

Faure Island Wildlife Sanctuary Ecohealth Report 2020



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Summary

Australian Wildlife Conservancy (AWC) has implemented an Ecological Health Monitoring Program to measure changes in the status and trend of conservation assets, and threats to those assets, across Faure Island Wildlife Sanctuary. Metrics from the program are reported in annual Ecohealth Reports and Scorecards. This is the Ecohealth Report for 2020. Metrics in this report were calculated from data collected during surveys carried out in 2020. This report provides a summary for the methodology and results of surveys conducted at Faure Island Wildlife Sanctuary. The metrics are summarised in the accompanying Ecohealth Scorecard.

Three surveys were carried out in the reporting period to monitor reintroduced and extant species. These surveys were:

- the Standard Trapping Survey, used to monitor reptiles
- the newly established Standard Bird Survey, used to monitor terrestrial birds, and
- Track Plots, used to monitor two reintroduced mammal species (Shark Bay Bandicoot (*Perameles bougainville*) and Shark Bay Mouse (*Pseudomys fieldi*)), and one large reptile: Gould's Monitor (*Varanus gouldii*).

In addition, two surveys conducted in 2019 are reported in the current report:

- a Spotlight Survey for the Boodie (Burrowing Bettong; *Bettongia lesuer*) and
- a Scat Monitoring Survey for the Banded Hare-wallaby (*Lagostrophus fasciatus*).

The results of the surveys show that Faure Island continues to support well-established populations of all four reintroduced mammals. The population of Boodies on Faure Island was estimated at over 15,000 individuals in 2019 – broadly similar to estimates from previous years. The Shark Bay Bandicoot and Banded Hare-wallaby were each recorded at 100% of sites, while the Shark Bay Mouse was recorded at 47% of sites.

A total of 17 small reptile species were recorded in live-trapping surveys. Most species appear to be maintaining abundances observed in previous years, although one species, the Blinking Broad-blazed Slider (*Lerista connivens*), was not trapped in 2020, whereas it was trapped at one-third or more sites in previous years.

The bird surveys conducted in October 2020 detected a total of 19 bird species with site species richness value of 2.8. The majority of the species detected were passerines.

Feral herbivores and predators were eradicated from Faure Island in 2001, and none were detected on the island in this survey period. There were no wildfires or prescribed burns on Faure Island in 2020.

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Cover photograph: A selection of photos from the Faure Island survey trip in October 2020. *Strophurus strophurus*; *Heteronotia binoei*; pitfall set up in saltbush habitat. AWC/ G Anderson

Introduction

Australian Wildlife Conservancy (AWC) owns, manages, or works in partnerships across 30 properties in Australia, covering almost 6.5 million hectares, to implement our mission: *the effective conservation of Australian wildlife and their habitats*. AWC relies on information provided by an integrated program of monitoring and research to measure progress in meeting its mission and to improve conservation management. AWC's Ecohealth Monitoring Program has been designed to measure and report on the status and trends of species, ecological processes and threats on each of these properties (Kanowski et al. 2018). The program focuses on selected 'indicator' species, guilds, processes and threats, using metrics derived from data collected through a series of purpose-designed surveys.

The structure of the Ecohealth Program on each AWC property is as follows. Based on the guidance provided by AWC's over-arching program framework, above, Ecohealth Monitoring Plans are developed, describing the conservation values or assets of each property, and threats to these assets; and setting out the monitoring program that will be used to track the status and trend of selected indicators of these conservation assets and threats. Annual survey plans and schedules are developed to implement these plans. The outcomes of these surveys are presented in annual Ecohealth Reports and summary Ecohealth Scorecards.

This document, the Faure Island Wildlife Sanctuary Ecohealth Report 2020, draws on surveys conducted during 2019 and 2020 to calculate values for metrics that track the status and trend of the Ecohealth indicators. The companion Faure Island Ecohealth Scorecard 2020 presents these metrics in a summary format.

Faure Island Wildlife Sanctuary

Faure Island is located in the eastern gulf of Shark Bay, between the Peron Peninsula and mainland of Western Australia (Figure 1). The island is within Shark Bay World Heritage Area, and is surrounded by the Shark Bay Marine Park. The island is 5816 ha in size.

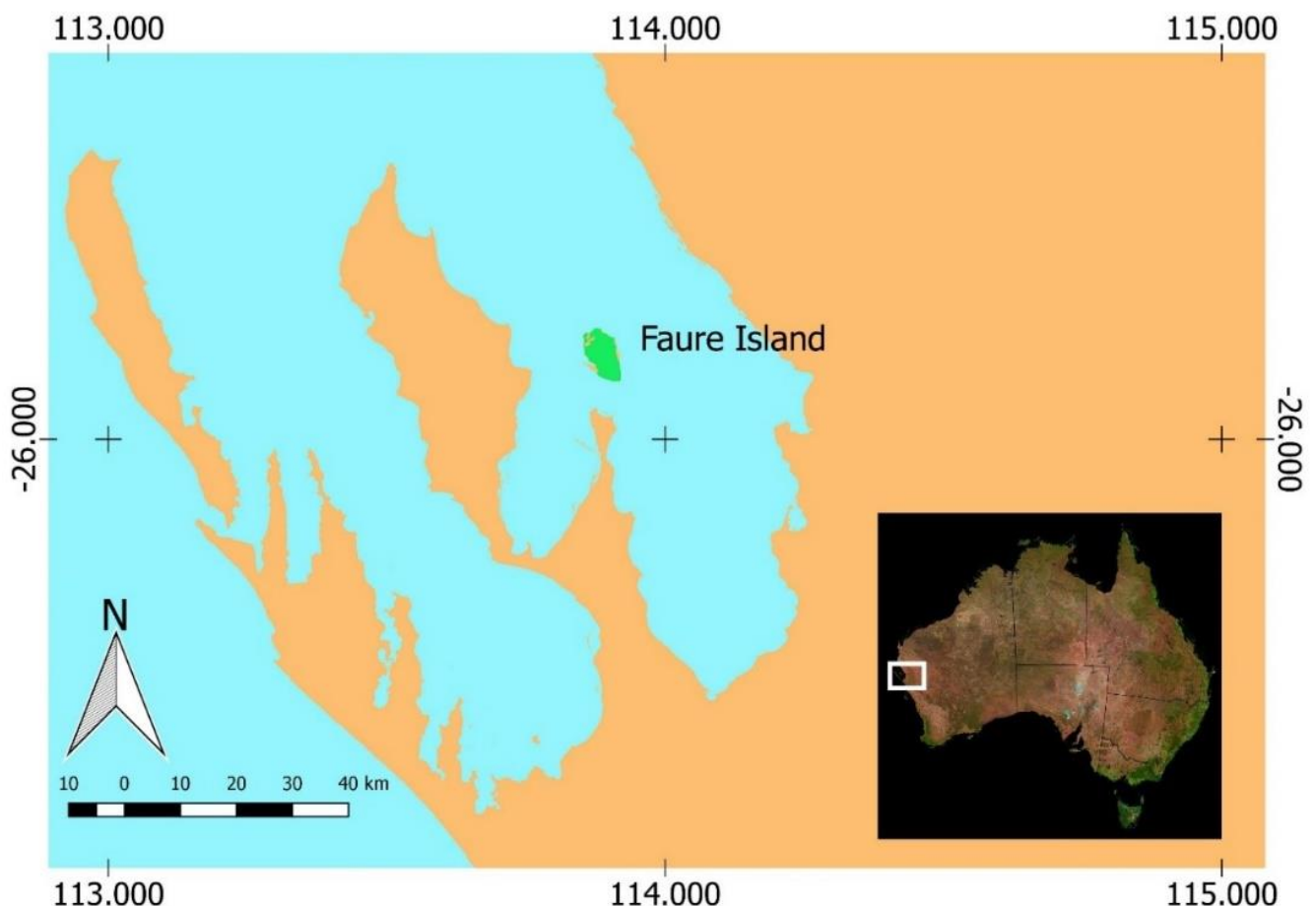


Figure 1. Location of Faure Island Wildlife Sanctuary in Shark Bay, Western Australia

Faure Island is within the traditional lands of the Malgana people. Following European colonisation, the island was run as a pastoral lease. AWC has owned the pastoral lease since 2000 (Wilson 2008). At the time of acquisition, there were 3,400 sheep and over 2,000 goats on the island. All sheep and goats have since been removed from the island, and feral cats eradicated (Algar et al. 2010). House mice were present on the island at acquisition, but have not been recorded since 2009 (Kabat et al. 2012). Foxes and rabbits have not historically been present on the island.

The island's coastline features cliffs, mangrove-lined lagoons, mudflats, and sand dunes covered in beach spinifex (*Spinifex longifolius*), while the interior consists of undulating sandy plains and dunes with a mosaic of Acacia shrubland and interdunal 'birridas' (seasonally flooded, saline clay pans) fringed by salt-tolerant samphire and saltbush (Keighery and Muir 2008; Figure 2).

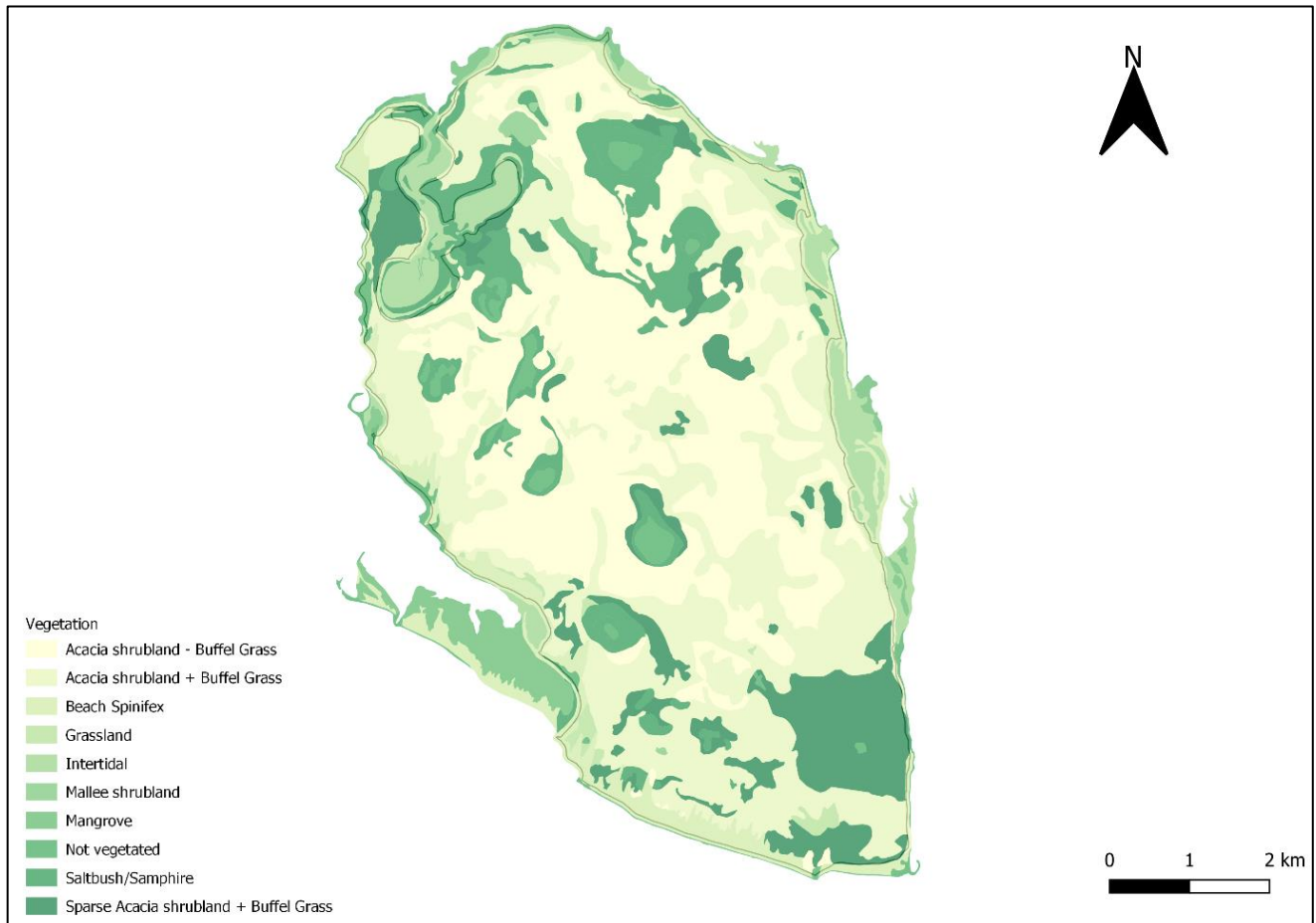


Figure 2. Vegetation types on Faure Island

AWC has successfully established populations of four threatened mammals: Burrowing Bettongs, *Bettongia lesuer*, referred to here as Boodies; Banded Hare-wallabies (*Lagostrophus fasciatus*), Shark Bay Bandicoots (formerly known as Western Barred Bandicoots) (*Perameles bougainville*) and Shark Bay Mice (*Pseudomys fieldi*) (now synonymised with Gould's Mouse *P. gouldii*; Roycroft et al. 2021).

Surveys conducted by AWC staff and partners shortly after acquisition compiled an inventory of extant and sub-fossil fauna assemblages (Aplin et al. 2008; Baynes 2008; Dell and Cherriman 2008; Schmitz and Richards 2008). Subsequently, regular surveys have been undertaken by AWC under the Ecological Health Monitoring Program to monitor select wildlife indicators and threatening processes. Detailed monitoring has also been undertaken after all translocation events to measure the success of the translocations and inform the development of strategies for future translocations. In collaboration with Birdlife Australia, shorebirds were surveyed annually to 2016 to determine trends in abundance and species richness (e.g., Mather 2014).

Based on these surveys, a total of 27 terrestrial reptile species and at least 119 bird species have been recorded from Faure Island. The mudflats, lagoons and mangroves around the island are important foraging areas for shorebirds, particularly trans-equatorial species that migrate from their breeding habitat in the Arctic to the southern hemisphere for the Austral summer.

Climate and weather summary

Faure Island has a semi-arid to arid climate, with mild winters and hot dry summers (Figure 3 - 5). Rainfall is typically winter dominant but there can be inter-annual variation, with cyclones that can bring substantial rainfall at other times of the year.

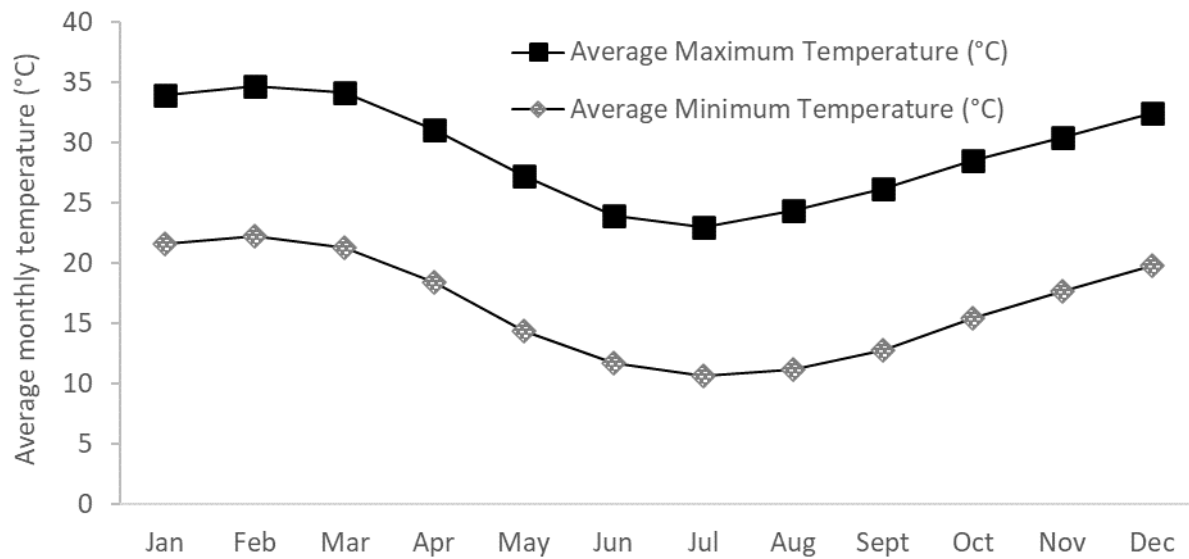


Figure 3. Mean minimum and mean maximum monthly temperature at Shark Bay Airport Monitoring Station (2001-2020) (BOM Station No. 006105). Source: BOM Climate Data Online.

Rainfall in 2019 and 2020 (73 and 113 mm, respectively) was well below average (195 mm) (Figure 4), with 2020 dry for the first five months of the year (Figure 5). The dry conditions were evident in the vegetation (Figure 6).

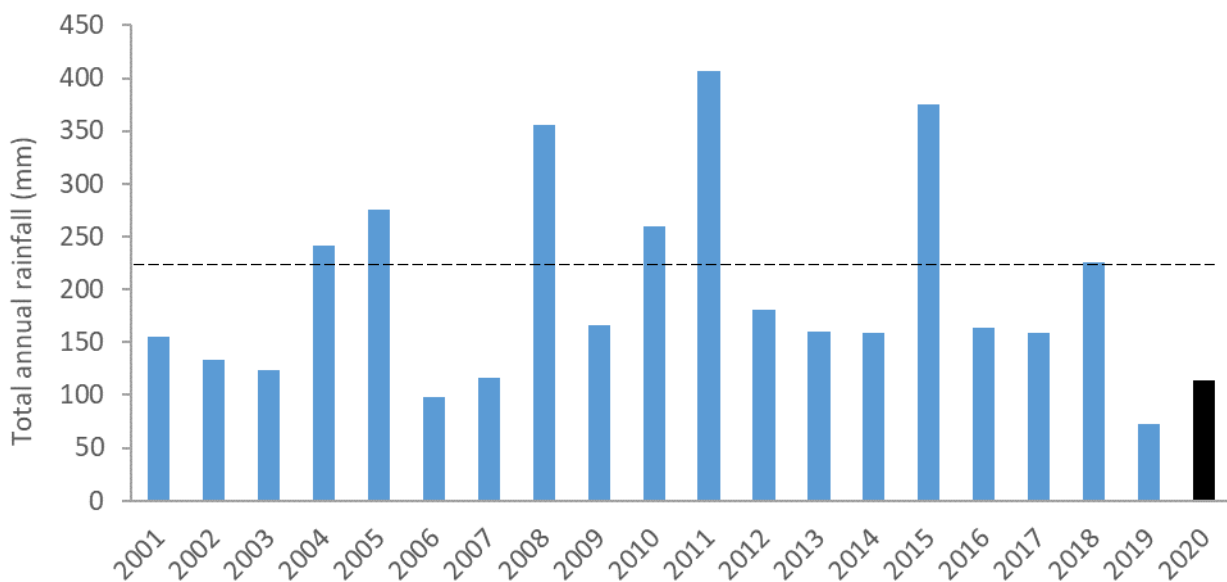


Figure 4. Total annual rainfall at Shark Bay Airport Monitoring Station (2001-2020) (BOM Station 006105). Source: BOM Climate Data Online. Dashed line = mean annual rainfall.

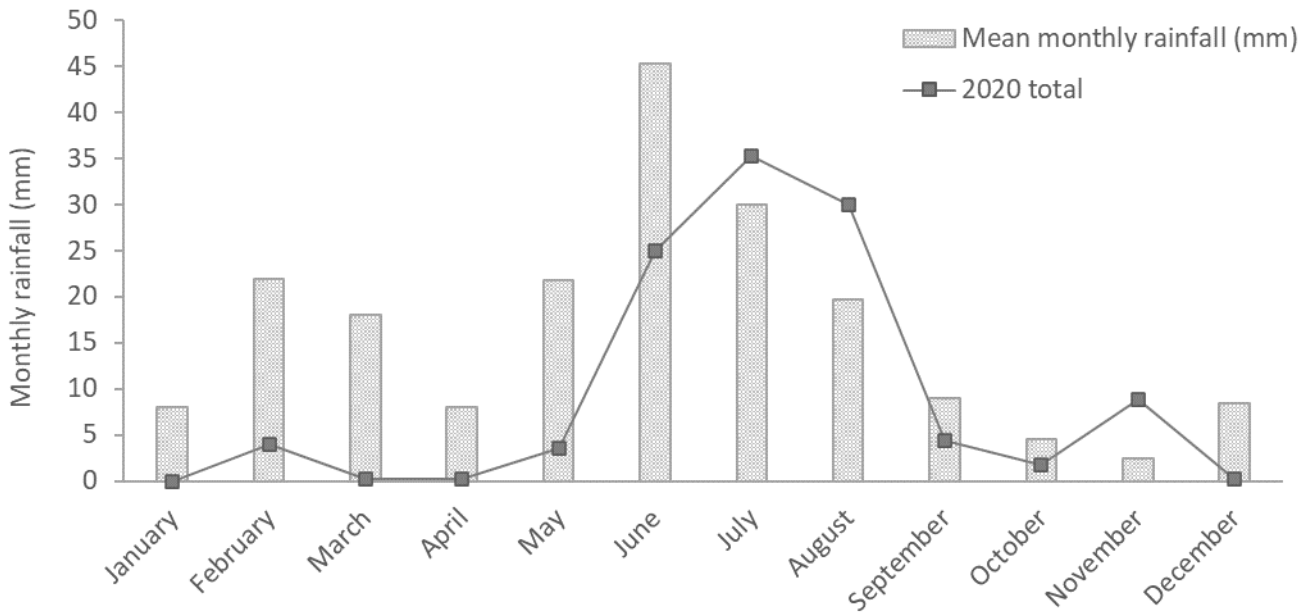


Figure 5. Mean monthly rainfall at Shark Bay Airport Monitoring Station (2001-2020) (BOM Station 006105) compared to total monthly rainfall in 2020. Source: BOM Climate Data Online.



Figure 6. Faure Island in dry conditions. This photo, taken in the middle of the drought that extended from 2019 to 2020, shows dense tracks of the Burrowing Bettong in the sand, and little ground cover vegetation. Photo: AWC/ J Kanowski.

Methods

Indicators and metrics

Faure's Ecohealth Monitoring Program has been designed to measure and report on the status and trends of species and threats on the sanctuary. The program focuses on selected biodiversity and threat indicators, using metrics derived from data collected through a series of purpose-designed surveys. A selection of species or guilds were chosen as biodiversity indicators which fit into one or more of the following categories: (1) declining and/or threatened species or guilds, (2) strong drivers of ecosystem function, or (3) are a member of the full range of taxa (to enable ongoing surveillance monitoring of a range of taxonomic groups to provide early warning of any unexpected declines).

In 2020, 14 of 16 biodiversity indicators (species and guilds) are reported on; the rationale for their selection is recorded for each indicator in Table 1. Threat metrics are selected to ensure monitoring the status and trends of introduced weeds, predators and herbivores and changed fire regimes (where appropriate). In 2020, 5 of 6 of the threat metrics are reported on (Table 2).

Table 1. Biodiversity indicators for Faure Island's Ecohealth Monitoring Program. Rationale for selection: T = threatened or declining; A = affected by mammalian extinction; D = strong driver of ecosystem function; S = surveillance monitoring. Metric definitions: Population estimate = estimate of mean number of individuals; Occupancy = percentage of sites where the species was detected; Species Richness = average number of species per site.

Indicator	Rationale				Survey method	Metric/s
	T	A	D	S		
Mammals						
Small-medium mammals						
Boodie (<i>Bettongia lesueur</i>)	*	*	*		Spotlight Survey	Population estimate.
Banded Hare-wallaby (<i>Lagostrophus fasciatus</i>)	*	*			Track Plot Survey	Occupancy
Shark Bay Bandicoot (SBB) (<i>Perameles bougainville</i>)	*	*	*		Track Plot Survey	Occupancy
Shark Bay Mouse (SBM) (<i>Pseudomys fieldi</i>)	*	*	*		Track Plot Survey	Occupancy
Reptiles						
Small reptiles						
West-coast Laterite Ctenotus (<i>Ctenotus fallens</i>)			*	*	Standard Trapping Survey	Occupancy
Barred Wedge-snout Ctenotus (<i>Ctenotus strauchii</i>)			*	*	Standard Trapping Survey	Occupancy
Blinking Broad-blazed Slider (<i>Lerista connivens</i>)			*	*	Standard Trapping Survey	Occupancy
Elegant Slider (<i>Lerista elegans</i>)			*	*	Standard Trapping Survey	Occupancy
Western Pale-flecked Morethia (<i>Morethia lieoocellata</i>)			*	*	Standard Trapping Survey	Occupancy
Fine-faced Gecko (<i>Diplodactylus pulcher</i>)			*	*	Standard Trapping Survey	Occupancy
Tree Dtella (<i>Gehyra variegata</i>)			*	*	Standard Trapping Survey	Occupancy

Indicator	Rationale				Survey method	Metric/s
	T	A	D	S		
Bynoe's Gecko (<i>Heteronotia binoei</i>)			*	*	Standard Trapping Survey	Occupancy
Mottled Ground Gecko (<i>Lucasium squarrosum</i>)			*	*	Standard Trapping Survey	Occupancy
Other reptiles						
Gould's Monitor (<i>Varanus gouldii</i>)			*	*	Track Plot Survey	Occupancy
West-coast Banded Snake (<i>Simoselaps littoralis</i>)			*	*	Standard Trapping Survey	Occupancy
Birds						
Terrestrial birds			*	*	Standard Bird Survey	Occupancy, Species Richness

Table 2. Threat indicators for Faure Ecohealth Monitoring Program. Metric definitions: Occupancy = percentage of sites where the species was detected.

Indicator	Rationale	Survey method	Metric/s
Feral animals			
Feral cat (<i>Felis catus</i>)	Major threat to wildlife. Eradicated from Faure Island in 2001	Track Plot Survey	Occupancy
House mouse (<i>Mus musculus</i>)	Competition with native species, sustains elevated populations of feral predators. Was present on Faure Island at least to 2009	Standard Trapping Survey	Occupancy
Weeds			
Weeds	Threat to wildlife	TBD	TBD
Fire			
Ecologically relevant metrics	Key driver of vegetation dynamics, structure and composition, habitat attributes	Fire Scar Analysis	Area burnt (ha) planned Area burnt (ha) wildfire

Survey types and history

In 2020, to enable the reporting on the status and trends of the 14 biodiversity and 5 threat indicators, 3 surveys were conducted on Faure Island (Table 3). Two mammal surveys were last undertaken in 2019 and are also reported in the current reporting period.

Table 3. Survey effort for Ecohealth Monitoring Program surveys on Faure Island in 2020

Survey	Effort in 2020	Description/Comment	Survey history	Timing
Standard Trapping Survey	315 trap nights	Pitfall trapping (7 traps per site) at 15 sites over three days	2013 – 2016, 2020	October/ November
Standard Bird Survey	51 surveys	20 minute - 2 ha surveys at 17 sites for 3 mornings each	Nil	October/ November
Track Plots	135 track plots	Track plots (3 plots per site) at 15 sites for 3 mornings each	2016	October/ November
Boodie Spotlight Survey	Nil	2014-15: 20 spotlight transects (1 km in length), each driven three times 2017-19: 30 spotlight transects (1 km in length), each walked once	2014-16, 2017-19	October/ November
Banded Hare-wallaby Scat Monitoring	Nil	22 sites (10 quadrats per site)	2016-2019	Varied

Survey design and methods

Standard Trapping, Standard Bird and Track Plot surveys

Standard sites were established at 15 points across Faure Island for the Standard Trapping Survey, Track Plots and Standard Bird Survey, with an additional two survey sites for birds (Figure 7).

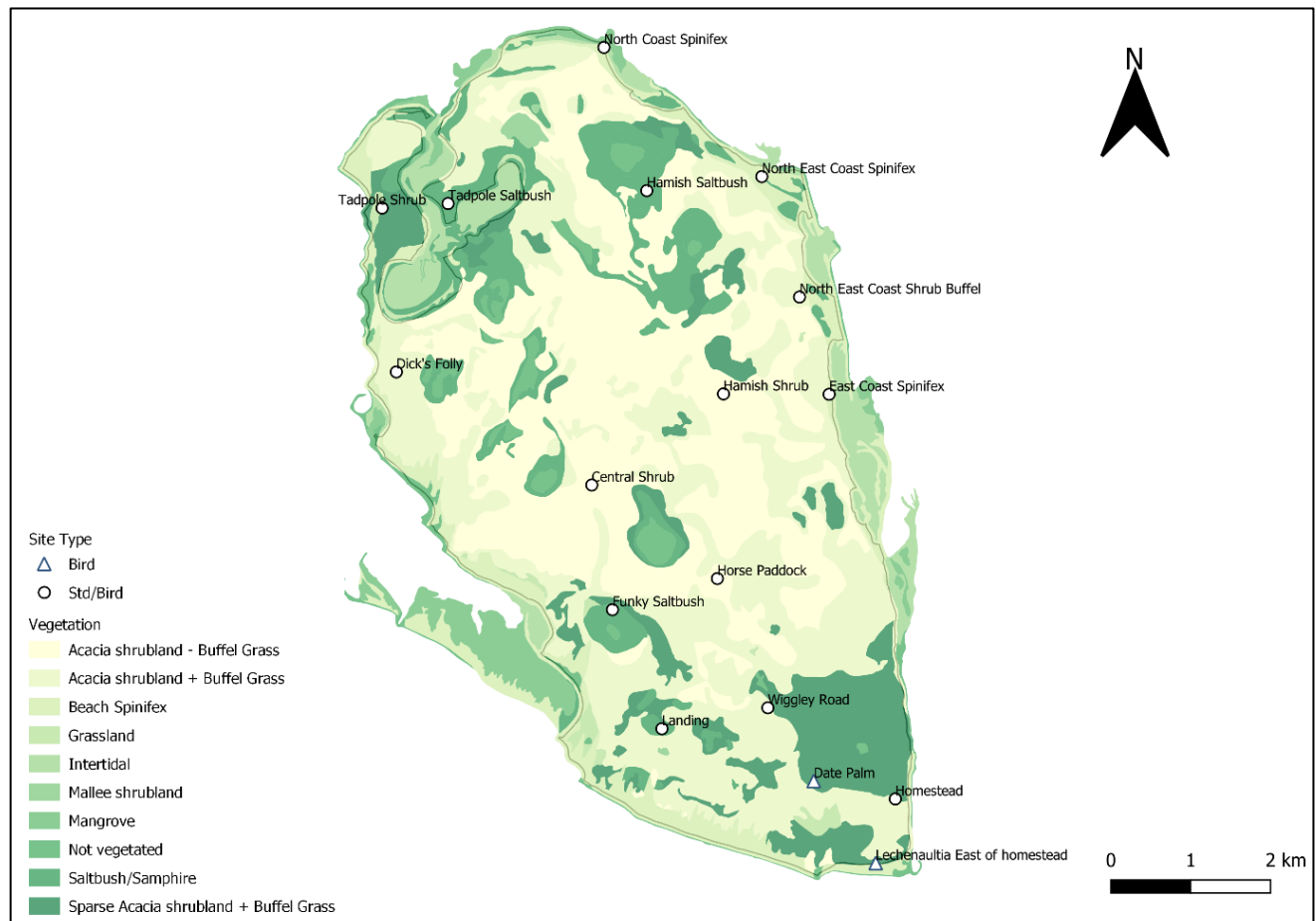


Figure 7. Standard Trapping, Standard Bird and Track Plot Survey sites.

Sites were separated by a minimum of 1 km and were located in all major vegetation communities on the island. For the 15 main sites, there were three sites in each of the five main vegetation types, including:

- Shrubland (dense Acacia shrub, no buffel grass);
- Shrubland over buffel (medium-density Acacia shrub with buffel grass);
- Sparse Acacia shrub with buffel grass;
- Coastal spinifex dunes; and
- Saltbush flats.

The two additional bird survey sites were added to cover all species likely to occur on the island:

- The 'date palm' site has a permanent water source known to attract birds;
- The *Leschenaultia* site is the only *Lechenaultia linarioides* vegetation community on the island.

Standard Trapping Survey

The Standard Trapping Survey was conducted using pitfall traps for small reptiles. Trapping was conducted for three consecutive nights. Each trapping site consisted of one pitfall trap station, comprising seven pitfall buckets connected by a 50 m drift fence in a 'T' design (Figure 8). Pitfall traps had 1 – 2cm of dirt and a small square of insulation in the bottom to provide cover for animals. Traps were cleared twice daily (early morning and late afternoon).

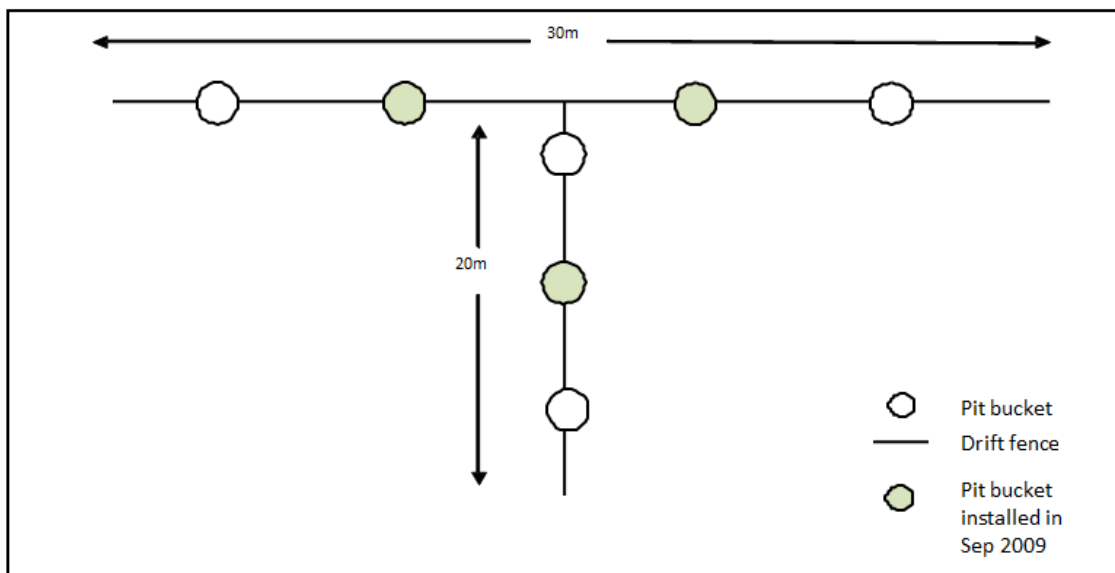


Figure 8. Pitfall site layout

Standard Bird Survey

The Standard Bird Surveys were 2 ha, 20 minute searches consistent with BirdLife Atlas survey methods (Loyn 1986) using a circular area with a radius of 80 m (Figure 9). Surveys were conducted by three teams of two people, each visiting four sites daily for three days each. Each site was surveyed in the morning and the surveyor was rotated each day to minimise observer bias. All bird species observed during the 20 minutes were recorded, along with the method of observation (seen, heard, or flyover).



Figure 9. Example of terrestrial bird survey area and approach

Track Plots

At each of the 15 standard monitoring sites, there were three tracking sub-plots (3 m x 3 m). The plots were run concurrently with the corresponding pitfall trapping. Each plot was cleared at the beginning of the survey and then checked and cleared in the morning and afternoon for three consecutive days. Tracks of target species were recorded at each plot (presence/absence).

Boodie Spotlight Survey

In 2014 and 2015, Boodies were surveyed by spotlight from a vehicle driven on 20 x 1 km transects across roads traversing the major vegetation types on the island. Each transect was surveyed three times in a survey period. Transects were surveyed by observers standing in the tray of a vehicle, which was driven at a constant low speed. Animals were categorised as 'on track' or 'off track'; for each 'off track' observation, the sighting angle and the distance to the animal was recorded. Distances were measured with a range-finder.

From 2017, surveys were conducted along 30 x 1 km walked spotlight transects randomly located across the island (Figure 10). Transects traversed the major vegetation types on the island. Each transect was surveyed once in the survey period. A team of two, comprising one navigator and one observer, surveyed each transect. When an animal was detected, the observer recorded the point of detection and used a range finder (TruPulse 360) to record the distance and angle to where the animal was first sighted. If animals were observed in 'clusters' (i.e. in groups of two or more), the observer recorded the distance and angle to the mid-point of the cluster.

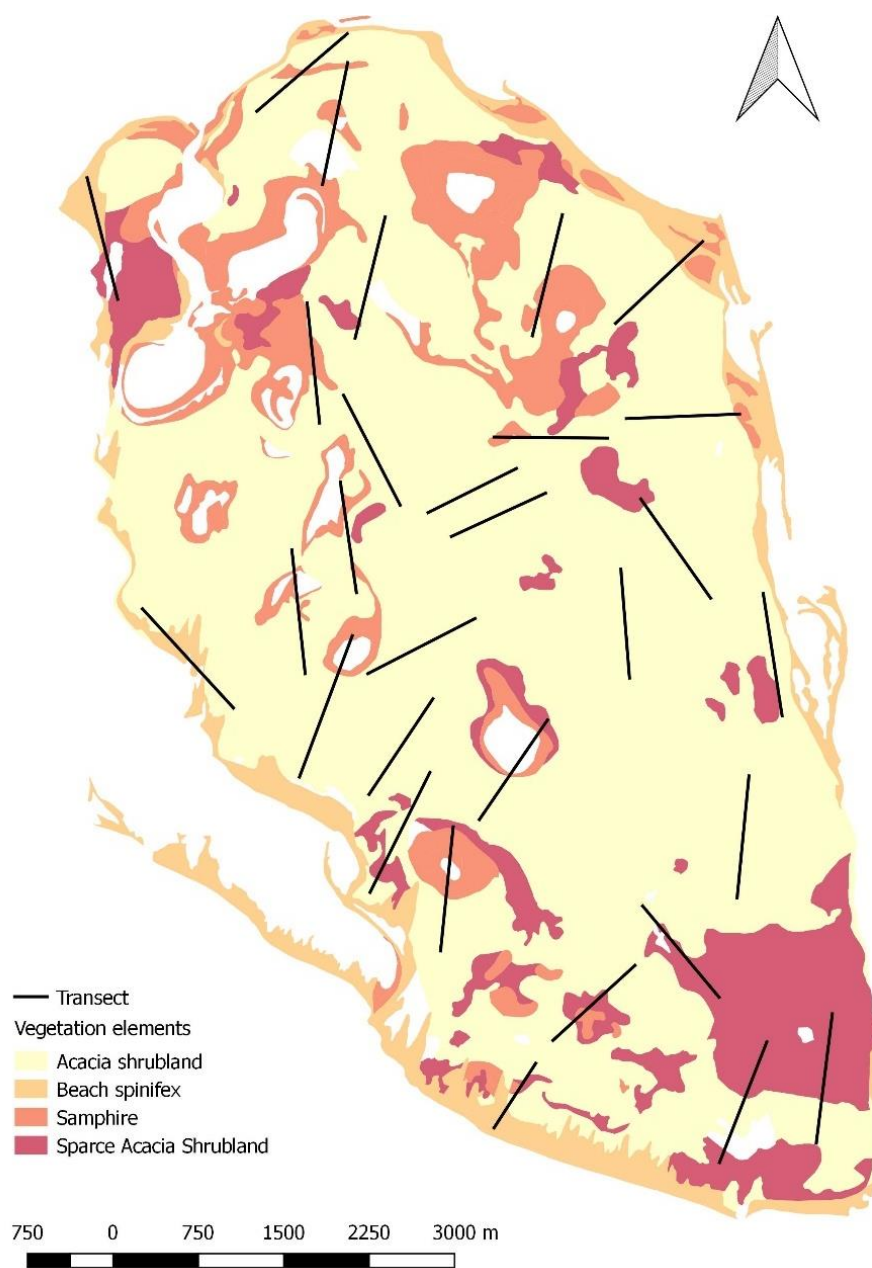


Figure 10. Location of Spotlight Survey transects and major vegetation types on Faure Island

Banded Hare-wallaby Scat Monitoring

Surveys were conducted at 22 sites that were randomly located across the island (Figure 11). Each site had 10 sub-sites, which each consisted of a 3 m by 3 m quadrat. Depending on the year, quadrats were either cleared of all Banded Hare-wallaby scats on a first visit, then checked for new scats in a second visit, usually after some months, or otherwise were checked once with scats categorised as either fresh or old.

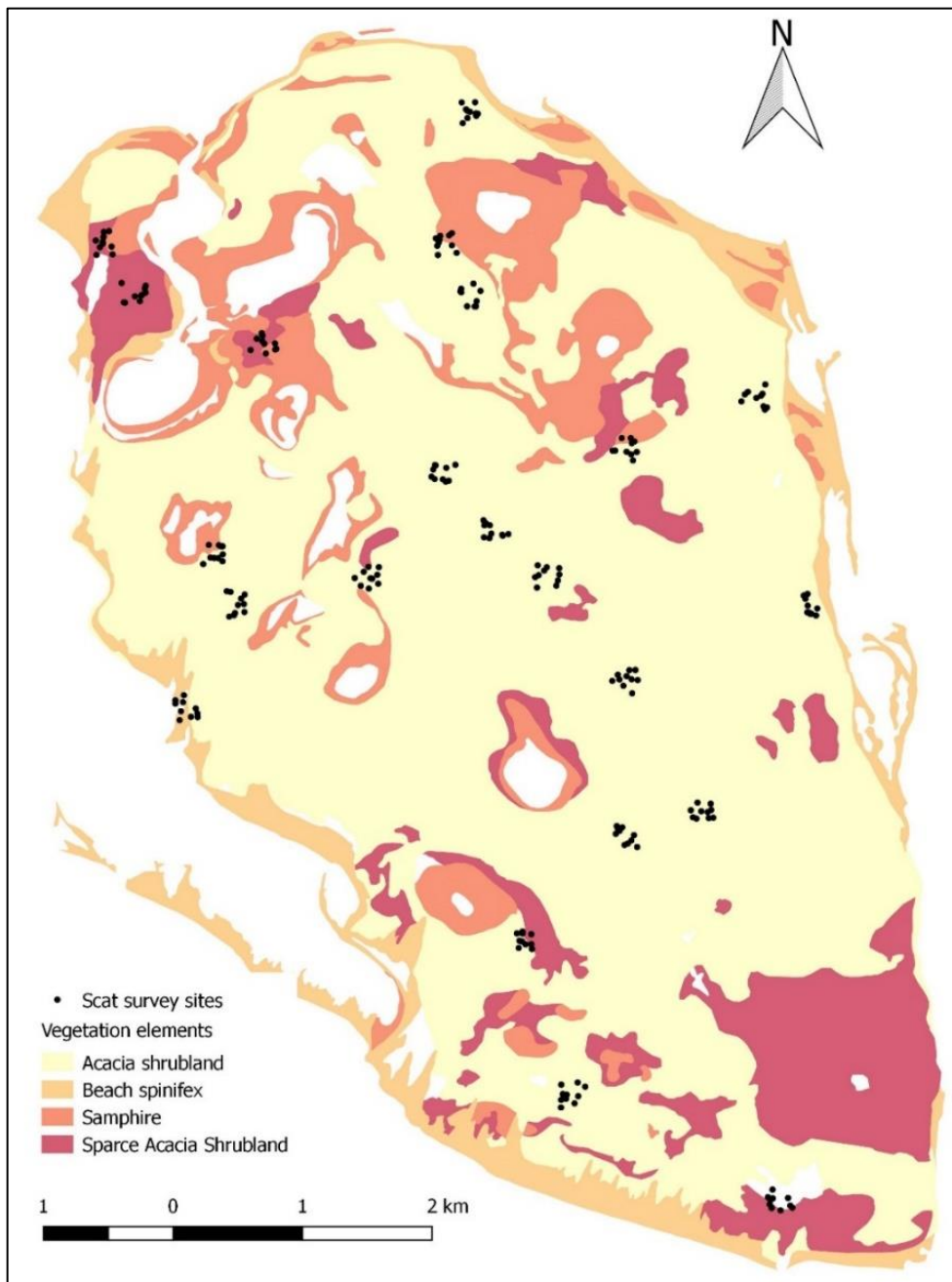


Figure 11. Location of Banded Hare-wallaby Scat Monitoring sites and major vegetation types on Faure Island

Analysis methods

Mammals and large reptiles

Track Plot data were used to estimate occupancy as the proportion of sites where Shark Bay Bandicoots, Shark Bay Mice, and Gould's Goanna were detected.

The 2014-15 spotlight surveys were analysed using a strip transect method, a method suited to road-based surveys where detectability drops rapidly away from the observer (Kanowski et al. 2001). Sighting angles and distances were used to calculate the perpendicular distance of each record from the observer. Histograms of perpendicular distances to observations were examined to determine a threshold at which the number of

observations dropped sharply – for Boobies, this was 9 m. This distance was used as the ‘strip width’. To remove a bias in detectability for animals observed on or immediately adjacent to tracks, observations within 3 m of the centre of transect were removed from the analysis. To calculate animal density across the island, the total number of records between 3 and 9 m of the transect was divided by the total area surveyed (20 x 1 km transects x 3 repeats x 6 m strip each side of the transect = 72 ha). A population estimate was obtained by multiplying the density estimate (animals/ ha) by the area of the island.

The 2017-19 walked spotlight survey data were analysed using a Bayesian distance sampling model to account for the decline in detectability with distance from the observer, and between vegetation types, to produce a population estimate (Kéry and Royle 2016). These estimates also produce a ‘credible interval’ which relates to the variance associated with the particular detectability function used in the statistical model. As above, a population estimate was obtained by multiplying the density estimate (animals/ ha) by the area of the island.

The Scat Survey data were used to determine Banded Hare-wallaby occupancy as the proportion of the 22 sites where Banded Hare-wallaby scat was detected.

Small reptiles

Pitfall survey data were used to estimate occupancy as the proportion of sites at which indicator reptile species were detected.

Birds

Data from the Standard Bird Surveys were used to calculate the species richness as the average number of species detected at each site and across all sites during the three-day survey period.

Fire Scar Analysis

No wildfires or prescribed fires occurred on Faure Island during 2020. If a fire were to occur, two methods of analysis would be employed: (1) initial satellite mapping of the fire scar and (2) ground-truthing the fire scar, measured by walking the perimeter of the burned area using a handheld GPS unit with tracking function. The area of the scar in hectares was calculated using ArcMap 10 with Spatial Analyst (Environmental System Research Institute Inc., Redlands, CA, USA).

Results

Biodiversity indicators

Mammals

Shark Bay Bandicoot

Shark Bay Bandicoot were detected at all Track Plots in 2016 and 2020 (100% occupancy for both years).

Boodie

In 2019, the population of Boodies on Faure Island was estimated at 15,570, up from the 2018 estimate of 9,310 (Figure 12). However, credible intervals overlap for all estimates from 2017-19, so no inference can be drawn on possible changes in population size between years. The vehicle-based spotlight transects conducted in 2014 and 2015 estimated 9,600-11,600 Boodies on Faure Island, broadly similar to recent estimates. It is apparent that the Boodie population on Faure Island is large, and has been so for a number of years.

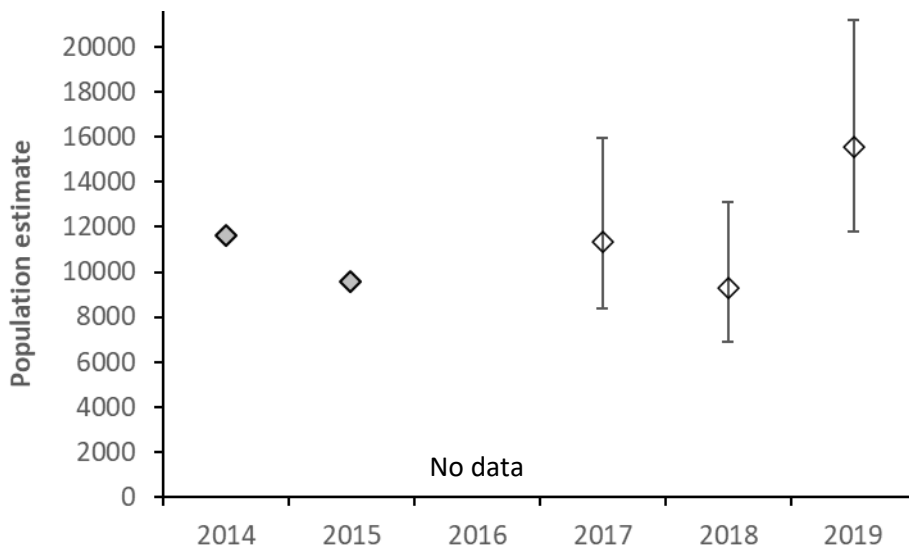


Figure 12. Estimated population size of Boodies on Faure Island, 2014-2019. Note that 2014-15 data were obtained from vehicle-based spotlight transects, and 2017-19 data from walking spotlight transects.

Banded Hare-wallaby

In 2019, Banded Hare-wallaby were detected at 100% of sites, an increase from prior years (Figure 13).

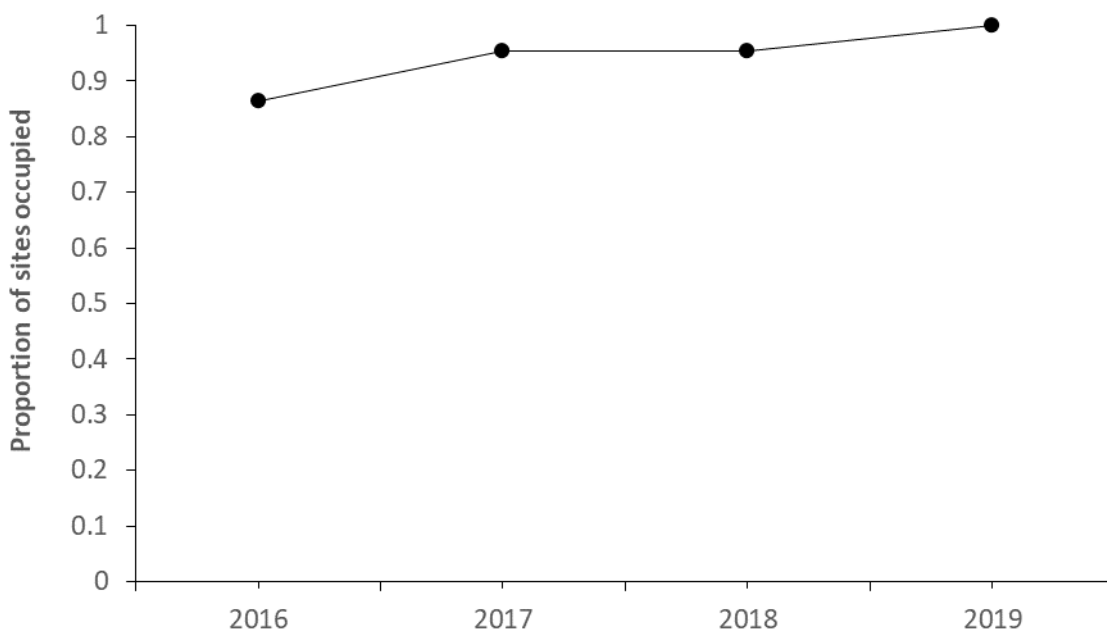


Figure 13. Proportion of sites the Banded Hare-wallaby was detected on Faure Island, 2016-2019.

Shark Bay Mouse

The Shark Bay Mouse was detected at 47% of Track Plots in 2020; in 2016, the occupancy rate was 60%.

Reptiles

Small – medium, terrestrial reptiles

A total of 214 reptiles, comprised of 17 species, were trapped during the 2020 Standard Trapping Survey. Individual species occupancies are listed in Table 4. Two species detected in 2016 were not recorded in 2020 (the Blinking Broad-blazed Slider and West-coast Banded Snake). The Blinking Broad-blazed Slider has substantially declined in occupancy since surveys began; however, the West-coast Banded Snake is generally recorded at low numbers on Faure Island, and the absence of records in 2020 may not be material. In 2020, Bynoe's Gecko was recorded at all sites (more than double its 2019 occupancy), and the Elegant Slider was also recorded at substantially higher occupancy in 2020 than in all previous survey years.

Table 4. Results of the 2020 Standard Trapping Survey

Indicator	% of sites detected				
	2013	2014	2015	2016	2020
Small Reptiles (diurnal)					
West-coast Laterite Ctenotus	53	27	40	53	40
Barred Wedge-snout Ctenotus	47	40	47	53	47
Blinking Broad-blazed Slider	40	40	33	33	0
Elegant Slider	20	27	27	47	73
Western Pale-flecked Morethia	47	73	73	87	93
Small reptiles (nocturnal)					
Fine-faced Gecko	27	7	13	13	13
Tree Dtella	13	20	0	33	27
Bynoe's Gecko	40	67	47	47	100
Mottled Ground Gecko	7	20	0	13	13
West-coast Banded Snake	13	20	27	13	0

Gould's Monitor

Gould's Monitor was detected at 73% of Track Plots during the 2020 surveys, a similar level to 2016 (67% occupancy).

Birds

Terrestrial birds

A total of 19 bird species were observed during the Faure Island bird survey in October 2020 (Table 5). An average of 2.8 species were detected across the 17 sites over three days (Figure 14). The two sites 'North Coast Spinifex' and 'North East Coast Spinifex' had the highest number of species detected. The majority of the species recorded were passerines. Zebra finches (*Taeniopygia guttata*), Tree Martins (*Petrochelidon nigricans*) and Redthroats (*Pyrrholaemus brunneus*) were the most frequently observed species. Several shorebird species were observed; however, these species were generally observed only once throughout the survey. Species richness was greatest at Coastal Spinifex site, likely due to the observation of occasional shorebirds.

Table 5. Site occupancy (proportion of sites detected) of 19 bird species detected at Faure Island in 2020.

Species	Occupancy
<i>Acanthagenys rufogularis</i>	0.18
<i>Anthus australis</i>	0.24
<i>Artamus leucorhynchus</i>	0.47
<i>Cheramoeca leucosterna</i>	0.12
<i>Cincloramphus cruralis</i>	0.18
<i>Coracina novaehollandiae</i>	0.06
<i>Corvus bennetti</i>	0.06
<i>Falco cenchroides</i>	0.12

Species	Occupancy
<i>Gavicalis virescens</i>	0.53
<i>Haematopus longirostris</i>	0.06
<i>Hirundo neoxena</i>	0.18
<i>Hydroprogne caspia</i>	0.06
<i>Ocyphaps lophotes</i>	0.29
<i>Pelecanus conspicillatus</i>	0.06
<i>Petrochelidon nigricans</i>	0.41
<i>Purnella albifrons</i>	0.06
<i>Pyrrholaemus brunneus</i>	0.53
<i>Rhipidura phasiana</i>	0.18
<i>Taeniopygia guttata</i>	0.71

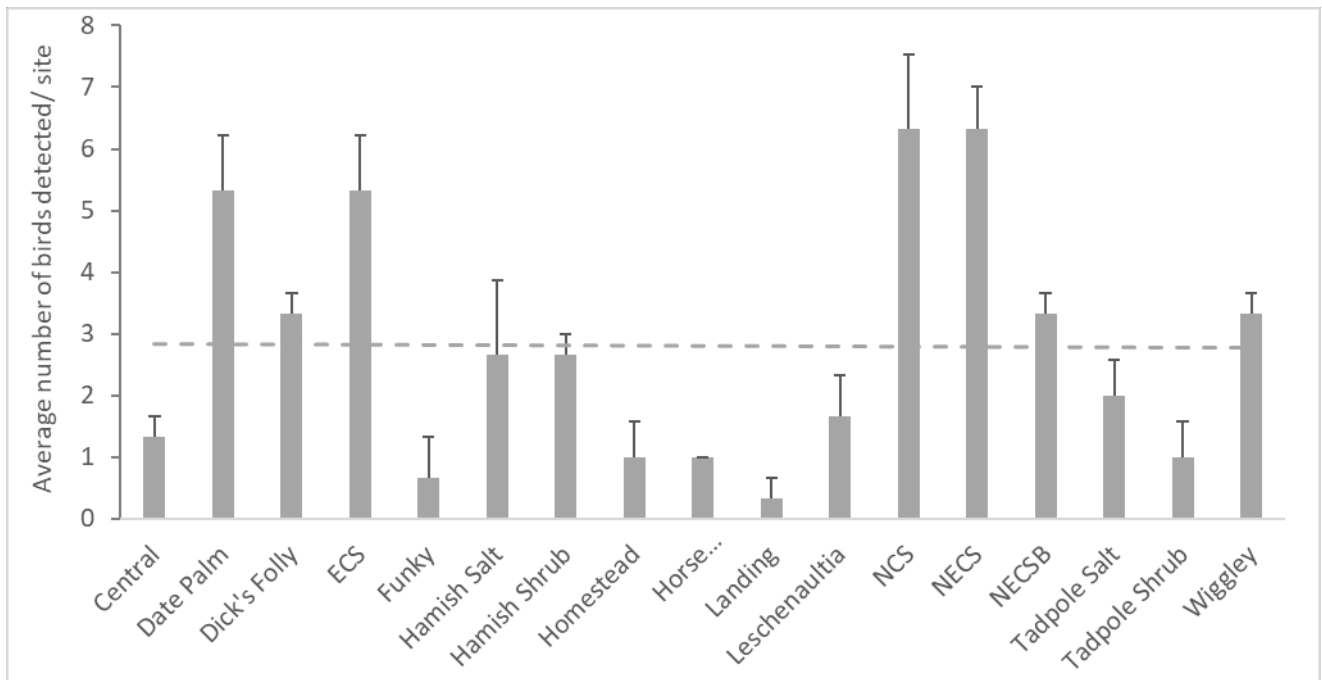


Figure 14. Average bird species detected per site over three days. Error bars represent standard error. Dashed line represents average species detected across all sites over the survey duration.

Threat indicators

Feral mammals

There were no detections of feral animals on Faure Island: that is, the evidence indicates the island remains free of these introduced species.

Fire

There were no prescribed fires or wildfires on Faure Island in 2020.

Discussion

Faure Island supports important reintroduced populations of four small – medium sized mammals. The 2019 Spotlight Survey estimated the population of Boobies at over 15,000 individuals, with the population remaining large (c. 10,000 or above) since at least 2014.

However, because Boobies are so numerous on Faure Island and readily enter traps, it is challenging to obtain estimates of the other species using trapping.

The 2020 Track Plot surveys show that both the Shark Bay Bandicoot and Shark Bay Mouse are well-established across the island, with records from 100% and 47% of sites, respectively. The Banded Hare-wallaby was present at 100% of Scat Monitoring sites in 2019, the highest occupancy recorded to date. While Track Plots and Scat Monitoring provide sufficient data to track occupancy for these species, it would be useful to have a method that allowed estimation of population size, as that metric is of particular relevance to population management. For this reason, AWC will continue to trial various survey methods for reintroduced species, including walk- and driving-spotlight surveys, thermal cameras mounted on a drone, and/ or scat DNA.

Faure Island also supports a diverse assemblage of reptiles and birds. The 2020 surveys suggest most reptiles are maintaining populations on Faure Island, with the possible exception of the Blinking Broad-blazed Slider. Future surveys will reveal whether the failure to record this species in 2020 represents a real decline. Analysis of long-term trapping data on AWC's Scotia Wildlife Sanctuary showed that exclusion of feral predators, and reintroduction of regionally-extinct mammals, was associated with a generally positive response from small mammals, but a negative response from some reptile groups (Roshier et al. 2020). The reduced abundance of some reptiles was attributed to predation by reintroduced mammals and/ or predation by varanids, which can become abundant in feral predator-free environments. On Faure Island, Gould's Monitor is a commonly encountered varanid.

Acknowledgments

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