

## Appendix 1

### Cost Comparison Goodnature A24 with Windy Hill Sanctuary Station



Costs were compared over an 18 month period for the establishment and maintenance of 300 A24 Traps and 600 wooden stations used for rat traps/bait set on a 100 x 50m grid in a 100 hectare area in the Windy Hill Sanctuary.

Stations in the Sanctuary are established at 25 metres apart – In the first 18 months in the project area of 100 hectares 300 A24s at 50 metres apart were compared with 600 wooden stations at 25metres apart to establish an equal baseline of coverage.

Costs were further compared for 12 months for the maintenance of 300 A24 Traps and 300 WH stations at 100 x 25m grid in a 50 hectare area following the relocation of A24s to reduce the distance between traps.

All costs are based on records kept throughout the project.

Costs for rat tracking tunnel monitoring have not been included as they would be the same for both the A24 and WH station.

Costs for removing the A24s and cleaning them have not been included.

The spreadsheet attached details costings and provides the information for this report.

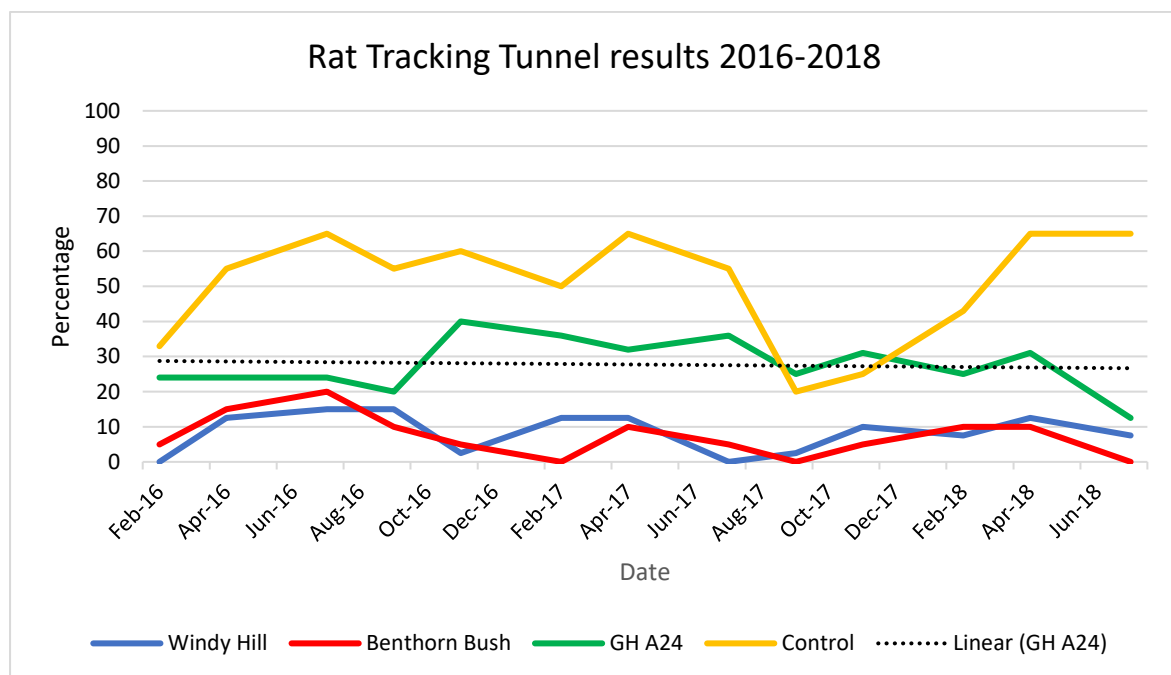
#### Cost Summary from spreadsheet as attached

	<b>A24 300 Units</b>	<b>WH Station 600/300 units</b>
Capital	\$42,771	\$10,812
Service for 2.5 years	\$6468	\$18,348
Consumables for 2.5 years	\$15084	\$6360
<b>Total</b>	<b>\$64,323</b>	<b>\$35,520</b>

While the cost of servicing the AA 24s is considerably lower than the cost of servicing the standard units (\$6,468 compared to \$18,348) this was offset by the higher capital and consumables costs of the A24 making the standard WH unit more cost effective even with monthly checks compared to six monthly checks.

The overall cost of running an A24 grid was c. 1.8 to 1.9 times that of an equivalent grid of snap-trap stations and bait. As the poisoned rat number is unknown, as is the actual number killed by the A24s, it is not possible to say which method killed the most rats, but the tracking tunnel results clearly indicate that the WH stations were much more effective in keeping rat numbers at low levels (TT averages for study period: 8.5 for Windy Hill, 27.7 for the GN study area).

In summary, not only was the standard Sanctuary methodology more cost effective, it was also more successful at keeping rat abundance at lower levels as shown in the graph below.



Note that Windy Hill and Benthorn Bush are adjacent areas managed in the same way as the WH stations in this study. The control area is also adjacent but has no rodent management.

### Projected On-going Annual Costs for 50 HA Area

A cost comparison of the A24 versus the WH standard station with both units at the same spacing – 100 x 25metres also reveals the cost effectiveness of monthly checking over a year. The savings are gained through cheaper consumables.

A24	300 units 100x25	WH Standard	300 units 100x25
ALP - 3 per annum*	7164	PB lure	72
Gas- 2x per annum	2766	Bait (150grms)	1200
Service	1100	Service	4488
<b>Total</b>	<b>11,030</b>		<b>5760</b>

\*ALPs would have been changed every 4 months

<b>Cost Benefit Analysis A24 &amp; WH wooden station for trap/bait</b>										
Costs are Ex GST										
Actual Cost Two and a half year period at 100 x 50 & 25m spacing										
	<b>A24</b>									
	<b>per unit</b>	<b>300 units</b>	<b>Renew x4</b>	<b>Total</b>						
Unit	130	39,000		39,000						
ALP	7.96	2388	9552	11940						
Gas	4.61	1383	5532	6915						
		<b>42,771</b>	<b>15084</b>	<b>57,855</b>	<b>57,855</b>					
<b>Service time over 2.5 years</b>	<b>Area Covered</b>	<b>Per check</b>								
	100	hours	hourly rate	cost	area/ha					
<b>2016</b> March check	100	32	22#	704						
April check	100	24	22	528						
May check	100	24	22	528						
June check	100	24	22	528						
July check	100	24	22	528						
Aug regas/ALP rebait	100	42	22	924						
Oct check	100	24	22	528						
<b>2017</b> Feb regas/rebait (+2 GN staff)	100	25	22	550						
Aug relocate/regas&ALP rebait(+2 GN staff)	50	48	22	1056						
<b>2018</b> Feb regas/rebait (+2 GN staff)	50	25	22	550			<b>6424</b>			
August - removed		292								
				<b>Total cost</b>			<b>64,323</b>			

<b>Cost Benefit Analysis A24 &amp; WH wooden station for trap/bait</b>							
Station/trap/bait	per unit	per 600 units	service x 30*	x 10*			Total
Wooden Station	11.5	6900					6900
Trap	5.5	3300					3300
Trap - PB lure	0.02	12	360				372
Bagged bait	1	600		6000			6600
		<b>10812</b>	360	6000			<b>17172</b>
							<b>17,172</b>
Service time over 2.5 years	Area Covered	Per check			18 months	12 months	Total
		hours	hourly rate	cost			
Monthly Check							
2016 Feb - 2017 July Trap/Rebait	100	35	22	770	13,860		13860
2017 Aug - 2018 August	50	17	22	374		4488	4,488
							<b>18,348</b>
							<b>18,348</b>
Spreadsheet Notes							
* Peanut butter lure is replaced monthly, 150 gram bags of rat bait replaced 3 monthly.							
# For the purposes of this analysis Windy Hill Field team wages have been averaged at \$22/hour.							
							<b>Total Cost</b>
							<b><u>35,520</u></b>

