

Bats at Organ Pipes NP, 12 June 2016

After a fairly wet May, we had fine weather for batting and two ladders, for Casey at the north end and me at the south end, each with a team of supporters to help move the ladder, carry bat bags and scribe. Several park visitor groups stopped to have a show-and-tell and were all amazed at how tiny and beautiful bats are and took many photos. Casey at C35, Kiri scribing:



There were two large groups of Gould's, Casey got one in C33 and I got the other in C36:



And three boxes with Freetails, this is C13:



Steve and Lindy soon took the first bags to start processing in the Visitor Centre, Steve concentrating on microchipping several new Freetails and taking genetic samples. Emmi had brought her shy 4-year-old daughter Riva:



Tim Uebergang was there again, scribing for Lindy, who shared banding the few new Gould's with Casey:



And his daughter Austen scribed for Anita:



While Doug worked with Danielle, & Michael with me



We were all done by 6:30 and after a lengthy clean-up of an amazing amount of gear, drove down to release the 121 bats we'd captured. Little Riva was excited to have a bat on a bag to watch it fly off:



It was a chilly evening, and some bats had started going back into torpor so took a while to work up the energy to flap off down the track. I put some reluctant ones on my cap, all of which eventually flew off:

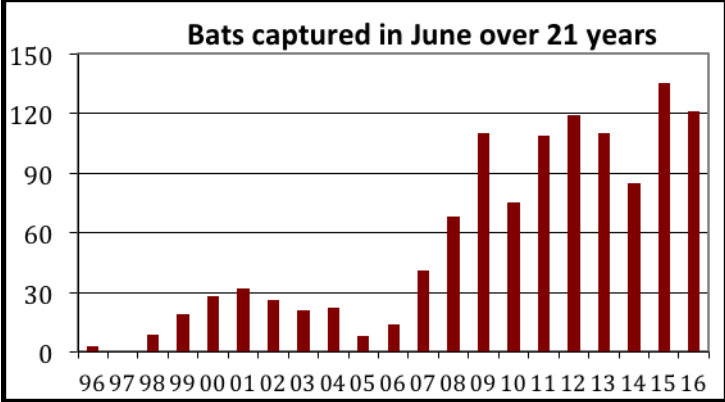


The last bat didn't want to go, so I unpacked the ladder and climbed to C31. Of course, as I was about to take

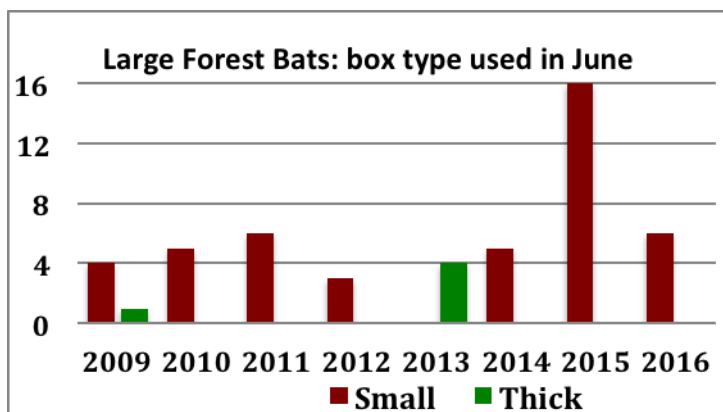
the bat from my cap and put it into the box, it flew off. We all left the park by 7:30, after Michael helped jump-start my car, which had a flattened battery from leaving head-lights on to illuminate the bat release.

Box	Bat	Species	Adult	
			M	F
C33	40	Gould's	1	39
C36	32	Gould's	19	13
C25	6	Gould's	2	4
	5	Lge Forest	2	3
C15	9	Freetail		9
C22	8	Gould's		8
C24	8	Gould's	2	6
C13	7	Freetail	1	8
C27	2	Gould's		2
	1	Lge Forest	1	
C42	2	Freetail		2
C18	1	Gould's	1	
	121	Totals	29	92

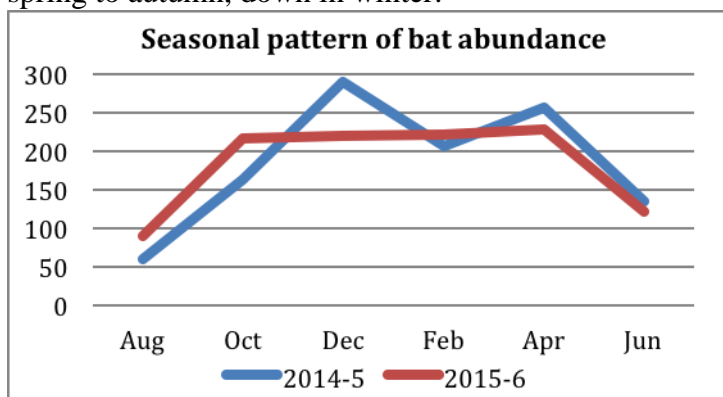
There were over 3 females for each male bat, but very different ratios by species: Gould's 2.9:1, Freetail 17:1, Large Forest 1:1 As usually happens in winter, 60% of the bats were in the thick-walled boxes (33 and 36). It has taken many years for this pattern to become clear, but we can now say the experiment has been a success. The number of bats was a bit down on last year's peak year. It all took off from 2007. Pretty amazing growth since our small beginnings in 1996 when we found 3 bats in June.



The pattern is also clear for the Large Forest bats that weigh only 6 gm, and have a strong preference for the boxes with small volume and small entrance slits:



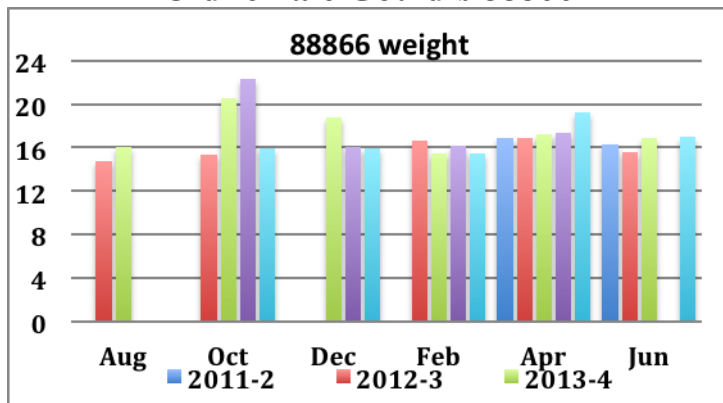
That takes our overall total capture to 21,562 bats in 21.5 years, or about 1,000 a year average. 90% of them have been Gould's, another 6.6% Large Forest bats, 2.9% Freetails, and the remaining 0.5% a mix of four other species. The annual round is quite regular, up in spring to autumn, down in winter:



The mix of species has fluctuated a little, the number of Gould's falling a long way in 2014, but it is generally around 100-115 bats.

Year	2012	2013	2014	2015	2016
Gould's	114	102	53	112	97
Lge Forest	3	4	5	18	6
Freetail	2	4	27	7	18
Total	119	110	85	135	121
Gould's %	96%	93%	62%	83%	80%

Old female Gould's 88866



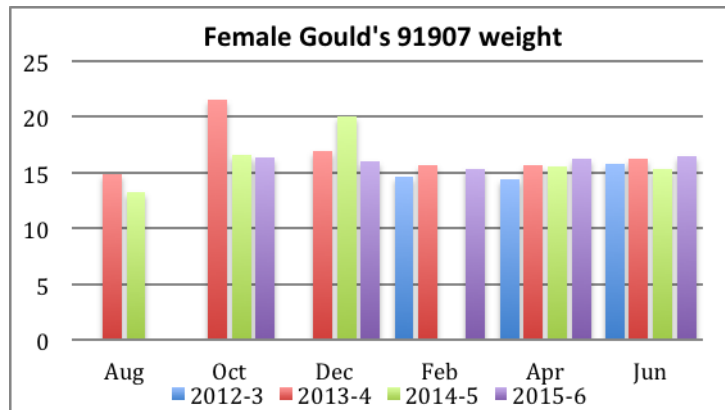
We now have records of 23 captures since I took over in April 2012, a very complete history of her weight

fluctuations through 4 pregnancies and 5 winters. Like all Gould's, she reaches near full-term pregnancy in October (sometimes possibly November) and packs on the weight in April, preparing for winter. Although she is now possibly 11 years old, this is the heaviest June weight we have recorded. This is 88866:



Female Gould's 91907

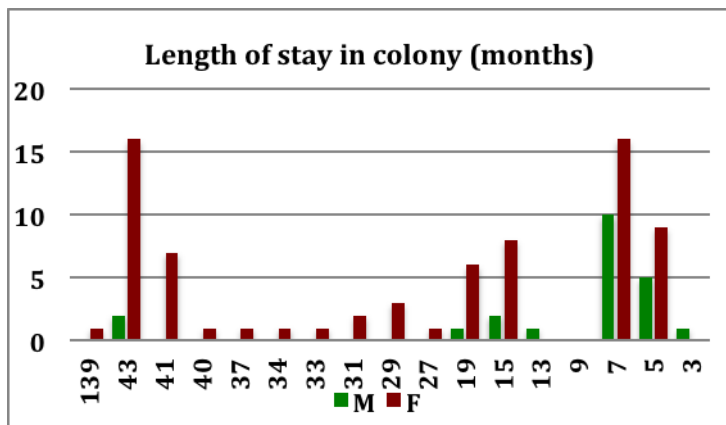
91907 was banded as a young adult in March 2013 and has now been recaptured and weighed 19 times, giving a nearly complete record of her weight fluctuations. She puts on much weight in late pregnancy but does not seem to do so in autumn



In 2013 she probably reached full-term in October, in 2014 it was likely in December after a late start and in 2015 may have been in November, between our box monitoring sessions.

Length of stay in the colony

Apart from old 88866, there is a mix of several generations of bats banded in Dec 2012 (16F, 2M), a trickle remaining from the non-breeding season after that, a few from summer 2013-4 and a much bigger group still with us from summer 2015-6, all probably born 8 months ago. In each case far more females than males, a pattern already setting in with this year's young. Up to those banded in October last year, there are 48 females and 6 males still with us, a ratio of 8 to 1.

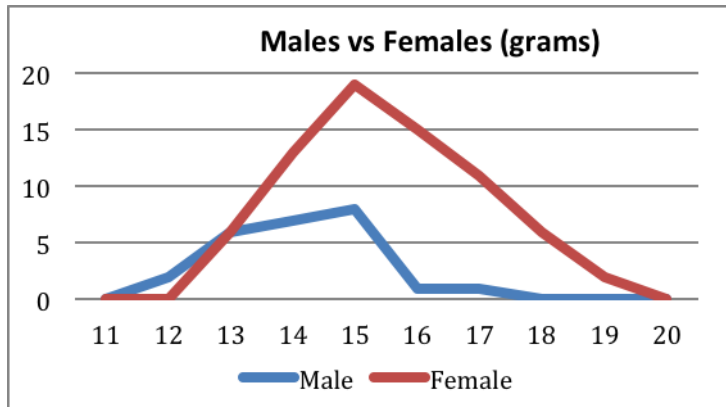


Females make up the core of the population. The older the bats are, the greater the disproportion between females and males

Age (years)	Male	Female	Ratio F/M
<1	20	26	1.3
1<2	4	14	3.5
2<3		8	
3+	2	25	12.5
10+		1	

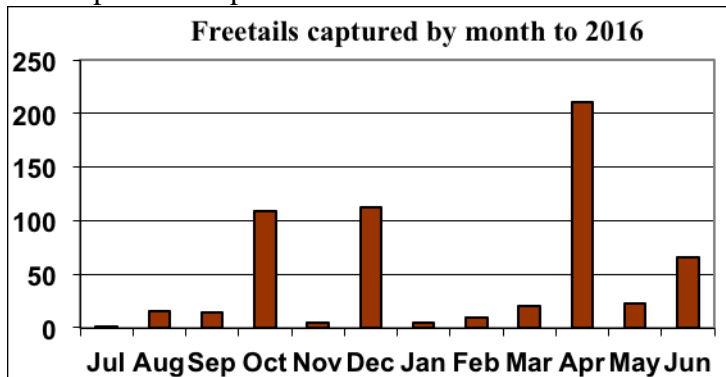
Males and females in winter

Overall, females are heavier than males, though both sexes have a wide range. On average, females are 10% heavier. The post-lactating females are, on average, 9.7% heavier than the prepartous females – life-experience counts.

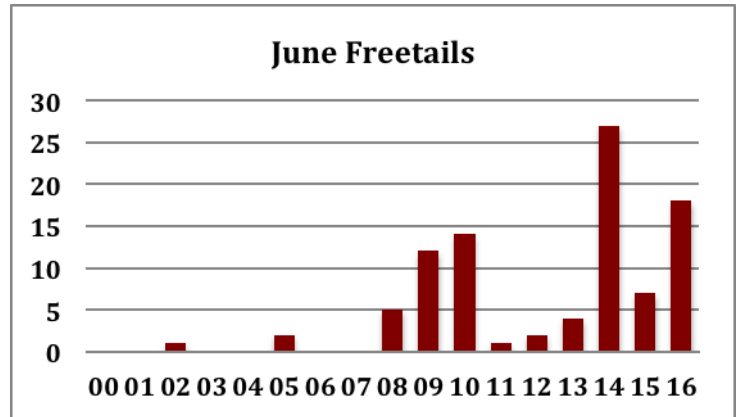


White-striped Freetails

June is a minor month for being visited by Freetails, which peaks in April:

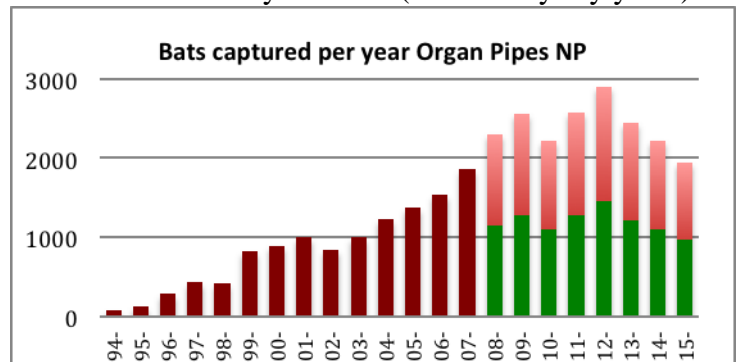


Freetails in June seem to have peaked in 2014 which does not fit the general pattern, far above the years before and after.



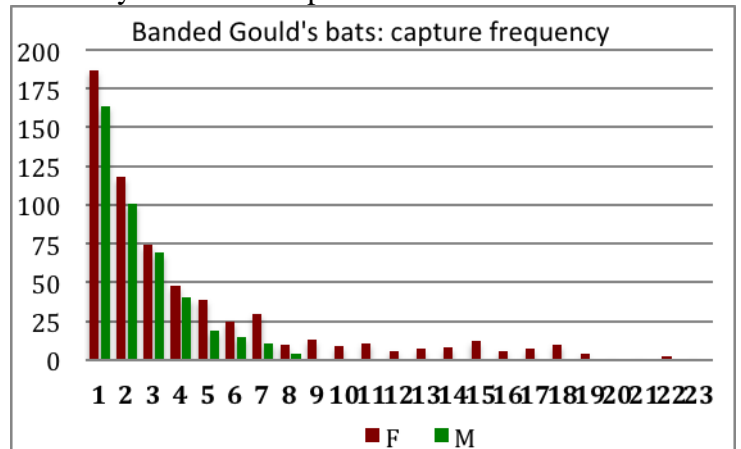
The year as a whole

June ends the bat year so we can compare this year with earlier years. We stopped checking boxes monthly in Feb. 2008 and went to bi-monthly, so I have doubled each column from then to make comparisons more valid. Bat numbers peaked in 2012-3 (a wet year) and have declined each year since (3 relatively dry years).

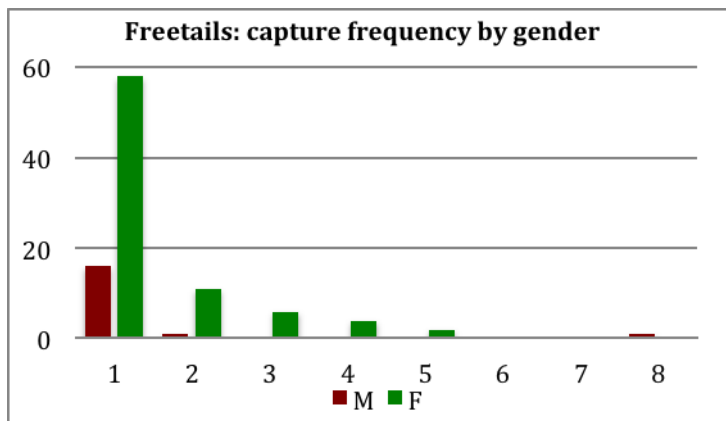


Banded bats

We now have 1089 banded bats (Gould's, Forest bats and Chocolate bats) and 99 PIT-tagged Freetails. Nearly all the frequently-captured Gould's are females with only two males captured more than 10 times.



By contrast, for Freetails, although nearly all the repeat captures have been female, the only one to be captured 8 times so far is a male:



Next box check: Sunday 14 August 2 p.m.

Don't forget to check Pia's website:

<https://batboxes.wordpress.com/>