

Bats at Organ Pipes NP, 17 April 2016

Autumn brings the Freetails into our boxes, now the breeding season is over. Steve took the north end and I took the south end, assisted by Andrew and Nathan



Most boxes, as always, were full of Gould's females



But several had groups of White-striped Freetails



One Freetail, chipped last visit, then had a damaged tail tip, which was still a raw wound, bleeding, two months

later. So the next day, Steve took it to the vet at Healesville zoo for treatment.



A smaller processing team than usual, led by Pia and Casey, with some new recruits to scribe for us, got started before the boxes were all done.



Doug Hoather came with a video camera and I got some film of Gould's wriggling out the exit into a bag



He managed the laptop for the evening, helping with history of repro con for the bats, to reduce the error rate



Juliana from Canberra came to help friend Pia, and Melissa's scribe was young Austin Uebergang who came with father Tim



Steve as usual was busy with taking genetic samples for the paternity study, and microchipping new Freetails.

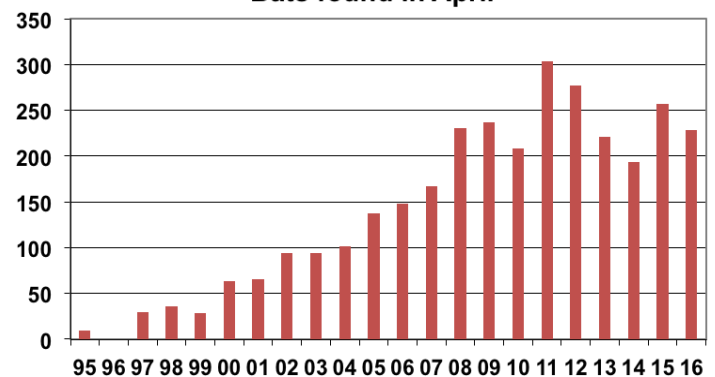


We were all done by 8:30, and drove down to the Pipes to release the bats, which all flew off quickly, bar the Freetails, which take a while to assess the situation and make their decisions.

Box	Bat	Species	Adult		Esc
			M	F	
C39	29	Gould's	13	16	
C41	23	Gould's	19	4	
	1	Freetail		1	
C33	18	Gould's	1	17	
C35	28	Gould's	5	12	
C30	15	Gould's	1	14	1
C16	15	Gould's		15	
C32	13	Gould's	1	12	
C17	13	Gould's	3	10	8
	1	Freetail		1	
C44	11	Gould's	3	8	
C13	10	Gould's		10	
C07	9	Gould's	1	8	
C20	9	Gould's	1	8	
C27	6	Gould's		6	1
C42	6	Freetail	1	5	
C24	5	Gould's	2	3	
C23	5	Gould's	2	3	
	1	Lge Forest	1		
C15	3	Freetail		3	
C40	3	Gould's	1	2	
C05	2	Freetail	1	1	
C06	2	Gould's	2		
C34	2	Gould's	1	1	
C43	2	Freetail	2		
	228	Totals	63	165	10

The number of bats was a bit down on last year's tally, with the peak year having been 2011, just after our long drought broke. Pretty amazing growth since our small beginnings in 1995 when we found 9 bats in April.

Bats found in April



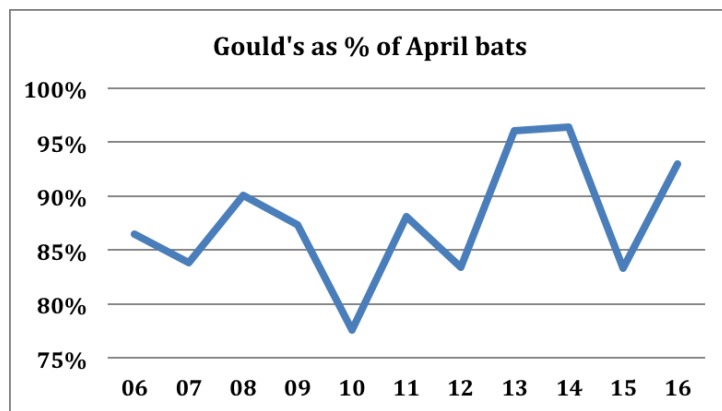
That takes our overall total capture to 21,441 bats in 21.5 years, or about 1,000 a year average. 90% of them have been Gould's, another 6.6% Large Forest bats (though only one male this month), 2.8% Freetails, and the remaining 0.5% a mix of four other species.

The mix of species has fluctuated a little, but the number of Gould's in April has been fairly constant

with just the Freetails and Large Forest Bats oscillating a lot.

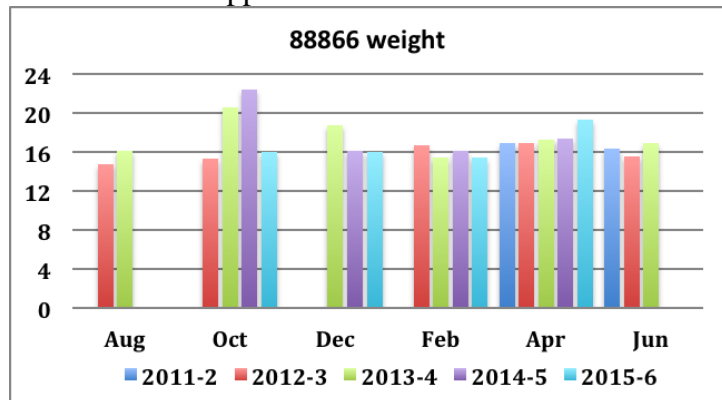
Year	2012	2013	2014	2015	2016
Gould's	231	217	186	214	212
Lge Forest	13			19	1
Freetail	32	8	7	23	15
Chocolate	1	1		1	
Total	277	226	193	257	228
Gould's %	83%	96%	96%	83%	93%

So Gould's as a percentage of the bats captured has generally been between 84% and 96%, which is quite unnatural as in the wild they are more likely to be under 10% of bats captured.



Old female Gould's 88866

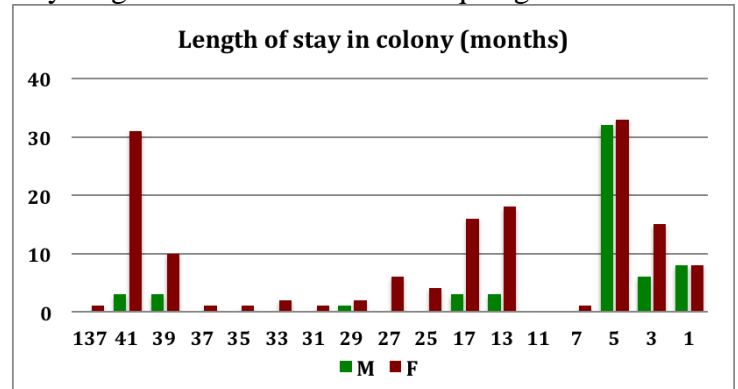
We now have records of 22 captures since I took over in April 2012, a very complete history of her weight fluctuations through 4 pregnancies and 4 winters. Like all Gould's, she reaches near full-term pregnancy in October (sometimes possible November) and packs on the weight in April, preparing for winter. The October weight this year was well down on earlier years, possibly due to a later start to pregnancies, as also seems to have happened in late 2012.



Length of stay in the colony

Apart from old 88866, there is a mix of several generations of bats banded in Dec 2012 (31F, 3M), 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 2014-5. In each case far more females than males, until this summer's crop of youngsters which have a near-equal gender balance.

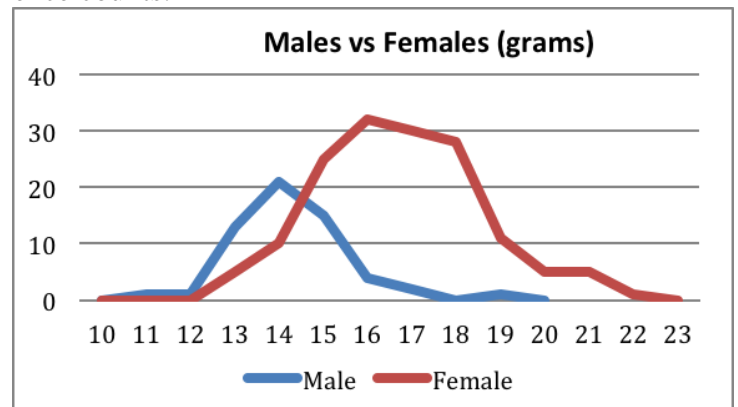


Up to those banded in October last year, there are 94 females and 13 males still with us, a ratio of 7.25 to 1. Females make up the core of the population. The older the bats are, the greater the disproportion between females and males.

Age (years)	Male	Female	Ratio F/M
<1	46	57	1.2
1<2	6	34	5.7
2<3	1	16	16.0
3+	6	43	7.2
10+		1	

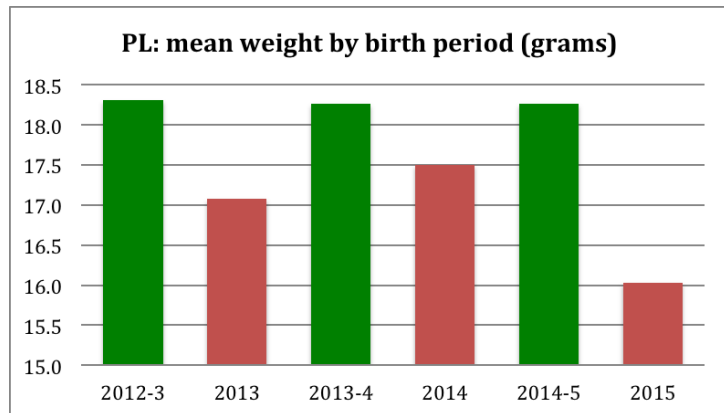
Males and females in autumn

Overall, females are heavier than males, though both sexes have a wide range. On average, females are 17% heavier. The post-lactating females are, on average, 9.6% heavier than the prepartous females – life-experience counts.



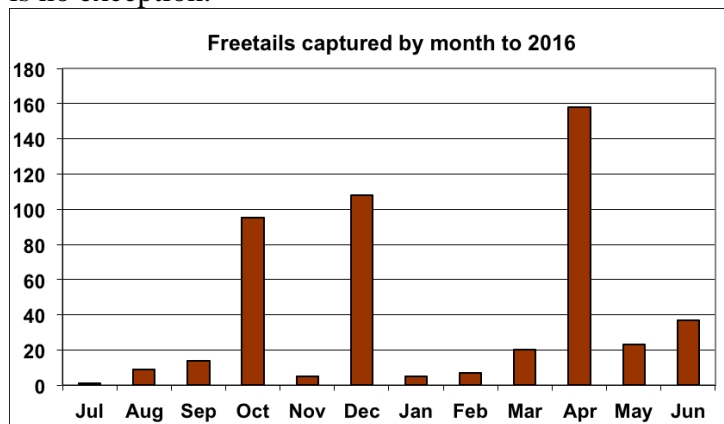
It also seems true that the post-lactating bats banded as new young arriving at adulthood in summer (Dec & Feb) put on more weight than those banded in the non-breeding season. The summer-banded bats have a mean weight around 18.2 grams, and the autumn-winter-

spring banded bats are generally lighter – less successful at keeping their weight up in preparation for winter. All the bats weighing 18+ grams were summer-banded. The only 3 bats weighing under 15 grams were not from summer, banded in April '14 and '15.

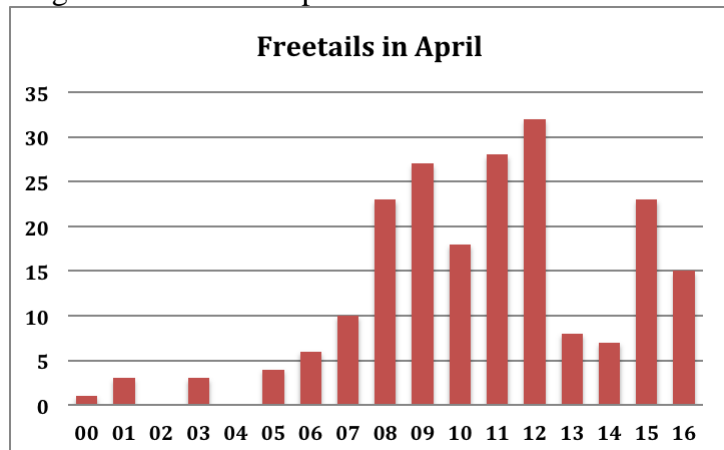


White-striped Freetails

April is usually peak month for Freetails, and this year is no exception.

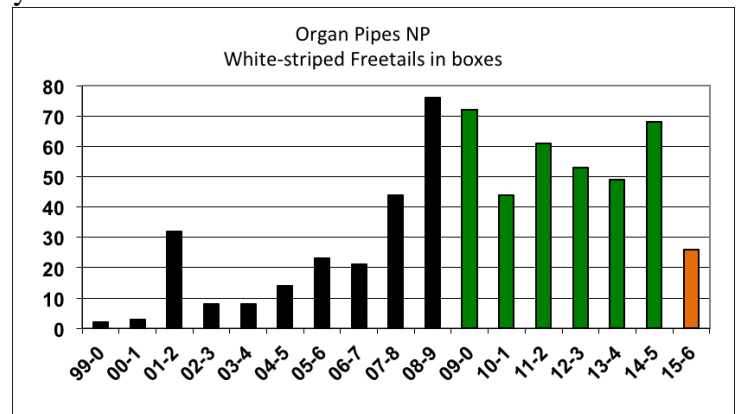


But Freetails seem to have peaked in 2012 and to be using our boxes less in recent years. Something happened in 2013 causing a radical decline in their usage of the boxes in April.

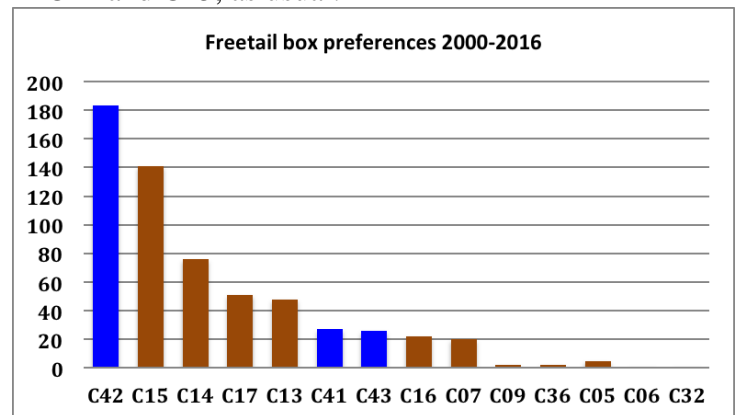


For the year as a whole, the peak was 2008-9 (when we still checked the boxes every month, not each second month). Allowing for that, usage was sustained at a high level until last year, but has declined very

significantly this year. There is still the June box-check remaining to be done, but we get very few Freetails in June. The green columns show the years in which we've checked boxes each second month. Double the size of those columns and you can see Freetail usage of the boxes has plateaued but not really declined until this year



Their preference for particular boxes is quite strong. The blue columns are the 3 very large boxes, with C42 being the clear favourite, then C15. This month there were Freetails in 6 boxes, but the biggest groups were in C42 and C15, as usual.



Next box check: Sunday 12 June 2 p.m.

Don't forget to check Pia's website:

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