

## Bats, Organ Pipes NP 17 Dec. 2017

We had a beautiful summer day at the park, with many helpers at the ladders. Steve went up the east side of the track where all the maternity groups had gathered while I went up the west side. Had a peek into one glider box and found a very growly glider.



My one middle-sized group in box 3:



Steve reattached one box and repaired a lid, then we drove up to the Visitor Centre where a big team of 20



people gathered to assess our 233 bats. Jarrod scribed for Dani, who banded many juvenile Gould's



Sarah Deborre came with her friend Anita and scribed for her and Casey, who also did much banding.



Caitlin Tolsma scribed for Caroline Durre, while Michelle scribed for Andrew



We had two vets from Healesville, Veronica Peric with a dangly bat earring, and David Blyth.



And the Smith family: Martina and David with children Molly and Oliver, who has a passion for bats.



We were all done by 7, and I had three volunteers to help put all the mothers and pups back in their boxes, which took two hours, so we left at 9 p.m.



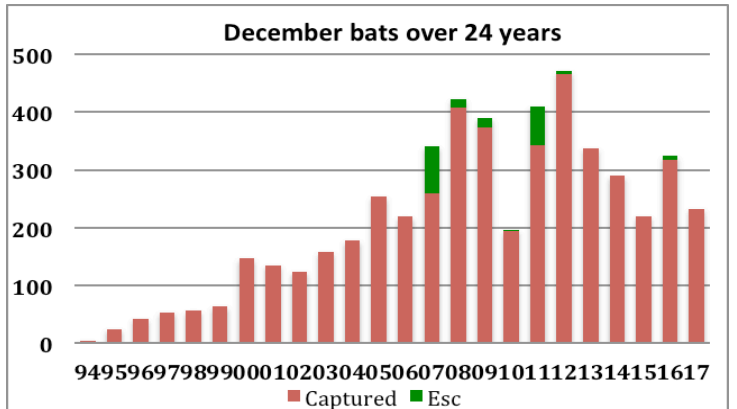
Putting all those bat one by one back up the entrance slits, and encouraging them not to fly out before dark was a slow business.



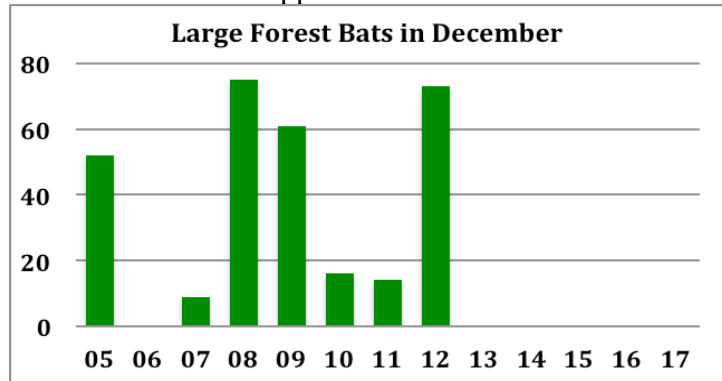
Box	Bat	Species	Adult		Juvenile	
			M	F	M	F
C45	84	Gould's	1	28	30	25
C39	37	Gould's		14	10	13
C36	33	Gould's		12	11	10
C03	21	Gould's		9	5	7
C37	16	Gould's	1	8	3	4
C35	8	Gould's	1	7		
C13	12	Gould's		5	4	3
C46	10	Freetail	8	2		
C09	4	Gould's		4		
C07	3	Gould's	2	1		
C17	2	Gould's	1	1		
	1	Freetail	1			
C40	2	Gould's	1	1		
C06	1	Gould's	1			
C16	1	Gould's	1			
C27	1	Gould's	1			
C33	1	Gould's	1			
C42	1	Gould's	1			
C43	1	Gould's		1		
	<b>233</b>	<b>Totals</b>	<b>22</b>	<b>86</b>	<b>63</b>	<b>62</b>

The two new multi-chambered boxes between them had over 40% of the bats, so the bats really like them.

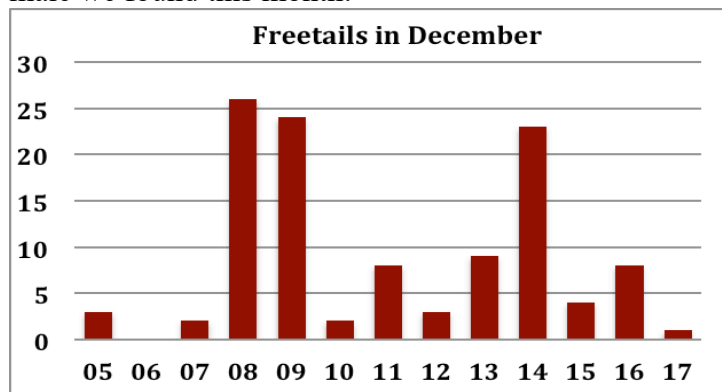
### December bats



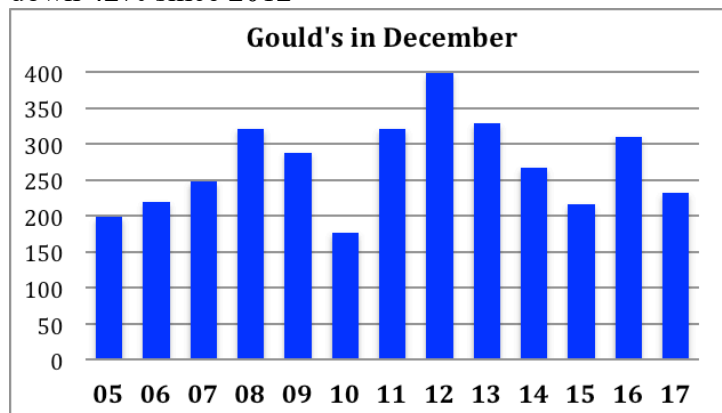
The December catch peaked in 2012 with 470 bats, so this year's capture was slightly under half that number and even down on last year's 318. Possibly the 470 was well in excess of the park's carrying capacity, or perhaps the growing dominance of Gould's has brought about an exodus of other species. For example, the Large Forest Bats that were once fairly prominent in December have not appeared since 2012



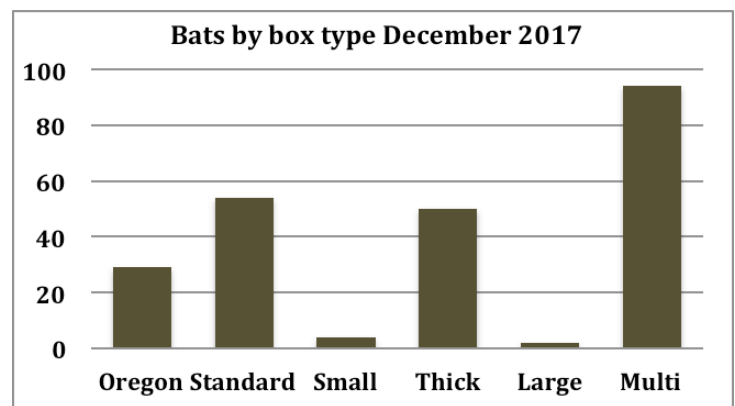
And Freetails were once more abundant than the one male we found this month:



The disappearance of these two species explains a large fraction of the decline in total number of bats. But most of it has been about the decline in Gould's Wattleed bats, down 42% since 2012

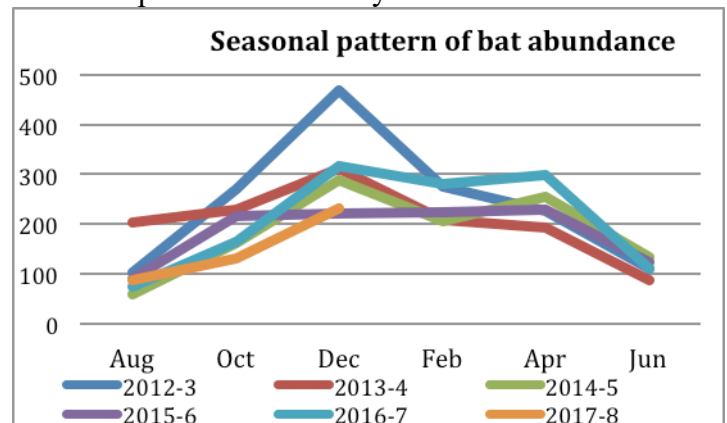


The other big change is the sudden popularity of the two big multi-compartmented boxes Steve installed earlier in the year. The small and large boxes were largely ignored, and the new multi boxes strongly favoured.



The only boxes we've ever had that have been occupied every time we inspect them. We once had a box with 86 bats in it (C43 in Nov '07); the 84 in C45 this month comes very close.

The seasonal pattern is following the usual trajectory of peaking in December, but the peak is somewhat subdued compared with earlier years

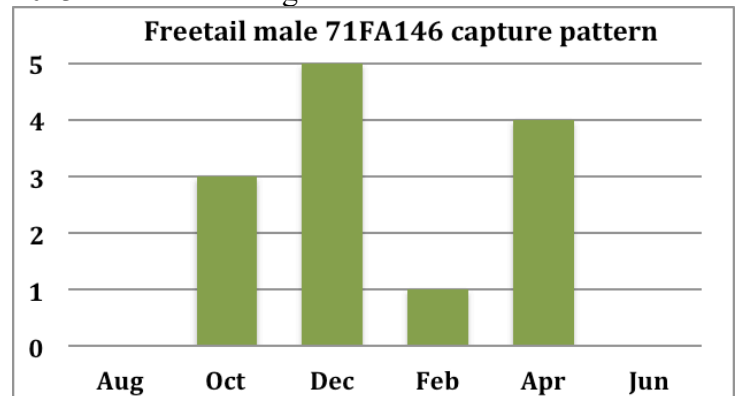


### Bat totals

The project got under way in November 1994, so has now run for 23 years. In that time we have recorded 23,269 bats altogether, of which 20,999 were Gould's (90.2%), 1,467 were Large Forest Bats (6.3%) and 697 have been Freetails (3.0%) with odd scatters of other minor species.

### The Freetail

Our one Freetail was the male, PIT-tagged in April 2013 and now visiting for the 12<sup>th</sup> time.

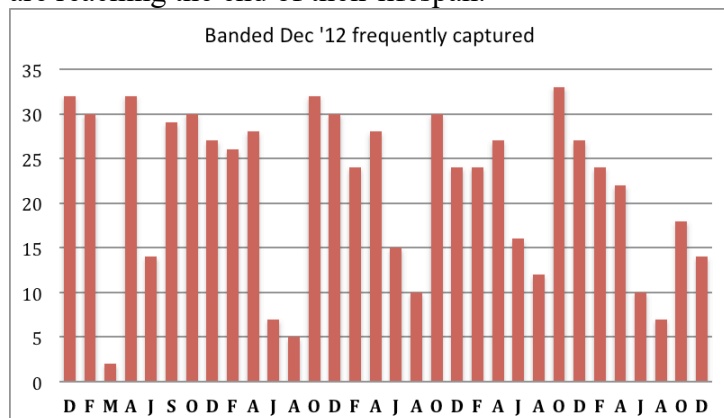


He has been very reliably occupying a box in December

and almost as reliable in April and October but goes elsewhere for the winter. The next-most-captured Free-tail has only been found 5 times, so he is behaving like a territory-owner. He has most often been in boxes C42 and C43, twice in C13 and now in C17.

### Bats banded Dec 2012

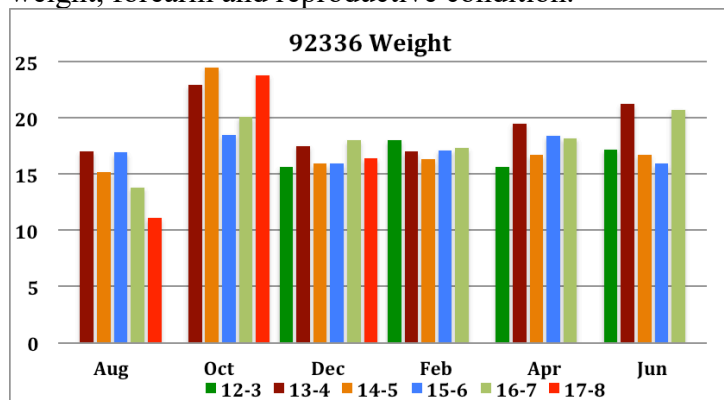
For five years these have been the elders of the colony, going elsewhere in winter but reliably returning each spring. This year the numbers have started to dip, so probably many of them have been very elderly bats and are reaching the end of their lifespan.



This month there were 13 of them: 12 females, 1 male.

### Old female 92336

The only bat we have captured every monitoring since Dec. '12 is 92336, so we now have 31 records of her weight, forearm and reproductive condition.



She has been pregnant every October, and in December as well in 2013.

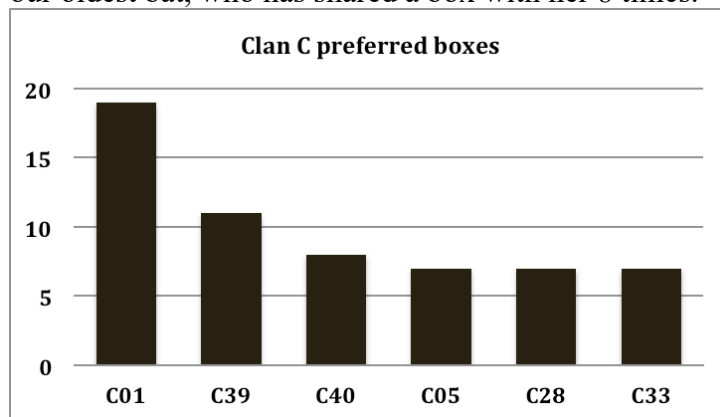
92336	12-3	13-4	14-5	15-6	16-7	17-8
Aug		PL	PP	PL	PL	PL
Oct		PX	PX	PX	PX	PX
Dec	LA	PX	LA	LA	LA	LA
Feb	PL	PL	LA	PL	LA	
Apr	PP	PL	PL	PL	PL	
Jun	PP	PP	PP	PL	PP	

She is part of the reason for having the computer tablets and checking repro con history at each session, as she is one of those bats who reverts to looking like an adolescent between pregnancies. She is part of the evidence that Gould's Wattled bats seem to breed every year and

may have bred twice in 2013.

Her bosom buddy has been 92337 – they have been found sharing a box 12 times. 92337 has not been seen since August, so may have died.

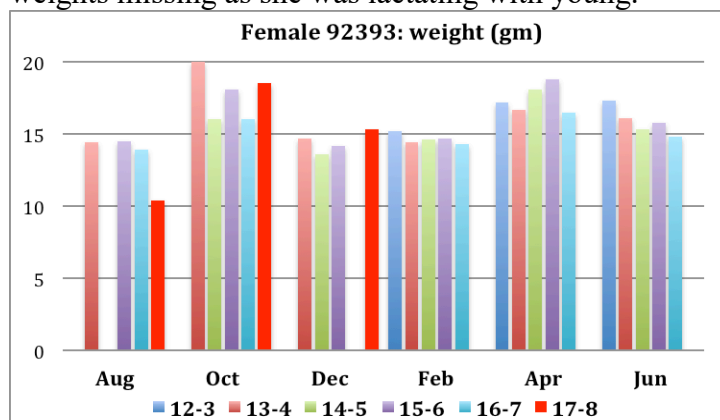
This month, much to my surprise, 92336 was in box 9 with 92393. 92336 has been one of the core bats of Clan A, and 92393 is one of the core bats of Clan B. 92393 has also recently lost a bosom buddy, in 88866, our oldest bat, who has shared a box with her 8 times.



Clan C of this cohort of bats have quite a different set of preferred boxes from those of the other two clans. Steve replaced box 1 this month, as it seems to be this clan's most-favoured roost site. Nobody in Clan A has ever used box 1. Clan A's most-favoured boxes are C30 and C14. Nobody in Clan C has ever used C30 or C14. So their ideas of where their territories are seem to be mutually exclusive.

### Old female 92393

Banded in Dec 2012, now captured 28 times, two Dec. weights missing as she was lactating with young.

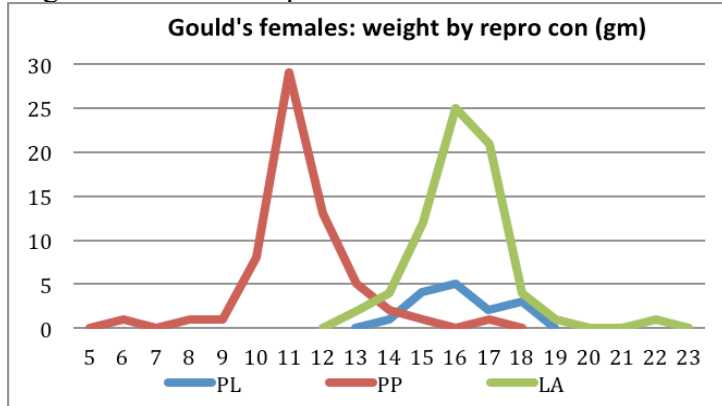


She is another bat who looks like an adolescent out of the breeding season, but since we got our computers assessment errors have ceased, as we know her history.

92336	12-3	13-4	14-5	15-6	16-7	17-8
Aug		PL		PL	PL	PL
Oct		PX	PP	PP	PL	PX
Dec	LA	LA	PL	LA	LA	LA
Feb	PL	PL	PP	PL	LA	
Apr	PP	PL	PP	PL	PL	
Jun	PP	PP	PP	PL	PL	

## Juveniles

There were 125 juvenile bats, at a wide range of development stages; the smallest 6 grams, most of them 10 to 13 grams and a few about adult weight already, so birth-ing must have been spaced out over several weeks.



There were equal numbers of male and female juveniles

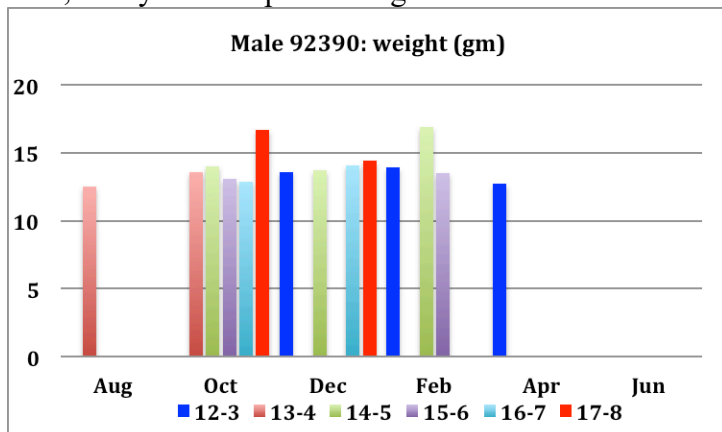
Box	Mother	Male	Female	Juvenile	Ratio
C45	28	30	25	55	1.96
C39	14	10	13	23	1.64
C36	12	11	10	21	1.75
C13	5	4	3	7	1.40
C03	9	5	7	12	1.33
C37	8	3	4	7	0.88

As Gould's bear twins, it looks as though C45 had a group of adult females who had lost only one young among them all, while in C37 of perhaps 16 births only 7 were still around. Some clusters of bats who roost together seem more successful than others at keeping their young alive and healthy.

102 of the juveniles were developed enough to be band-ed, the others being assessed as still too small. Casey did 45, Dani did 30, Pia did 27. A very busy day.

## Old male 92390

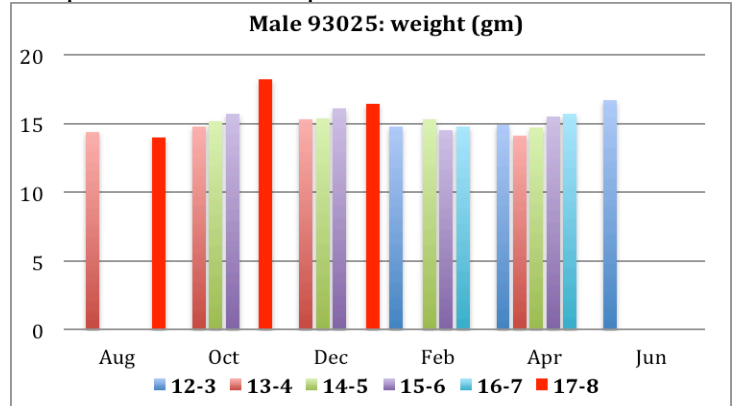
This is the one male banded in Dec. '12 who is still with us. Now captured 14 times, he is most reliably roosting in a box in October, often there in Dec and Feb., rarely in the April mating season or in winter.



This month he was in C42 on his own, typical of male bats.

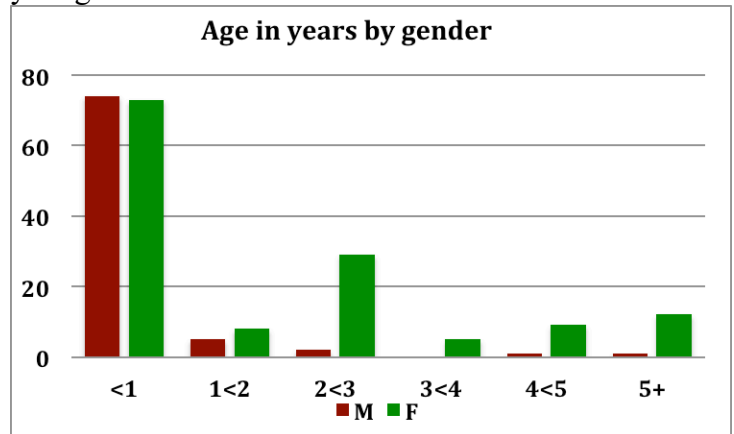
## Old male 93025

This bat was banded in Feb. '13, has now been captured 20 times, and is most reliably roosting in a box in April mating season. Seems to have a better grasp about when it is profitable to turn up than does 92390.



## Length of stay in the colony

As usual in summer, there is a mixed age distribution, with bats banded 5, 4, 3, 2, 1 years ago and a very large number of juveniles. This is true of each box with a maternity group – the mothers are a mix of older and younger bats.



**Next box check: Sunday 11 Feb. at 12 noon**