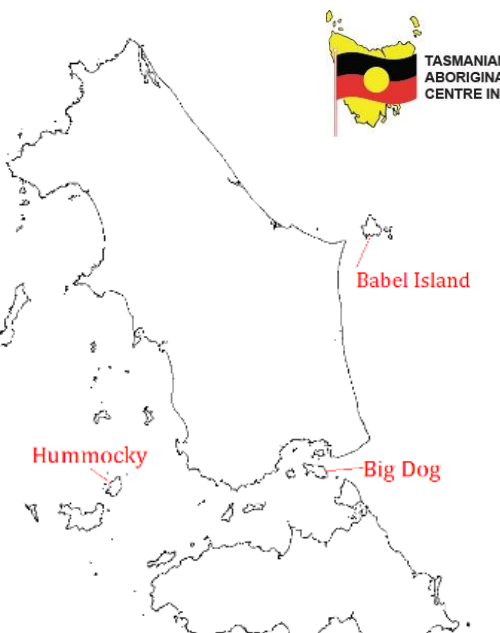
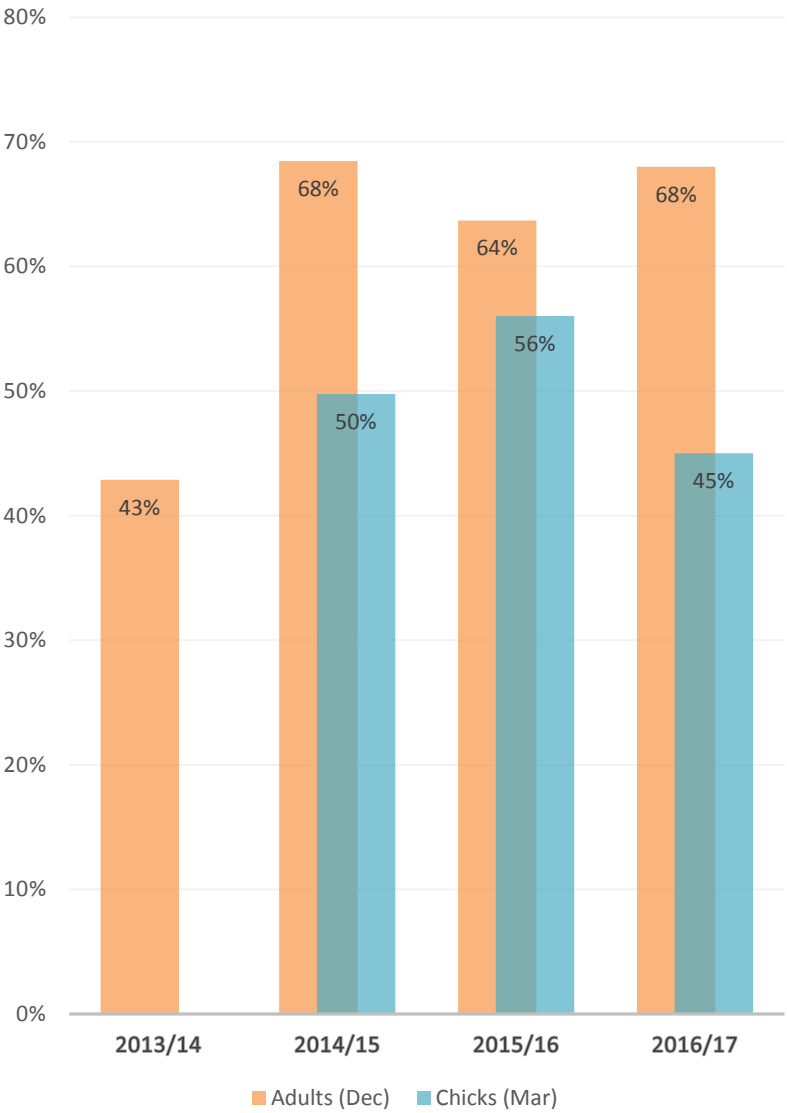




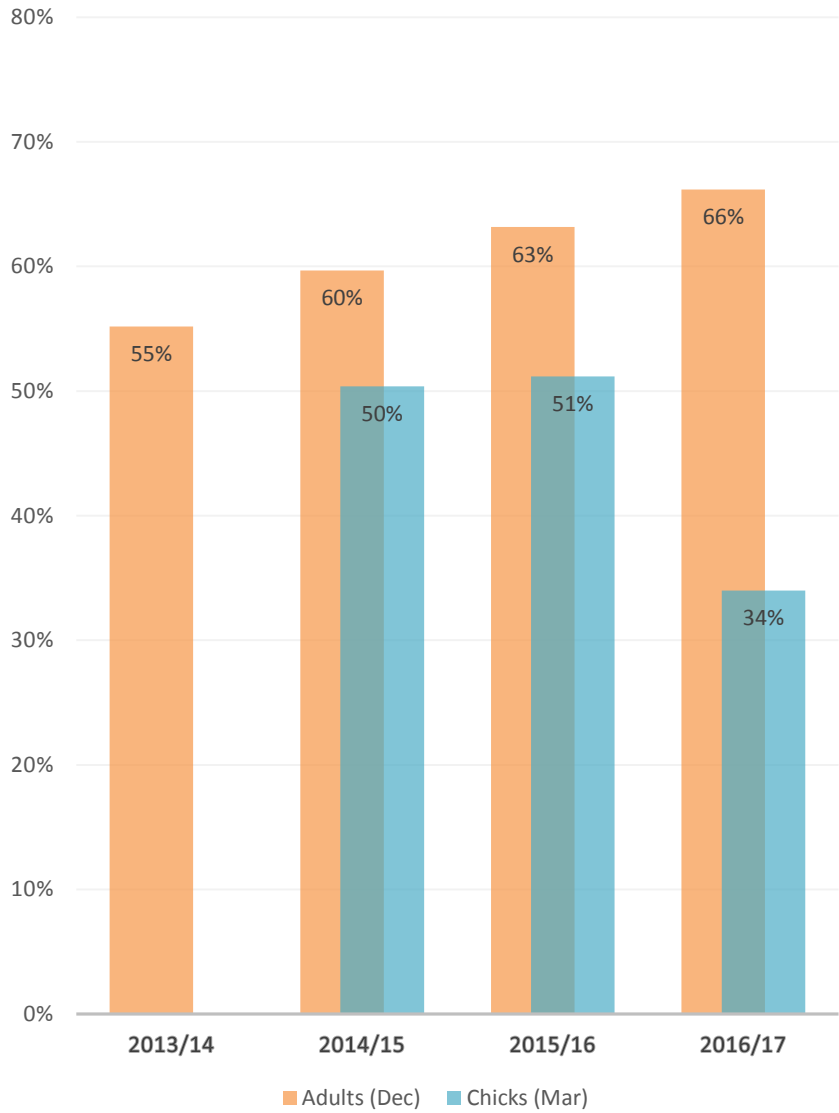
Muttonbird monitoring 2016/17 Season



Big Dog Island
Occupancy rates (adj)

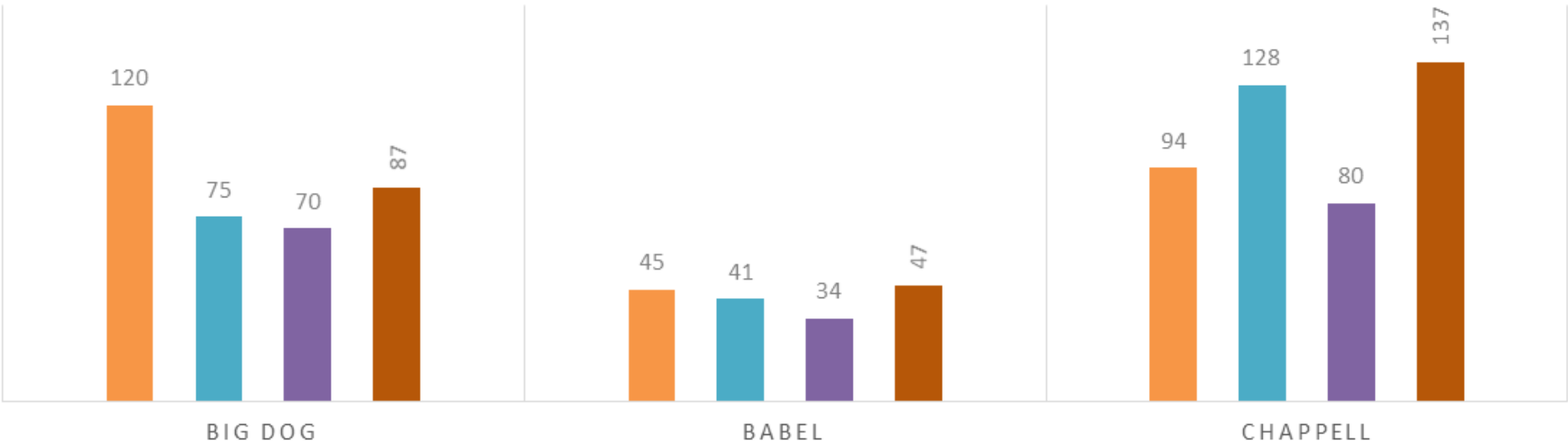


Babel Island
Occupancy rates (adj)

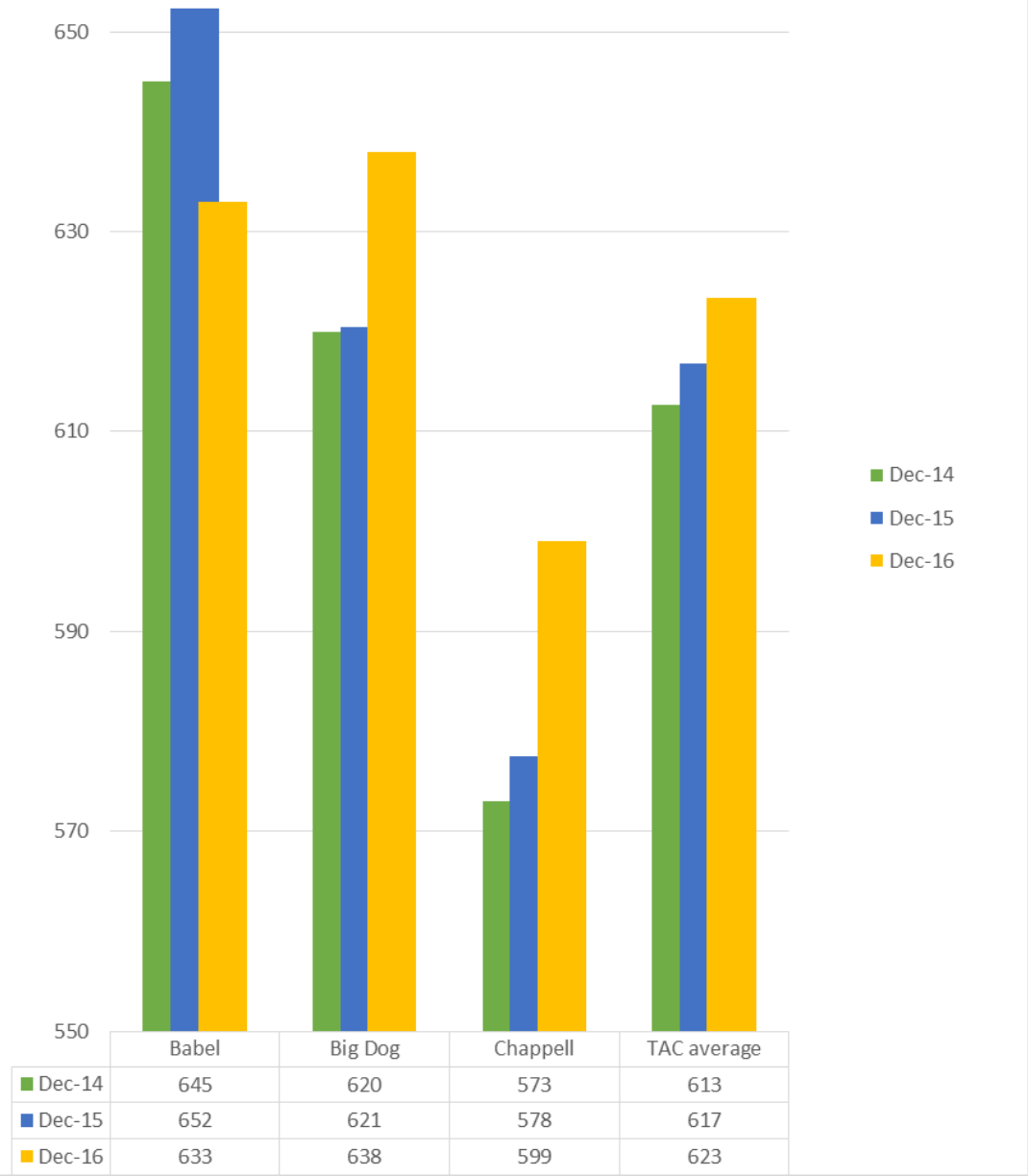


AVERAGE NO. OF BURROWS PER 100M TRANSECT

Dec-13 Dec-14 Dec-15 Dec-16



Average **ADULT** weights (g)
Dec 2014 - 2016



Average **CHICK** weights (g)

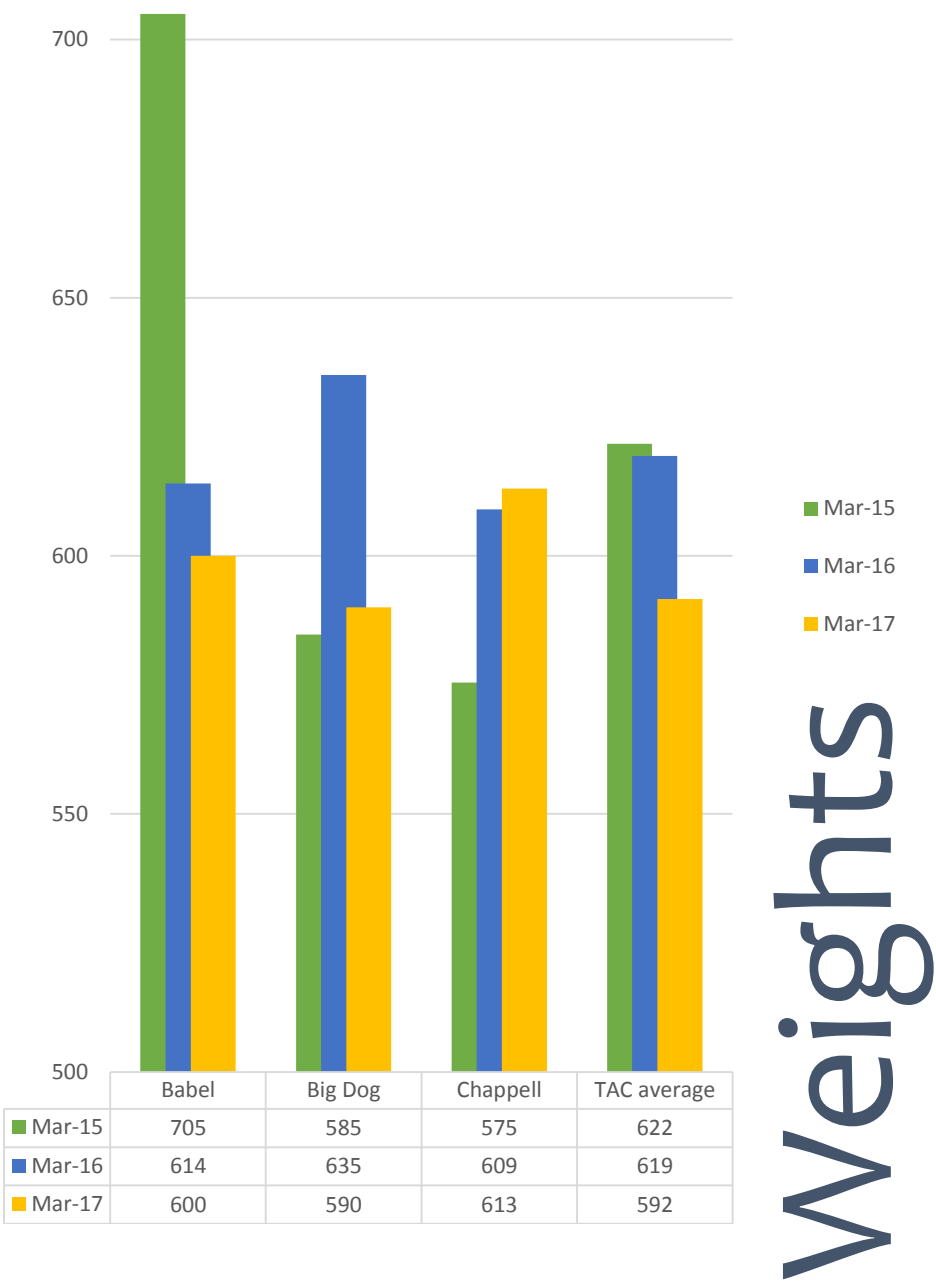


Photo: Graham and Brett on Babel Island.

Occupancy rates and weights both look good this season, with general improvements in both. The number of burrows went up for every island too.

Babel Island is extensively covered in fireweed this year – in response to the unbelievable amount of rainfall in 2016. The fireweed on Big Dog, however, appears mostly to have died out now.

We also showcased our methods to federal government reps, and UTAS researchers, who are extending the banding efforts on Fisher Island. This let us repeat a transect – effectively testing the reliability of our counts.

Methods

Our methods are based on those used by DPIPWE, stipulated in the Wildlife Management Branch establishment report (2010), and include:

- Surveys (sampled count) of burrow occupancy percentage and occupied burrow density (breeding adults in December, chicks in March), (Big Dog and Babel Islands).
- Counts of burrows only (Mount Chappell Island, December).
- Weighing six birds per transect.

Equipment

Tablet or other data collection GPS device, 1m sticks, 100m line, Gloves, Drawstring bag or pillowcase, 1kg spring scales, First Aid Kit with snake bandages, Wet weather gear.



Photo: Steve, Brett and Graham on Big Dog, with Little Dog Is. in background.

1. At each transect, a calibrated and strong 100m line is stretched between the start and finish points.
2. One person is designated the role of recorder – using the phone or tablet device to record data and photos while others assess the occupancy status of burrows, often dividing workload to each side of the transect line.
3. All burrows within 1 metre each side of the line (the centre of the burrow entrance burrow is within 1 metre, as measured by a 1m stick) are checked for the presence of a shearwater adult (inserting an arm and sometimes a thin wooden stick down each burrow).
4. Pecking indicates presence of a shearwater, recorded as occupied. The presence of eggs or two birds are recorded the same as a bird, as the burrow is effectively occupied.
5. If confident that a burrow has been comprehensively checked, and no birds are present, then an ‘empty’ call is shouted to the recorder. If it is not clear that the whole burrow has been reached, then an “unknown” is conveyed and recorded.
6. Six birds are weighed at each transect using a dark-coloured pillow case and accurate spring scales.

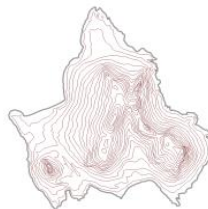
Transects

Big Dog



Four transects are established in the south and west of Big Dog Island

Babel Island



Six transects are situated along transects 1 and 2 that were used by Irynej Skira for burrow counts in January 1983 (Skira and Towney, 1983).

Chappell Island (Hummocky)



Four transects are established on this Island in healthy rookeries. Because of the high risk of snake interactions, only burrow counts and weights are recorded, not occupancy.

While showing around guests from Dept. of Prime Minister and Cabinet and UTAS, we repeated our methods on Big Dog transect 1, a day after our first count. This provided us with a useful comparison and test of the of our monitoring methods.

The first day (7th Dec) was nicer weather, with the 8th characterised by light rain and some wind.

Evaluating methods

Occupancy						adjusted occupancy (unknowns allocated)
Date	Transect	Muttonbird	Empty	Unknown	No. of burrows	
7/12/2016	1	55	18	20	93	75%
8/12/2016	1	60	23	16	99	72%

Because our transect line will not ever cover exactly the same line or burrow entrances, we expected some variance between the two counts. We considered the difference in counts reasonably small, with the number of burrows slightly higher (by 6), and the adjusted occupancy rate slightly lower (by 3%). This clarifies that our method (as used by DPIPW) gives a reasonably accurate indication of the occupancy rates present.



Photo: Crew and guests on second count of Big Dog transect1 .

Weights (net*)		
Bird No	7/12/2016	8/12/2016
1	660	620
2	700	740
3	640	700
4	600	660
5	740	640
6	540	740
Average:	647	683

The weights proved similar, but, on average, 6% heavier on the second count. This could easily be attributed to the rain making the birds and weighing bag* heavier (*unfortunately not re-weighed).

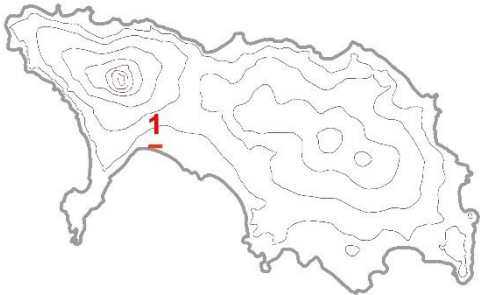




Photo: Drummer, Graham, Brett , Stewart and Steve at Sellars point, Flinders Is. ready for Babel.

2016/17 details

Dec 2016: 5th (Hummocky), 6th (Babel), 7th (Big Dog), 8th (Big Dog transect 1 repeated).

Mar 2017: 2nd (Babel), 3rd (Big Dog), 4th (Hummocky).

Personnel: Rodney Newell; Graham Stonehouse; Brett Newell; Stuart Wheatley; Steve Cronin & Shaun Thurstans.

It is important that surveys do not occur before the 3rd of Dec. which is recognised as the last known date of laying in a highly synchronised breeding season (Meathrel et al, 1993).

Photo: Frank coming in to land on Hummocky (Chappell Is.), with Flinders Is. in background.

