upper Waitangi catchment, 2004-06, September 2004.

Pierce R.J. 2006. Technical support visits to Northland Landcare Groups August-September 2006. Report prepared for NZ Landcare Trust, PO Box 4327, Kamo, Northland.

Appendix 1 – Phenology of kohekohe Waimate North June 2007

Locality: Cook's Bush			Date: 4/6/07		Observers: Daryl, Phil, Reg, Ray	
Species	#	Leaf browse 0-4	Flowers 0-4	Fruit 0-4	Possum sign	Comments
Kohekohe	CK1	0	0	0	0	
Kohekohe	CK2	0	3	0	0	Flowers open
Kohekohe	CK3	0	0	2	0	Open mature fruit
Kohekohe	CK4	0	0	0	0	
Kohekohe	CK5	0	2	0	0	Buds
Kohekohe	CK6	0	0	0	0	
Kohekohe	CK7	0	2	0	0	Finished flowering
Kohekohe	CK8	0	0	0	0	
Kohekohe	CK9	0	0	0	0	
Kohekohe	CK10	0	3	0	0	Flowers open

Locality: Hanley's			Date: 4/6/07		Observers: Daryl, Phil, Reg, Ray	
Species	#	Leaf browse 0-4	Flowers 0-4	Fruit 0-4	Possum sign	Comments
Kohekohe	HK1	0	0	2	0	1 fl stalk on ground
Kohekohe	HK2	0	0	0	0	
Kohekohe	HK3	0	0	2	0	
Kohekohe	HK4	0	0	0	0	1 fl stalk on ground

Appendix 2 – Bird Counts Waimate North June 2007

Locality: Harmon's					Date: 4/6/07	Observers: Ray, Daryl, Phil, Reg						
Grid ref Easting					Grid ref Northing							
Station	1	2	3	4	5	6	7	8	9	10		
Time start	0937	1000	1020	1030	1035							
Cloud	1	0	1	0	0							
Rain	0	0	0	0	0							
Wind	0	1	0	0	1							
Noise	0	1	0	0	1							
Kukupa					1							
Rosella			✓		✓							
S Cuckoo												
Kingfisher												
Blackbird	✓	✓		✓								
Thrush												
Dunnock												
Fantail	2	2	3	3	3							
Grey warbler		1		1	1							
Pied tit	1	1										
Silvereye	7	6	8	10	8							
Tui		1		1	1							
Chaffinch	✓	✓	✓	✓	✓							
Goldfinch		✓	✓	✓	✓							
Greenfinch												
Yellowhammer					✓							
Sparrow	✓	✓	✓									
Myna		✓										
Magpie	✓	✓										

Locality: Hanley's					Date: 4/6/07	Observers: Ray, Daryl, Phil, Reg						
Grid ref Easting					Grid ref Northing							
Station	1	2	3	4	5	6	7	8	9	10		
Time start	1300	1345										
Cloud	1	3										
Rain	1	1										
Wind	0	1										
Noise	1	1										
Kukupa	3	2										
Rosella	2											
S Cuckoo												
Kingfisher												
Blackbird		✓										
Thrush												
Dunnock												
Fantail	2	2										
Grey warbler	1	1										

Pied tit													
Silvereye	3	2											
Tui	1	1											
Chaffinch		✓											
Goldfinch													
Greenfinch													
Yellowhammer													
Sparrow	✓												
Myna		✓											
Magpie													

Locality: Cook's					Date: 4/6/07		Observers: Ray, Daryl, Phil, Reg						
Grid ref Easting					Grid ref Northing								
Station	1	2	3	4	5	6	7	8	9	10			
Time start	1456	1510	1545										
Cloud	3	1	1										
Rain	0	0	0										
Wind	1	0	1										
Noise	1	0	1										
Kukupu	4	2	1										
Rosella		2											
S Cuckoo													
Kingfisher													
Blackbird													
Thrush													
Dunnock													
Fantail		1	2										
Grey warbler	2	2	3										
Pied tit													
Silvereye	3	3	4										
Tui	3	5	4										
Chaffinch													
Goldfinch													
Greenfinch													
Yellowhammer													
Sparrow													
Myna													
Magpie													
Kaka	(1)												

Appendix 3 – Waimate North Vegetation Plots 4 June 2007

1 Harmons

Plot	Species	1-15cm	15-45 cm	26-135	135+
1	wheki				2
	rewarewa	1			
	coprosma sp	8			
	unidentified	1			
	mapou	1			
	kahikatea	3			
	grass	<5%			
	Selaginella	10%			
2	fern	1			
	coprosma sp	15			
	kahikatea	9			2
	pigeonwood	3			
	unidentified	1			
	Selaginella	2%			
	grass	2%			
3	kahikatea	1			
	fern	6			
	mahoe		1	1	
	coprosma sp	5			
	wheki				1 dead
	Selaginella	10%			
	grass	40%			
4	coprosma sp	4			
	climbing rata	2			
	wheki				1
	pigeonwood	2	1		
	kahikatea	1			
	fern	1			
	cabbage tree	1			
	Selaginella	10%			
	grass	80%			
	5	climbing rata	2		
wheki					1
fern		4			
kahikatea		5			
coprosma sp		4		2	
tobacco weed		2	weeded		
rewarewa		1			
putaputaweta		1			
Selaginella		<5%			
grass		<5%			

2 Hanley's

Plot	Species	1-15cm	15-45 cm	26-135	135+
1	fern	<5%			
	kawakawa	18			1
	taraire	1			
	kohekohe	1			
	karaka	3	4		
	pigeonwood	2			
2	kawakawa	3			
	rata	1			
	fern	2			
	karaka	1	1		
3	kawakawa	32	2	2	
	mahoe			1	
	hangehange	1		1	
	kohekohe	1	6		
	karaka		3		
	fern	1			
	rata	1			
	pigeonwood	1			
4	wheki				1 dead
	fern	8			
	rata	1			
	unidentified	2			
	kohekohe	4	6	1	
	karaka	4	1		
	tree fern	4	1		
	kawakawa			2	
	pigeonwood	1			
	5	kohekohe	1		
fern		1			

Cooks

Plot	Species	1-15cm	15-45 cm	26-135	135+
1	rewarewa	9			
	rata	1			
	coprosma sp	3		1	
	Gahnia		1		
	ferns	5%			

2	rewarewa	30		
	coprosma sp	30	4	
	rata	3		
	wheki		1	
	putaputaweta	2	1	
	kahikatea	30		
	totara	2		
	hangehange	15	1	
	maire	2		
	pigeonwood	2		
	mapou	1		
	towai	1		
3	coprosma sp	31	4	1
	TII ?	2		
	hangehange		3	
	rata	1		
	rewarewa	4		
	coprosma sp	11		
	totara		1	
	mapou	1		
	taraire	3		
4	coprosma sp	81	10	
	maire	1		
	pigeonwood	3		
	mapou	1		
	rewarewa	8		
	towai	1		
	hangehange			1
	putaputaweta	1		
	taraire	1	1	
	kahikatea	1		
	bush lawyer			1
5	rewarewa	5		
	coprosma sp	30		
	mapou	1		
	pigeonwood	2		
	nikau	1		
	kahikatea	1		