

Australian Wildlife Conservancy

FAURE ISLAND SANCTUARY

July-Dec 2005

Introduction

Faure Island Sanctuary is a 5,816 ha pastoral lease located in Shark Bay, Western Australia. It was acquired by the Australian Wildlife Conservancy (AWC) in 1999. Until AWC acquired the lease, it was previously held by the Hoult family since 1905 and was stocked with Angora Goats and Merino Sheep.

The island is characterised as having an arid climate with hot dry summers, mild winters and erratic rainfall mostly in winter but cyclonic activity may bring significant summer rainfall. There are five major plant communities Acacia shrubland, mallee shrubland, Spinifex grassland, Samphire and Atriplex shrubland and Mangrove woodland. (Keighery & Muir – in prep).

The habitat on Faure Island was in relatively good condition when acquired by AWC. However, weeds such as Buffell Grass and Boxthorn, and feral goats and cats, are a legacy of past use as a pastoral venture. Foxes or rabbits were not present on the island. In February 2001, feral cat eradication commenced consisting of an aerial baiting, ground baiting, trapping and monitoring lead by Dave Algar (CALM) (Algar et al in prep). By winter 2001, after extensive monitoring, the island was declared cat free. (Thomas & Whisson, unpublished report 2001). Stock eradication also commenced in 2000 with goats all but one eradicated by 2005 and sheep numbering approximately fifty. Stocking rates were estimated at 2000 sheep & 2000 goats in 1999 when AWC acquired the lease.

In 2002, the first of five planned translocations of threatened mammal species commenced. This is summarised in Table 1.

Summary of Translocations to Faure

Species	2002	2004	2005	Total	Comments
Boodie	17			17	Heirisson Prong (Popn established from Dorre Island stock).
Shark Bay Mouse	114			114	Perth Zoo, Captive bred from animals sourced from Bernier Island
Banded Hare Wallaby		7	9	16	Peron Captive Breeding Centre – Captive bred from animals sourced from Bernier Island
Western Barred Bandicoot			20*	20	Heirisson Prong (Popn established from Dorre Island).

* During this reporting period, details in table 2 below.

Translocations from Faure

Twelve Boodies were translocated from Faure to Heirisson Prong in Oct 2005.

Previous Reports

Individual reports as part of on-going monitoring protocol between AWC & CALM (Department of Conservation and Land Management) for each of the translocated species have been prepared every six months since release. After discussions with CALM & AWC staff, it was determined that these species reports be replaced with an overall report for each sanctuary reflecting overall patterns and trends over time.

Methods

Current Translocations

Banded Hare Wallabies

Seven Banded Hare-wallabies *Lagostrophus fasciatus fasciatus*, three females and four males, were translocated to Faure Island during May 2004. Details of this release are outlined in report June 2004. A second translocation of nine Banded Hare-wallabies was carried out during May 2005. Details from this translocation are in the report entitled "Faure Island, Banded Hare Wallabies June 2005".

As part of the translocation proposal endorsed by CALM, Banded Hare Wallabies are to be monitored on a quarterly basis post release by trapping and spotlighting. As reported in June 2005, all radio-collars have now been removed. They were trapped as part of the annual survey in July 2005 and targeted trapping in the vicinity of the release site in Oct 2005. The targeted trapping used fifty sheffield traps over three consecutive nights. A further release is planned for mid 2006.

Western Barred Bandicoots

On 6/10/05, twenty Western Barred Bandicoots (*Perameles bougainville*) consisting of nine females and eleven males were translocated to Faure Island under the translocation proposal endorsed by CALM. The bandicoots were sourced from Heirisson Prong (Shark Bay) where a population had been established in 1995 by CSIRO from Dorre Island. The release site is shown in Map 1. Details of the bandicoots released are shown in Table 2.

Map 1 – Western Barred Bandicoot Release Site

Faure Island Sanctuary

Legend

-  Birrida (clay pan)
-  Mangroves and Tidal swamps
-  Tracks
-  Annual Trap Point

Release sites

-  Banded Hare Wallaby
-  Boodie
-  Shark Bay Mouse
-  Western Barred Bandicoot

Banded Hare-wallaby movement of individual #2 during first 14 days



Bandicoots movements in first 14 days

(See inset)

- | Female | Male |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  2 |  1 |
|  4 |  3 |
|  5 |  6 |

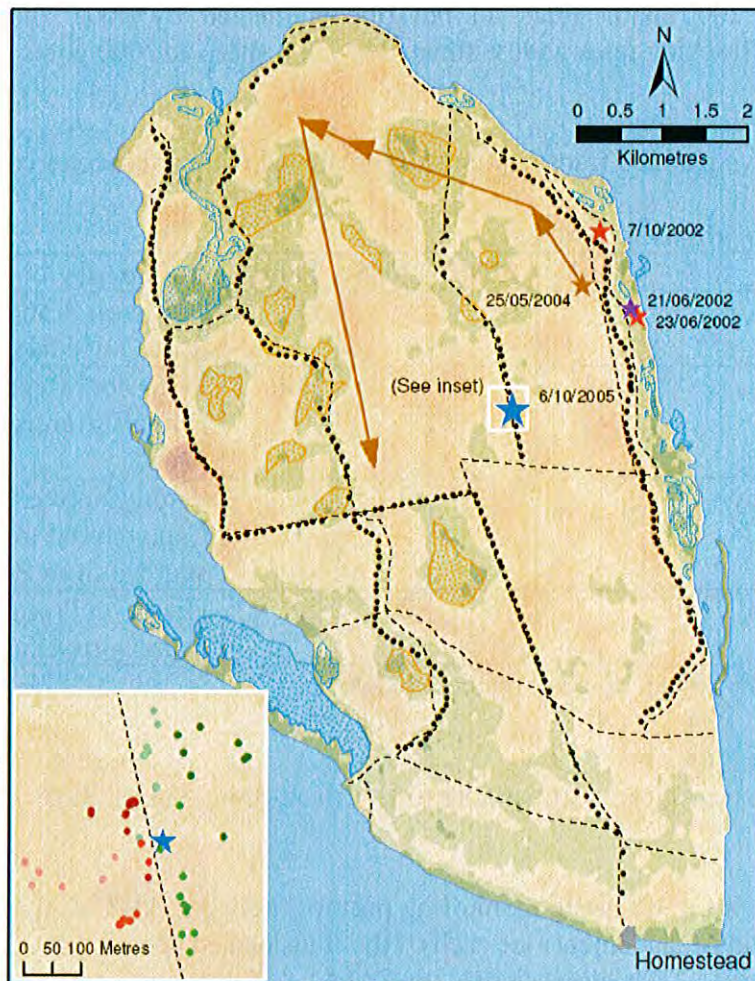


Table 2 - Details of Western Barred Bandicoots released at Faure Island

Date	Trovan	Sex	Age	Wt	Pes	Collar	Pouch	No C-R	Notes
6/10/2005	6673F19	M	A	227	4.96				blood taken, first captured 11/04
6/10/2005	6642990	M	A	250	4.82				first captured 11/04
6/10/2005	6393F20	F	A	309	4.88		LPY	2	first captured 05/04, PY un-haired
6/10/2005	615864C	F	A	244	4.88		EPY	2	blood taken, first captured 11/04
6/10/2005	66E2513	F	A	290	5.04		LAC		blood taken, first captured 10/05
6/10/2005	66DDOA7	F	A	301			LPY	2	first captured 10/05 PY un-haired
6/10/2005	6710EDD	M	A	186	4.75				first captured 10/05
6/10/2005	615909D	F	A	274	4.78	150.440	MPY	3	missing LHS ear first captured 05/04
6/10/2005	66DEEOA	M	A	235	4.80	150.380			2/3 tail
6/10/2005	639ACC5	M	A	262	5.05	150.460			first captured 10/03
6/10/2005	6134EOO/6 38A98C	M	A	238	5.05	150.400			first captured 05/04
6/10/2005	6390BCO	M	A	239	5.10				anaesthetised no collar, first captured 11/04
6/10/2005	6674636	F	A	329	4.92	150.340	LPY	2	PY un-haired
6/10/2005	6131803	F	A	274	4.95	150.329	MPY	1	
6/10/2005	6393C59	M	A	238	5.11				anaesthetised no collar
6/10/2005	6189A3A	F	A	304	5.04		LPY	1	lightly haired PY
6/10/2005	66DF95	M	A	226	4.89				
6/10/2005	639A791	M	A	190					
6/10/2005	66748A6	F	A	394	5.06		LPY	2	lightly haired PY
6/10/2005	613206B	M	A	229	4.99				

As part of the translocation proposal, Western Barred Bandicoots captured for translocation at Heirisson Prong, received a final health check which included weight, reproductive status, blood and tissue samples taken and a thorough external examination with particular emphasis on any symptoms the two known disease entities:- Chlamydia and the papilloma-like 'wart syndrome'. The bandicoots were anaesthetised for this health check, with assistance from PhD students from Murdoch University.

Whilst under anaesthetic, six bandicoots (three males, three females) were also fitted with radio-collars. Radio-collars were manufactured by Sirtrack from New Zealand incorporating a two-stage transmitter, a whip aerial with a 2 km range and a six-week battery life. The collars weigh 8g (less than 5% body weight) with a plastic "zippy tie" which is significantly lighter than the brass loops previously used. Mortality function was not used in an effort to further reduce the weight and size of the collars.

Under the translocation proposal, Western Barred Bandicoots were to be radio-tracked daily for the first week post-release and at least every two days for the following three weeks, to determine habitat use, dispersal, and survivorship. Attempts were made to trap the bandicoots after one week to determine collar fit and again after five weeks to remove collars prior to battery failure. Trap placement was determined from radio-tracking results to maximise recapture of other bandicoots. Radio-tracking was undertaken in daylight hours, using triangulation methodology to determine locations. Movement and sightings were recorded each day during the first week post release, this continued during the subsequent weeks followed by collar removal. The initial radio-tracking, trapping, track searches and spotlighting were undertaken by AWC staff. Monitoring will continue on a quarterly basis for the first year to monitor the survival and establishment of the population as well as the health, general condition and reproductive status of the bandicoots.

Ongoing monitoring of Boodies, Shark Bay Mice and other flora and fauna.

A biological survey was conducted during July 2005 at Faure to monitor previous releases, other wildlife and vegetation. This survey will be conducted annually.

Trapping

A major trapping event as part of the Faure Island annual survey was conducted in July 2005. The survey included monitoring of vegetation, birds, feral animals & introduced species. Trapping using Sheffield wire traps targeting Boodies and Banded Hare-wallabies and Elliott traps targeting Shark Bay Mice and Western Barred Bandicoots, pitfall trapping was also conducted. Three hundred trap sites, each with a Sheffield and Elliott trap cover the island at approximately 100m intervals. Each transect of one hundred traps is trapped for three consecutive nights. There are ten pitfall sites consisting of six pits each. Map 2 outlines the location of trap-lines (orange, green & pink) and pit traps (purple).

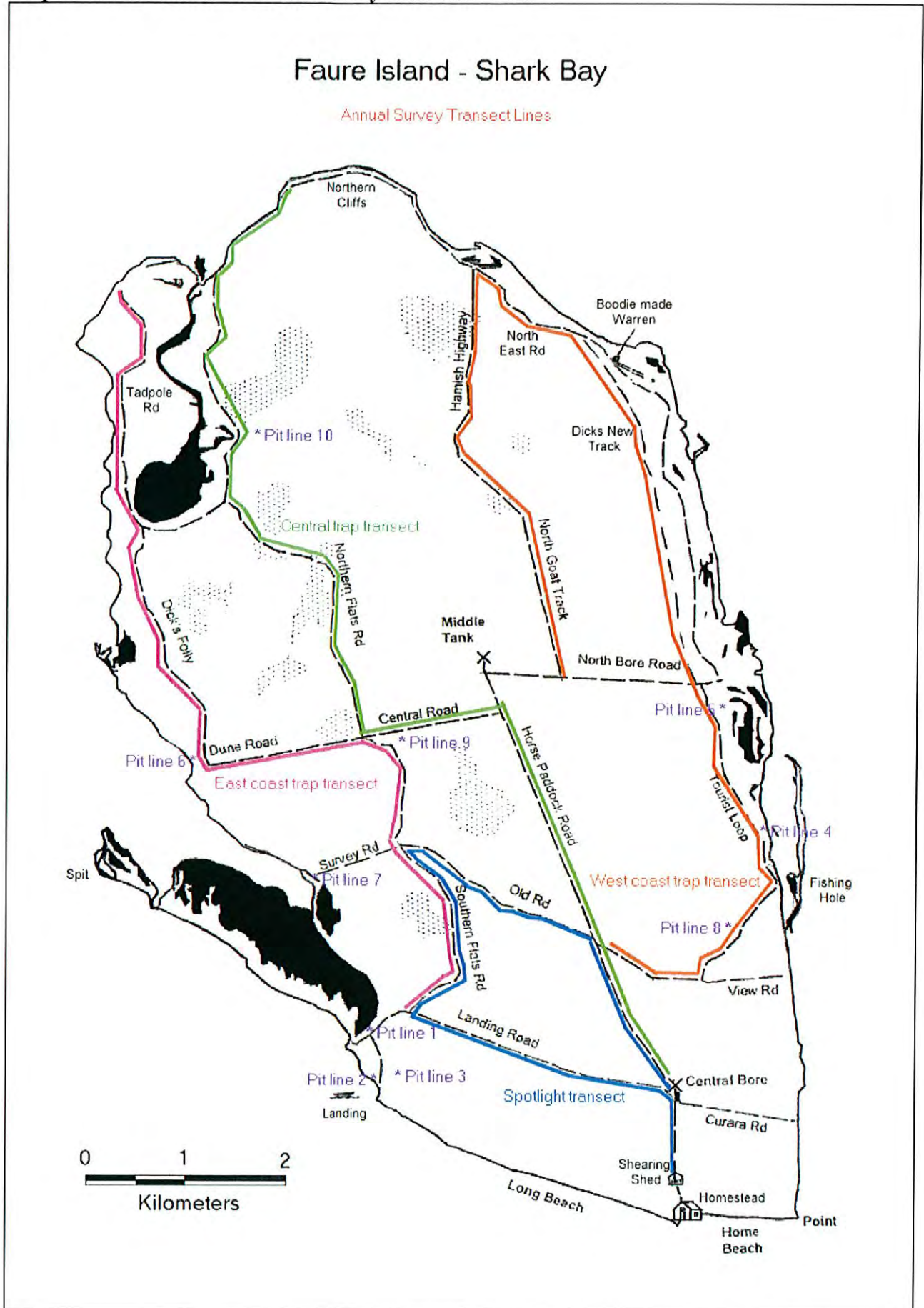
Table 3 - Trapping Effort – Annual Survey

Trap Type	No Traps X No nights	No. Nights	Total
Pit Trap	60	3	180
Medium Elliott Trap	300	3	900
Sheffield Trap	300	3	900
Total			1980

Spotlighting

During this reporting period, a spotlight drive transect was implemented at Faure incorporating an area not thoroughly covered by trapping as the vegetation is too sparse to shelter traps. The transect was set up to standardise spotlight monitoring technique so the data is comparable with other locations including other AWC sanctuaries and CALM reserves. This transect is 15km long and takes approximately one and a half hours to complete. The route is outlined in blue on Map 2. It is conducted on three consecutive nights in July during the Fauna Survey. A similar drive transect has also been set up at Karakamia, Mt Gibson & Paruna Sanctuaries.

Map 2 – Faure Island – Annual Survey Transect Lines

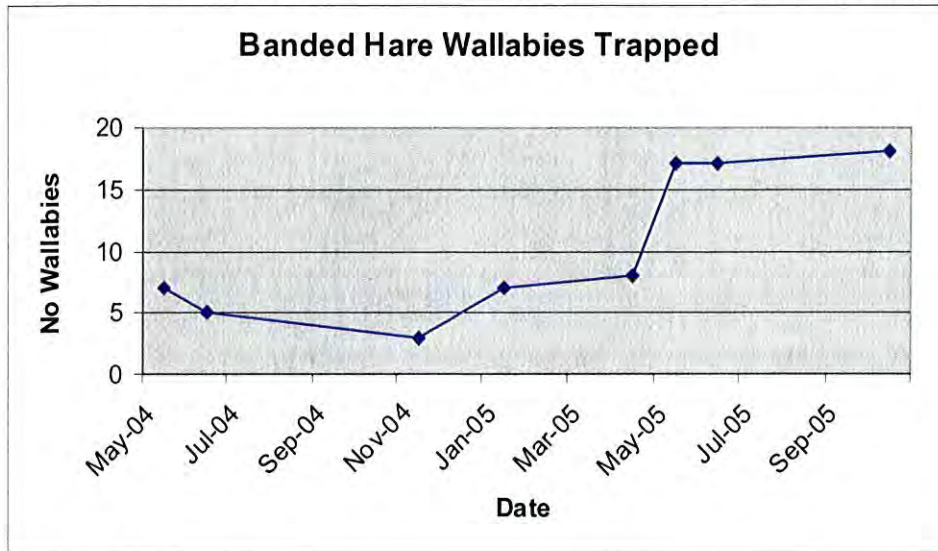


Results & Discussion

Banded Hare Wallabies

During this period, eight Banded Hare Wallabies (no re-traps) were trapped in July as part of the annual survey, and thirty seven (consisting of eighteen individuals) were trapped during targeted trapping at the release site during Oct 2005. Figure 1 shows the number of Banded Hare Wallabies trapped since release of seven in May 2004.

Figure 1 – Banded Hare Wallabies Trapped (*NB a further nine individuals released May 05)



Survivorship

During this period forty five Banded Hare Wallabies were trapped consisting of seventeen individuals including thirteen of the sixteen founders, three Faure Island born and one new individual. Five founders of the seven from the 2004 release and eight of the nine founders from the 2005 release were captured. They were all trapped in the vicinity of the release site. Ten females were trapped, two had regressed pouches, eight contained pouch young. All individuals were noted to be in good condition.

Western Barred Bandicoots

Health Checks

A detailed external examination and blood and tissue samples taken under anaesthetic was conducted with assistance from PhD students from Murdoch University. No evidence of the disease was found. Other details such as pouch condition, weight etc are recorded in Table 1.

Radiotracking

Six bandicoots were fitted with radiocollars on 6/10/05 and monitored daily for the first two weeks. The tracking revealed the dispersal of the bandicoots to be in close proximity to the release site. During the first week, all bandicoots were located each day and all animals were trapped back or observed closely after one week. There were no issues associated with collar fit or the new zippy tie design, no animals were recorded with their feet trapped in the collars, which was identified as a concern in the translocation proposal as identified in previous releases. However a number of issues were encountered with the collars from 17/10/05 onwards. Several collars lost their aerials, significant signal decreases were noted and chaffing was recorded in four animals due to weight gains, though several earlier checks revealed no collar fit or chaffing problems. The chaffing developed within two days. Due to these findings, all collars were removed by 25/10/05.

Trapping

After one week, thirty five Elliott traps were set surrounding the radio collared bandicoots resulting in the capture of nine individuals, (four were captured by hand). Five of the six collared bandicoots were trapped plus three other founders. All trapped individuals had gained weight, one week post release, and all three females trapped had retaining their pouch young.

On 25/10/05 Elliott traps were placed surrounding the collared bandicoot with the trovan No 639ACC5, as the collar appeared to have failed. He was successfully trapped and the collar removed along with two other founders. One month post release, one hundred Elliott traps were placed surrounding the release site resulting in the capture of eleven founders. All were noted to be in good condition and four of the previously collared individuals were captured with no sign of chaffing from the collars.

Other Monitoring Results

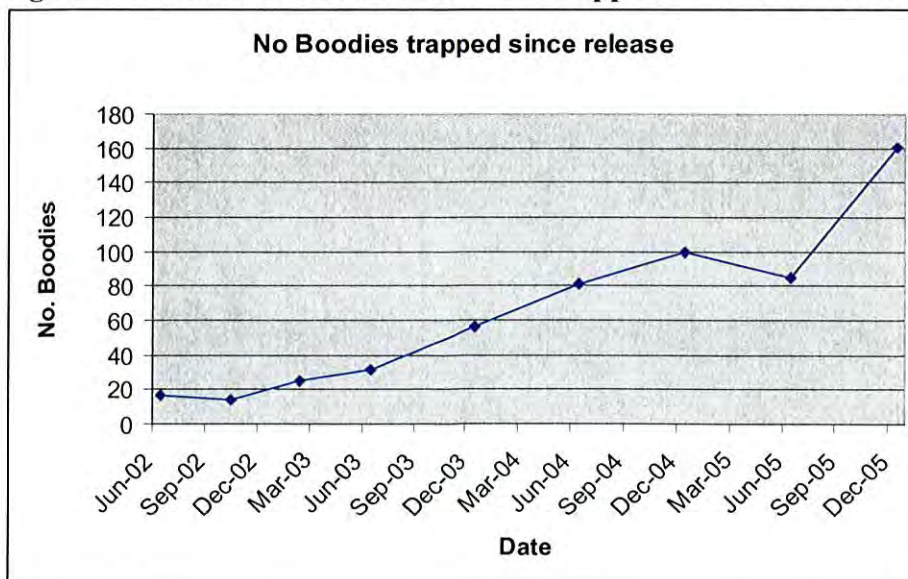
Trapping

Table 4 – Summary of trapping results from annual survey

Species	No trapped	Comments
Banded Hare Wallaby	8	Including no re-traps
Boodie	278	Including 117 re-traps
Shark Bay Mouse	42	Including 2 re-traps
House Mouse	6	
<i>Ctenotus fallens</i>	5	
<i>Ctenotus schomburgkii</i>	2	
<i>Ctenotus</i> sp	1	
<i>Heteronotia binoei</i>	8	
<i>Lerista muelleri?</i>	2	
<i>Morethia lineocellata</i>	14	
<i>Varanus gouldii</i>	8	
Unknown Skink	1	
Total Animals Trapped	375	
Trapping Effort	1980	
Trap Rate	18.9%	

Boodies

Figure 2 – Number of individual Boodies trapped since release June 2002.



As can be seen in Figure 2, Boodies have increased steadily since release in 2002 and have spread across the entire island. As noted in previous reports, there are a number of individuals being noted with ear infections and growths. Colleen Sims (CALM) conducted tests on three individuals with this condition which were sent to Murdoch University for analysis. The histological changes in the sections submitted are most consistent with trauma to the ear, followed by distortion of the ear cartilage during the healing process. Considering that the gender most commonly affected is the male, inter male aggression is the most likely cause of the lesions. The inflammatory reaction was not focused primarily on the cartilage, making the autoimmune disease “auricular chondritis” an unlikely pathogenesis for this disease. (Mandy O'Hare pers comm.)

Figure 3 – No individual Shark Bay Mice trapped since release

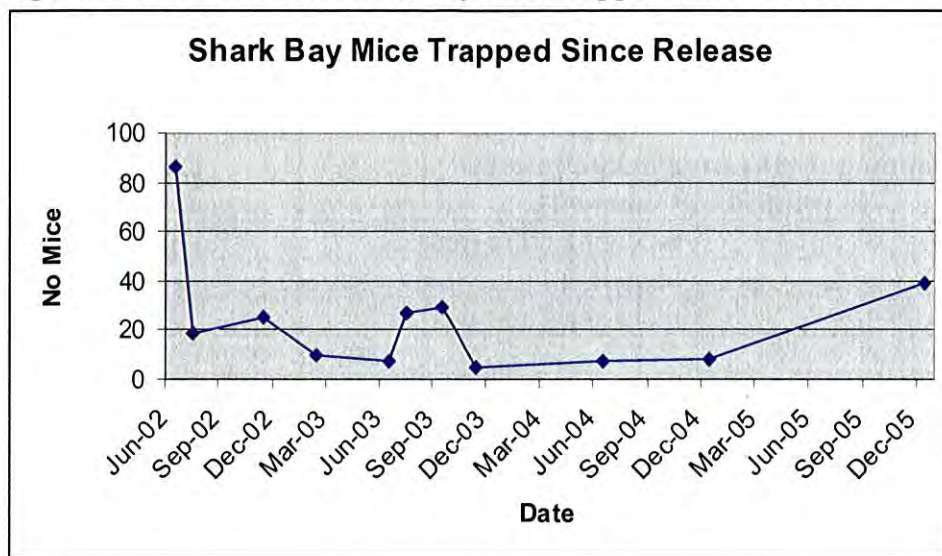


Figure 3 shows variable trapping success of Shark Bay Mice and is, in all probability not a true reflection of numbers of individuals as they appear to be very trap shy. Despite variable trap results, prints have been observed across the island since release in 2002. However quite large numbers were trapped in 2005, which was a very good season for food resources, and consequently breeding was likely to be very successful during the year. Many of the females trapped were noticeably pregnant.

Spotlighting

The drive transect was conducted on 12/7, 16/7 and 20/7 2005. A total of twelve vertebrates were sighted over the three consecutive nights that included two boodies, two horses plus a number of roosting birds.