

Australian Wildlife Conservancy

FAURE ISLAND SANCTUARY

Jan - Nov 2007

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 had previously been 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, most of which falls in winter, though cyclonic activity may bring significant summer rainfall. There are five major plant communities on the island, *Acacia* shrubland, mallee shrubland, spinifex grassland, samphire and *Atriplex* shrubland, and mangrove woodland (Keighery and Muir in press).

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, were a legacy of past use as a pastoral venture. Stocking rates were estimated at 2000 sheep and 2000 goats in 1999 when AWC acquired the lease. Foxes and rabbits were not present on the island.

In 2001 feral cats were eradicated by aerial and ground baiting, followed by trapping and monitoring led by David Algar from the Department of Environment and Conservation (DEC; Thomas and Whisson 2001; Algar and Burrows 2004; Algar and Angus in press). Stock removal also commenced in 2000 with goats eradicated by 2005 and sheep reduced, currently numbering approximately 50.

In 2002, the first of five planned translocations of threatened mammal species commenced (Table 1).

Table 1: Summary of mammal translocations to Faure Island.

Species	2002	2004	2005	2006	2007	Total	Source population
Boodie	17					17	Heirisson Prong (Original source Dorre Island)
Shark Bay Mouse	114					114	Perth Zoo (captive bred, original source Bernier Island)
Banded Hare Wallaby		7	9	10	8*	34	Peron Captive Breeding Centre (captive bred, original source Bernier Island)
Western Barred Bandicoot			20			20	Heirisson Prong (Original source Dorre Island)
Greater Stick-nest Rat				24		24	St Peters Island, SA and Salutation Island, WA

* During this reporting period, details in tables below.

Translocations from Faure Island

Twelve Boobies were translocated from Faure Island to Heirisson Prong in October 2005. The Heirisson Prong population is managed by Jeff Short, Wildlife Research and Management, and the Useless Loop Community Biosphere Project Group Inc.

Previous Reports

Individual reports as part of ongoing monitoring protocol between AWC and DEC (formerly CALM) for each of the translocated species have been prepared every six months since release. After discussions with DEC, it was determined that these species reports be replaced with a single annual report for each sanctuary reflecting population establishment and trends over time.

Methods

Current Translocations

All Translocation Proposals endorsed by DEC for threatened mammals translocated to Faure Island stipulate an intense monitoring regime in the initial month after release; this usually includes radio tracking and trapping. For the first twelve months after release the monitoring is on a quarterly basis through spotlighting and trapping. All translocated animals are then monitored annually thereafter.

Banded Hare Wallabies

Seven Banded Hare-wallabies *Lagostrophus fasciatus fasciatus*, three females and four males, were translocated initially to Faure Island in May 2004. Additional translocations are outlined in Table 1 (details in previous reports to DEC). A fourth translocation of eight Banded Hare-wallabies was conducted in June 2007 and released in the same vicinity as the previous releases (Table 2).

Table 2: Details of the Banded Hare-wallabies released on Faure Island in June 2007.

Date	Tag Type	Trovan	Ear tag P	Sex	Age	Weight (g)	Name	Pouch
11/6/2007	P	66DCA09	409	F	A	1920	Tanty	EPY
11/6/2007	P	66E2676	412	M	A	1495	Heffa	
11/6/2007	P	66DF508	416	F	A	1700	Jasmine	EPY
11/6/2007	P	66DF765	417	F	A	2325	Pebbles	EPY
11/6/2007	P	66E0D7E	418	M	A	1505	Carnival	
11/6/2007	P	66DBCBB	420	M	A	1695	Spud	
11/6/2007	P	66DC430	421	F	A	2055	Custard	EPY
11/6/2007	P	6994369	776	F	A		Charlotte	EPY

Trapping for Banded Hare-wallabies in 2007 included the annual survey in June/July and targeted trapping in January, April and October 2007. The target trapping varied temporally and spatially, as guided by spotlighting and track counts.

Western Barred Bandicoots

Twenty Western Barred Bandicoots *Perameles bougainville*, consisting of nine females and eleven males, were translocated to Faure Island in October 2005. Ongoing monitoring has continued as per the AWC Translocation Proposal (endorsed by DEC), including annual monitoring in June/July. Opportunistic trapping for Western Barred Bandicoots has occurred while monitoring other releases.

Greater Stick-nest Rats

Twenty four Greater Stick-nest Rats were translocated to Faure Island in September 2006. They were sourced from St Peters Island in South Australia and Salutation Island in Western Australia.

As per the AWC and DEC Translocation Proposal (endorsed by DEC), monitoring continued with targeted trapping and track counts in January and April and the annual survey in June/July 2007. Opportunistic trapping and track records have continued while monitoring other releases.

Ongoing monitoring and annual survey

The annual biological survey was conducted in June/July 2007 at Faure Island to monitor previously translocated species, vegetation, birds, and feral species (*regular checks for reinvasion of introduced predators occur at Faure Island via track counts and spotlighting*). The annual survey included trapping using Sheffield wire cage traps, Elliott traps, pitfall traps, track counts and bird observations. Three hundred trap sites, each with a Sheffield and Elliott trap cover the island's road network at approximately 100 m intervals. Each transect is trapped for three consecutive nights. There are ten pitfall sites consisting of six pits each. The total trapping effort for this reporting period is shown in Table 3. It includes the June/July annual survey and targeted trapping efforts (January, April and October 2007).

Table 3: Trapping effort on Faure Island in 2007.

Trap Type	No. Traps	No. Nights	Total trap nights
Pit	60	3	180
Medium Elliott	1 x 20 3 x 50 12 x 75 4 x 60	17	1310
Sheffield	2 x 10 2 x 20 6 x 50 4 x 60 12 x 75	26	2100
Total			3590

Spotlighting

The standard spotlight drive transect at Faure Island incorporates an area not thoroughly covered by trapping as the vegetation is too sparse to shelter traps. The spotlight transect was established for comparison with other AWC sanctuaries and DEC reserves. The transect is 15 km long and takes approximately one and a half hours to complete. It is conducted on three nights in June/July during the annual fauna survey. Other opportunistic spotlighting data is also presented in this report.

Opportunistic observations

Observations of interest are noted and recorded by staff during all sanctuary work. This can include unusual sightings, calls, scats, prints and breeding events that might not be detected by standardised monitoring techniques. A walk along the coastline of Faure Island, together with early morning bird observations, is included during the annual survey in June/July.

Vegetation

There are 23 photographic monitoring points on Faure Island consisting of three Department of Agriculture Rangeland Monitoring Sites, which have a long monitoring history, and 20 sites established by AWC covering different habitats, disturbed areas, weeds and regeneration of vegetation such as sandalwood. These photographs are held by AWC. A vegetation survey was conducted by Greg Keighery in May 2000 (Keighery and Muir in press), with voucher specimens taken. A field herbarium is currently being established and weed control management is in place.

Table 4: Rainfall recorded on Faure Island 1997-2007. Note that March 2000 was a cyclonic event.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1997	0	6	0	19.5	14	58	16	32	19	6	0	0	170.5
1998	0	0	0	7.5	51.5	77	88	19	0	7.5	0	5	255.5
1999	0	6	30	17	72	29.5	13	16.5	4.5	3	0	0	191.5
2000	0	0	295.5	3.5	7	6	14.5	38	0	0	0	0	364.5
2001	0	6.5	0	0	4	4.5	6	16.5	1	13	0	0	51.5
2002	0	0	0	10	28	41.5	17.5	25.5	4		0	0	126.5
2003	0	0	0	0	6	25	7.5	35	3	0	0	0	76.5
2004	0	82	0	0	24.5	20	65	3	8.5	0	0	0	203
2005	0	0	0	69	57.5	59.5	2	2	5.5	22	0	0	217.5
2006	13.8	3.2	46	37	0	21	9	11.5	9	0	0	3	153.5
2007	1	0	0	0	17	15	34	1.5	2.4	5			75.9

Results and discussion

Banded Hare-wallabies

During 2007, there were 38 Banded Hare-wallaby captures, consisting of 16 individuals, including 15 of the 34 founders (three from 2004, six from 2005, three from 2006 and two from 2007) and two Faure Island born animals. Some young at heel were also sighted but not captured. All of the Hare-wallabies were trapped in the vicinity of their release site and were in good condition. Ten females were captured and eight of these were recorded in breeding condition with either pouch young or lactating nipples.

Based on the increasing abundance of fresh Banded Hare-wallaby tracks and regularly trapping of female Banded Hare-wallabies with large pouch young, it was thought that higher numbers of Hare-wallabies would be captured. However record trap rates of Boodies in 2007 on Faure Island has meant that it has become increasingly difficult to trap other mammal species. Previous work with Banded Hare-wallabies had indicated that wild-born Banded Hare-wallabies may be much more 'trap shy' than captive-bred individuals (Nicole Noakes, DEC Denham, pers. comm.).

Greater Stick-nest Rats.

Despite target trapping in January and April for translocated Greater Stick-nest Rats, none were captured during this period though one was sighted during spotlighting in January and prints have been recorded on every visit this year including 24 sets of prints in January, six sets in April, and three during July, October and November in various locations over the island (Figure 1), including the original release site. All radiocollars have now failed. There are plans to translocate additional rats from South Australia in 2008 (Keith Morris, DEC and Jacqui Richards, AWC pers. comm.).

Faure Island - Shark Bay

■ Release Site
■ Prints sighted

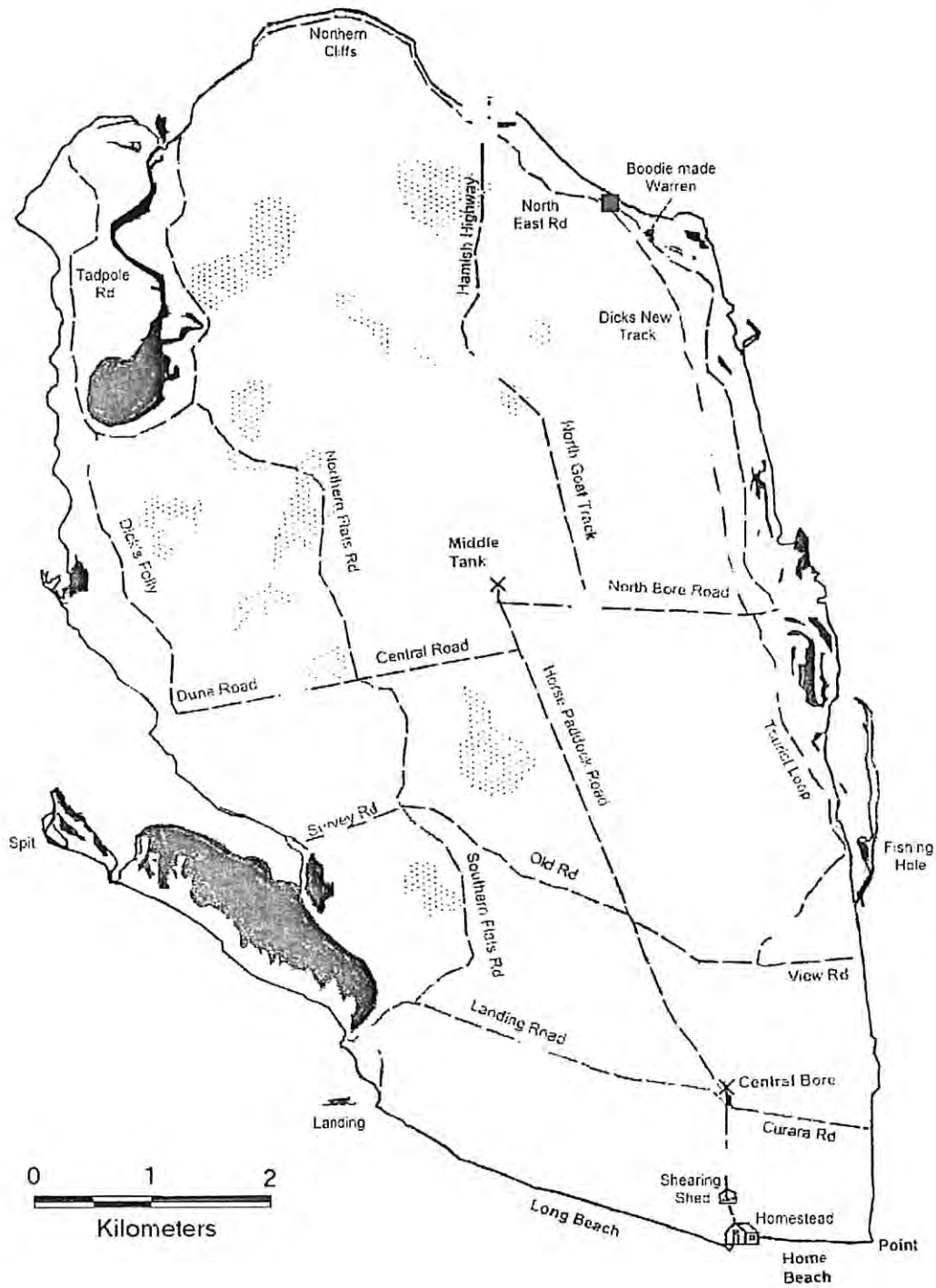


Figure 1: Location of Greater Stick-nest Rat release site and sets of prints recorded in 2007.

Western Barred Bandicoots

During 2007 there were 65 bandicoot captures on Faure Island, including 37 individuals consisting of nine previously marked, 22 new and six founders. Eleven of the 18 females captured were recorded in breeding condition. Four were spotted during spotlighting transects. During the June/July survey prints were recorded at 150 locations over most of the island. The bandicoots are being trapped less often and in more restricted locations than print density and spatial trends would forecast. This is probably a result of trap disturbance and trap un-availability due to high Boodie numbers.

Other Monitoring Results

Trapping

Dr Andy Smith from Murdoch University took samples from all the trapped mammals (Boodies, Shark Bay Mice, Banded Hare-wallabies and Western-barred Bandicoots) and found no evidence of Toxoplasmosis within the Faure Island samples taken. It indicates there are no environmental remnants of infection and no evidence of vertical transmission within host populations (this means that mothers are not infecting babies; A. Smith pers. comm.).

Table 5: Summary of trapping results for 2006 and 2007 on Faure Island.

Species	No. trapped 2006	No. Trapped 2007
Banded Hare Wallaby	59	38
Boodie	516	778
Shark Bay Mouse	251	143
Western Barred Bandicoot	74	66
House Mouse	36	1
<i>Ctenotus fallens</i>	18	6
<i>Ctenotus schomburgkii</i>	1	0
<i>Corvus bennetti</i>	1	8
<i>Heteronotia binoei</i>	4	4
<i>Lerista muelleri</i>	2	0
<i>Lerista praepedita</i>	2	0
<i>Lerista varia</i>	1	0
<i>Menetia greyii</i>	0	1
<i>Morethia lineocellata</i>	12	1
<i>Varanus gouldii</i>	3	5
<i>Vermicella littoralis</i>	0	1
Total animals trapped	980	1052
Trap nights	4620	3590
Trap rate	21.3%	29.4%

Boodies

The Boodie population has increased steadily since their release in 2002 and were still increasing in 2007 despite a dry season, with 525 individuals captured (Figure 2).

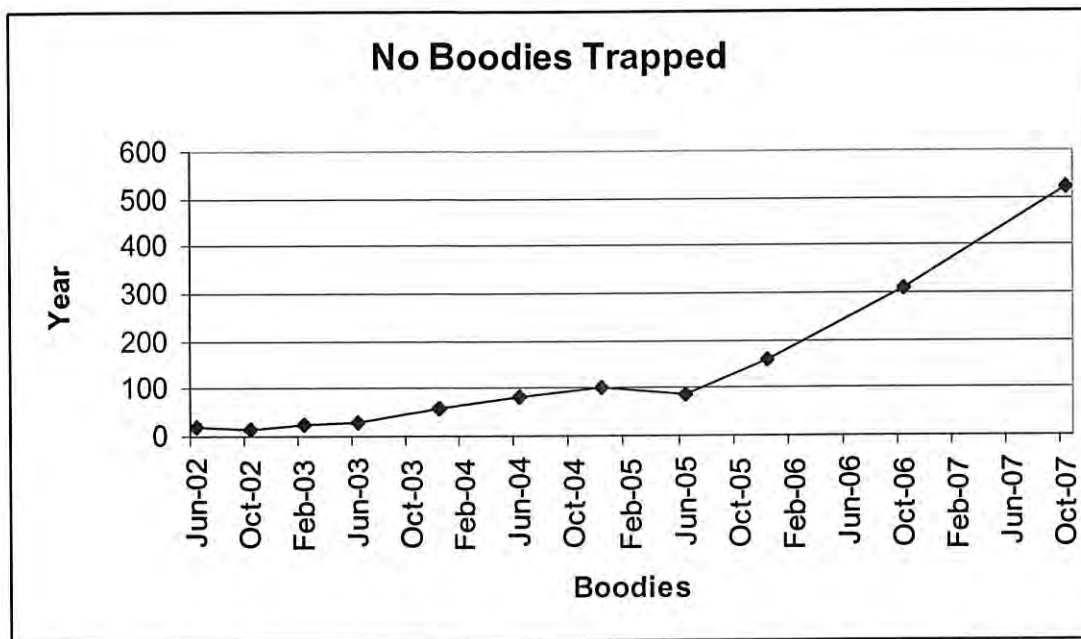


Figure 2: Number of individual Boodies trapped on Faure Island since their release in June 2002.

Shark Bay Mice

The trap success of Shark Bay Mice was variable (Figure 3) and is probably not a true reflection of the number of individuals as the species appear to be trap shy. Despite these results, tracks have been observed across the island since their release in 2002. The 2007 season was very dry, particularly in the earlier part of the year and although 142 mice were captured, this was considerably lower than the previous year. Relatively large numbers were trapped in 2006, which was a very good season for rainfall and food resources, and consequently breeding was likely to be highly successful during the year. The lower 2007 result is likely to be a direct reflection of the drier season (see rainfall data Table 4).

The annual survey in 2006 occurred after winter rains; this year the survey was before winter rains. It is likely that the total count of Shark Bay Mice would have been higher in 2007 if the annual survey was held 4-6 weeks later. In a non-survey trip to the island during August and September many young Shark Bay Mice were seen and there were at least four nests with three young in each noted in the homestead alone.

Many of the females trapped in 2007 were pregnant and young mice were captured regularly in all seasons. The Shark Bay Mice population on Faure Island appears to be well established and healthy.

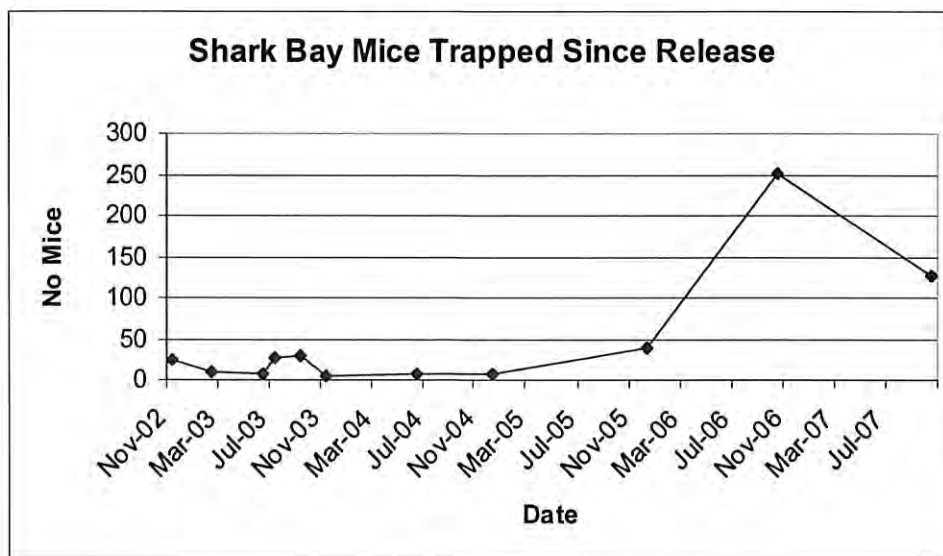


Figure 3: Number of Shark Bay Mice captured on Faure Island since release.

Spotlighting

The standardised drive transect was conducted on 27/6, 1/7 and 5/7/2007. Twenty vertebrates were sighted over the three nights, including 11 Boodies, three Shark Bay Mice, four Western Barred Bandicoots, a Bustard, and a Boobook Owl.

Shark Bay Mice, Boodies and Western Barred Bandicoots were seen during opportunistic spotlighting conducted throughout the year. A Greater Stick-nest Rat was sighted on one occasion in January 2007.

General Observations

Track transects, spotlighting and beach walks covering the island during the year have confirmed the island's status as free from introduced predators. There were several bird species added to the species list including a small group of Star Finches seen during the October 2006, January 2007 and April 2007 field trips. Emu numbers have decreased this year. It appears that last year's young may not have survived and some adult birds may have died or moved back to the mainland. Emus have been seen crossing the 7 km wide ocean channel between Petit Point and the island many times.

The resident Sea Eagles have raised a young on the island again this year. There is now a resident pair of Wedge-tailed Eagles on the island, but no breeding observations have been recorded. During the July 2007 beach walks four dead young Dolphins were recorded, similar to last year. These carcasses were reported to the Monkey Mia Rangers and Research Group. Several species of sharks, some dugongs, dolphins and waders were also recorded. All data is held by AWC.

Vegetation

The vegetation is continuing to recover following the removal of stock. All photographic records are held by AWC.