

Organ Pipes bat box check: 9 Dec

After a week of heatwave, we had quite a pleasant afternoon in the valley and a very good-sized team to empty all the 36 boxes (box 6 had lost its lid, which I had taken home for repair, so I nailed it back on, although there was a Ringtail asleep in it, and another in C37 which had been propped open)



We divided into two ladder teams, Steve with Erika, Rachel and Pia, while Fiona Major and Dave Hebard came with me, soon joined by Eva Reda and Ben. About half the boxes had bats in them and there were multitudes of attached and un-attached young pups so extracting them all from the boxes was a slow and delicate operation



Gould's in C41 – 32 adults and 42 juveniles

One of the smaller boxes had an amazing crush of Large Forest bats with heaps of pups – over 70 all told. There were seven very old banded bats from before 2004 – six Gould's and a Large Forest Bat, but all the rest were unbanded as nearly all our banded bats have now died.

Some boxes had large volumes of droppings, three had abandoned juvenile bats in boxes, without any adult bats, so were left there in the hope their mothers would soon return.



Robert Irvine, Rachel Slatyer & Steve Griffiths

Rachel is considering a post-grad project and is now much more motivated to work on bats.



There were several big maternity groups of Goulds. We finished emptying the boxes by 5. Robert Irvine drove several bags of mothers and pups up to the VC mid-afternoon as Caroline and Simone had arrived to get started on assessing and we wanted to get the bats back in their boxes as soon as possible.



A large team assembled in the VC by 6 as we were joined by Ian and Nina Gondos and Lindy Lumsden so Steve got on with banding while the others worked through the many bags of wriggly bats while a rich

assortment of supper things was spread out on a nearby table.



When about half the bats had been banded and measured, Steve and I, with Rachel and Eva went down into the valley to start returning bats to boxes while there was still daylight. More were driven down in batches and we managed to get them all back in boxes by 10:30 which given December usually has meant a 2 to 3 a.m. finish was pretty amazing. We had a most industrious team of bat assessors and scribes.



Almost all the adult females had pups, some had one and many had two, like this one.



Caroline and Simone set out a few Styrofoam cups with bats perched in them in the hope they would produce droppings which some did, to be delivered in triumph to their fellow student Tanja. Every-one helped tidy up the VC and carry out the boxes of equipment and we were out of the park by 11 o'clock. Absolutely amazing effort, given the very large workload of assessing and banding almost 200 adult bats.

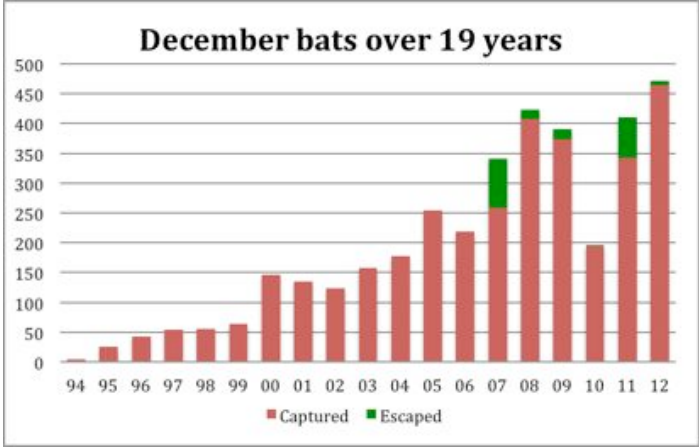
Box	Bats	Species	Adult		Juv	Esc
			M	F		
C21	73	Lge Forest Sth Forest		25 1	43	5
C41	74	Gould's	7	25	42	
C07	67	Gould's		26	41	
C32	65 1	Gould's Freetail	1	25 1	39	
C30	60	Gould's	1	19	39	1
C14	37	Gould's		14	23	
C05	36	Gould's		15	21	
C34	19	Gould's	12	4	3	
C22	14	Gould's	2	4	8	
C27	11	Gould's		4	7	
C40	5	Gould's	3	2		
C24	2	Gould's	2			
C42	2	Freetail		2		
C13	1	Gould's	1			
C16	1	Gould's	1			
C17	1	Gould's		1		
C36	3	Gould's			3	
C39	1	Gould's			1	
C01	2	Gould's			2	
	476	Totals	30	168	272	6

The ratio of females to males was 5.6 to 1, part of the usual summer spike in females. Of the 272 juveniles, 128 were still attached to their mothers, and the other 144 were wandering freely around their boxes and bags. 6 were found unaccompanied by adult bats, in 3 boxes. The adult females seem to have spread the births over several weeks as some pups were newborn still unfurred and tiny, while others were half-grown.

Year	2008	2009	2010	2011	2012
Gould's	321	288	177	321	399
Lge Forest	75	61	16	10	73
Freetail	26	24	2	16	3
Sthn Forest	1		1		1
Total	423	373	196	343	476

The fairly large growth this year was shared between the Gould's and Large Forest bats with Freetail numbers down to about the level of 2010. Southern Forest bats continue to be a tiny minor-ity of box-

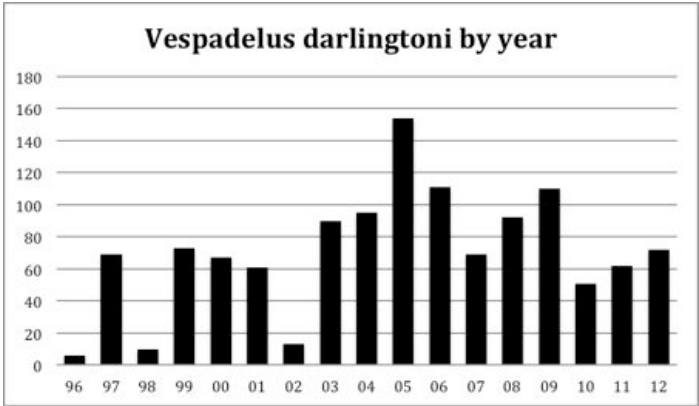
users. It is a pretty amazing growth from the 4 bats found in Dec '94



The ratio of juveniles to adult females varied very much from box to box, with a mean of 1.62 and a range of 0.75 to 2. So already some of the pups have died or got lost. With 139 adult female Gould's there should have been 278 pups and we found 229, so 49 are already missing.

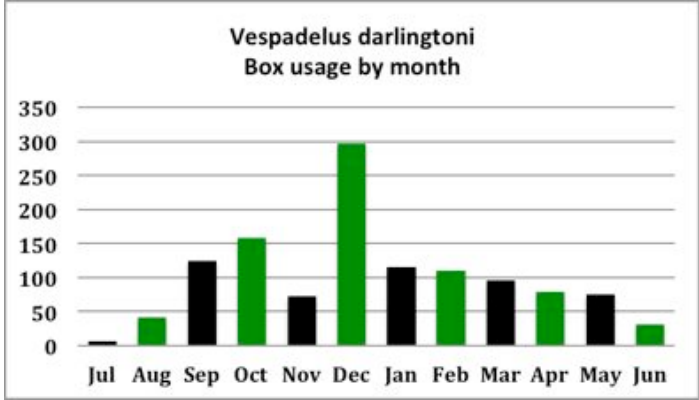
Of the 11 old banded bats found since April, one has been captured on all 5 box checks from April to December, one four times, and three of them 3 times. Of these 5 bats, all females, which are very loyal to the boxes, 4 were captured this month. All were lactating so although they must be 8 to 10 years old they are still bearing pups, and have probably each now borne 16 to 20 of them in a busy life.

Large Forest Bats, *Vespadelus darlingtoni*
The project commenced in Dec 1994, with only Gould's Wattled Bats for the first two years. Large Forest bats first appeared in March '97, with a solitary bat in box C18. We now have records of 1205 bats of this species in a steady stream each year except 98-9 and 02-3 when they roosted elsewhere. Most years we find between 50 and 100 Large Forest bats in the boxes.



They very quickly started using the boxes as breed - ing sites, and their presence is greatest in the breeding season, especially December. Since we moved to bi-monthly box checks in 2008, we have not kept

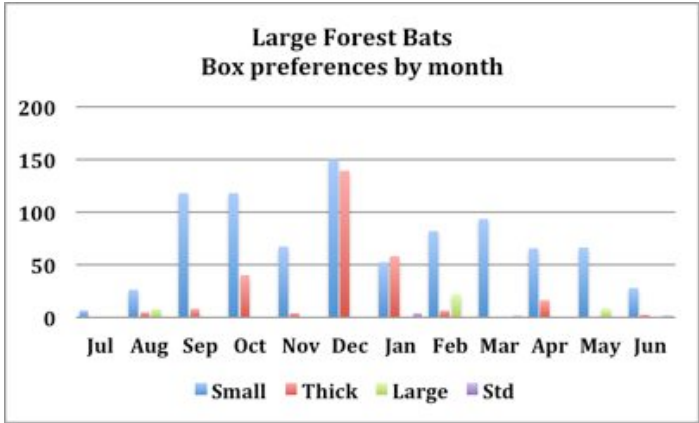
sampling box usage in November or January, so December really sticks out.



Green columns relate to the months we have continued to check the boxes since Feb 2008. A set of boxes with smaller internal volume (0.0024m^3 compared to the standard size of 0.0033m^3) was set up from 1997, initially with 8 mm entrance slits, but these were enlarged to 12 mm a year later. The plan was that these boxes would attract smaller bats – Forest bats and Chocolate Wattled bats, while the bigger Gould's confined themselves to the boxes with larger volume and entrance slits. This has been very successful

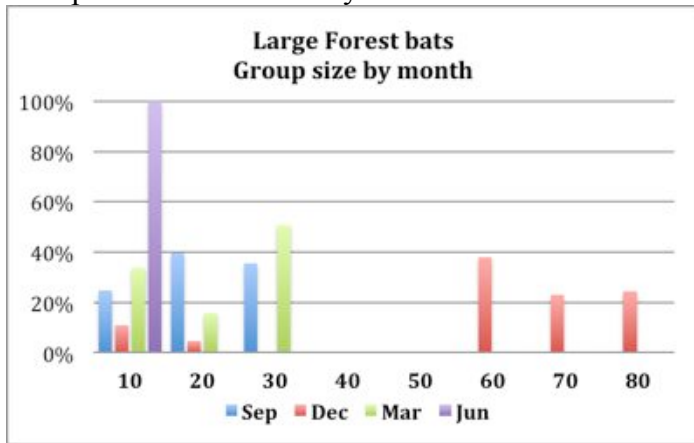
Box type	Forest bats	%
Small	872	72.4%
Thick-walled	276	22.9%
Very large	38	3.2%
Standard	16	1.3%
Total	1202	100%

Almost three quarters of the Forest bats have been found in the boxes intended for them, but almost the other quarter were in the thick-walled boxes. This large fraction has been attracted to these boxes almost exclusively in December and January (though not this year), and use the small boxes throughout the year. So their needs are apparently different in the hottest months.



Group size averages 8.4 bats per box, but quite often there are solitary bats and less often very large maternity groups of mothers and pups. The largest

ever was found this month, with 72 bats in C21.
Group size varies markedly between seasons:



In June, all groups have been smaller than 10 bats. In September and March larger groups of over 20 become moderately common, but the very large groups such as this month's 72 are only encountered in December when big maternity groups assemble. This happens with Gould's Wattled bats as well as both these species use the boxes as breeding sites whereas the other four species we have found do not.



Follow-up to box monitoring

Thanks to all who made the box monitoring a success.

Next box check will be on 10 Feb 2013 from 2 p.m.

with several hundred bats to band, as the juveniles will be adult by then