

Bat boxes, Organ Pipes NP 11 Dec 2016

Steve and Danielle arrived at 11 a.m. and had nearly all the boxes emptied by the time I arrived at 2, when a goodly team was hard at work in the visitor centre assessing the many bats.



On the way down to the boxes, I spotted a family walking their dog, ignoring the many ***Dogs not allowed*** signs – seems to be an increasing practice in unstaffed parks.



Box 38 and two others were re-attached to trees after repairs



Robert Irvine found a live cicada perched on a shrub.



And there were many discarded shells on trees, split down the back to allow the instar to wriggle out.



Tanja Straka and Emmi Scherlies were back in action, Danielle PIT-tagging juveniles, Casey and Pia banding and assessing repro con, forearms and weights. Maya Panniset brought daughter Sasha who had scribed for us at Wilson Reserve recently and was keen for more.

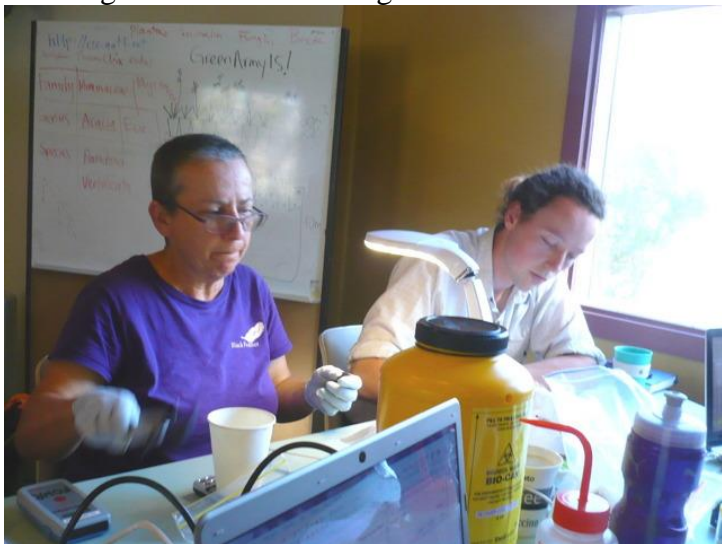


Robert Irvine kept bringing groups of casual park visit-

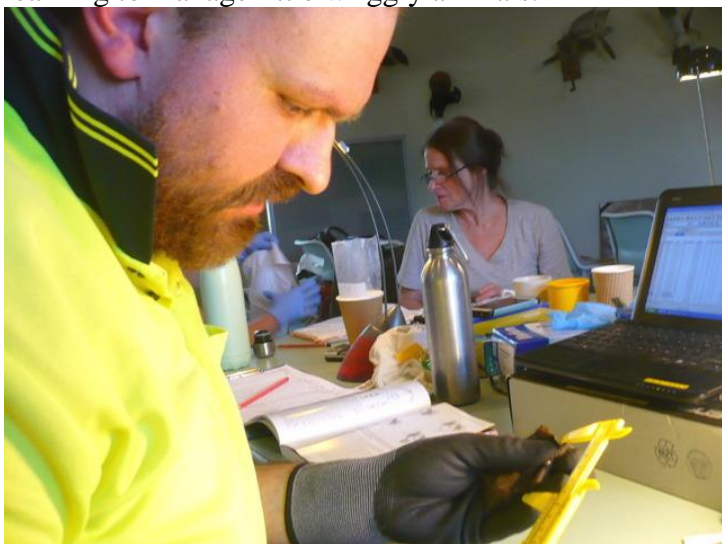
ors in to see what we were doing, and as always, all were fascinated, none had seen little bats before.



Casey showed them some wee bats. Caroline did bat-handling with Nathan scribing.



And I worked with Andrew, assessing his first bats and learning to manage little wriggly animals.



Robert brought in yet more visitors and explained what the project is about to them, and Veronica Peric (of Healesville Sanctuary, where she works with Tasman-

ian Devils) talked to them about what she was doing.



Near the end of the afternoon Pia read a band and found she had female Gould's, 88866, still fit and healthy, probably over 11 years old now.



It was a very long day, as there were 318 bats on many hangers, all of which had to be put back into the boxes where Steve had found them.



So we didn't exit the park until well after 9 p.m. – a ten hour day for Steve and Danielle. And much thanks to all those who came to help with the big workload.

Box	Bat	Species	Adult		Juvenile	
			M	F	M	F
C15	64# 1	Gould's Freetail	1	27 1	24	12
C07	50	Gould's	4	20	15	11
C39	54*	Gould's	2	21	16	14
C17	30*	Gould's	2	15	6	6
C43	28#	Gould's		11	8	9
C14	25 2	Gould's Freetail		11 2	6	8
C29	15	Gould's		7	3	5
C41	14#	Gould's	1	5	5	3
C42	11 5	Gould's Freetail	1	3 3	1 2	6
C16	10	Gould's	2	4	2	2
C24	3	Gould's	2		1	
C23	2*	Gould's	1			
C05	1	Gould's	1			
C22	1	Gould's	1			
C25	1	Gould's	1			
C44	1	Gould's	1			
	318	Totals	19	131	89	76

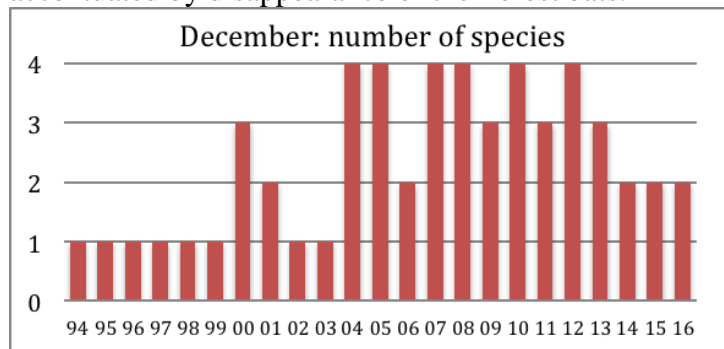
* = 1 captured from each of these boxes, but gender not recorded

bats escaped. C41 = 4, C15 & C43, 1 each

This year's catch is a 47% increase on last December, but again shows that the Large Forest bats, which used to be a significant part of the Organ Pipes population, and used to use the boxes as breeding sites in summer, have departed, possibly outcompeted by the more aggressive Gould's

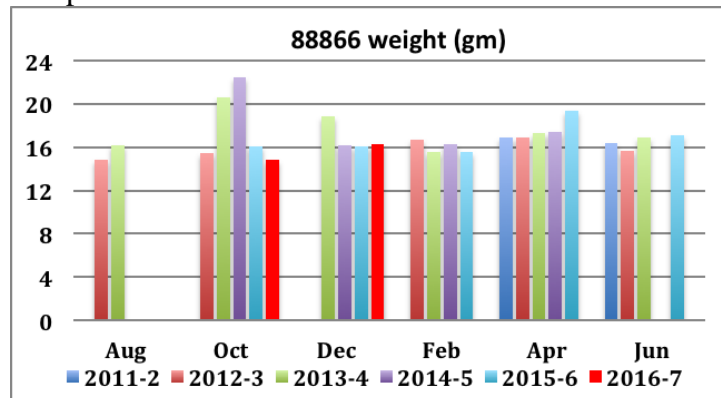
Year	2012	2013	2014	2015	2016
Gould's	399	328	267	216	310
Lge Forest	73				
Freetail	3	9	23	4	8
Sthn Forest	1				
Mormo		1			
Total	476	328	290	220	318
Gould's %	84%	97%	92%	98%	97%

As usual, the percentage of Gould's bats is very high, accentuated by disappearance of the Forest bats.



Old female Gould's 88866

This is the last survivor of the bats banded in the project's early years, by Natasha Schedvin, and is now around 11 years old. She has probably borne about 20 pups, and has been present at nearly every box check since April 2012: 25 of the 29 times. Her absences have mainly been in August. So her weight record is nearly complete.



It looks like she has had this year and maybe even last year, off breeding, and is retired. But her weight is generally very consistent, at around 16 grams. She was in C17, with 14 other females and 13 pups.

Pup survival

Gould's generally produce twins. This month there were 165 juvenile Gould's and 131 mature females, a ratio of 1.24 to 1. So either some of them produced only a single young, or more likely the death rate of juveniles has already taken a heavy toll in a dry season, with almost 100 juveniles missing a mere month or so after the bulk of birthing.

Bat clans: who roosts with whom?

One idle afternoon in October I started playing about with the 4-year history of banding records to see which bats often or never roosted together and found some interesting patterns. The most-frequently-captured bat, 92336, for example, banded in Dec 2012 when I first got my permit, has now been captured 24 times. 59% of the 17 times bat 92354 has been captured, she has been in the same box as 92336, and 50% of the time that 92337 has been captured she, too, has been in the same box as 92336. They seem to be best friends, possibly cousins. By contrast, 92336 has never been in the same box as 92376, 92374 or 92325, so it seems these bats avoid one another. Looking at all the female bats captured 13 times or more over the 4 years I have found 3 distinct clans, which often roost together and never roost with members of the other clans. The one including 92336 and 92337 seems to be the largest clan with the strongest bonds between its members.

The capture record for this month shows all the frequently captured bats were found with members of their

own clans I identified in October, so their behaviour is consistent.

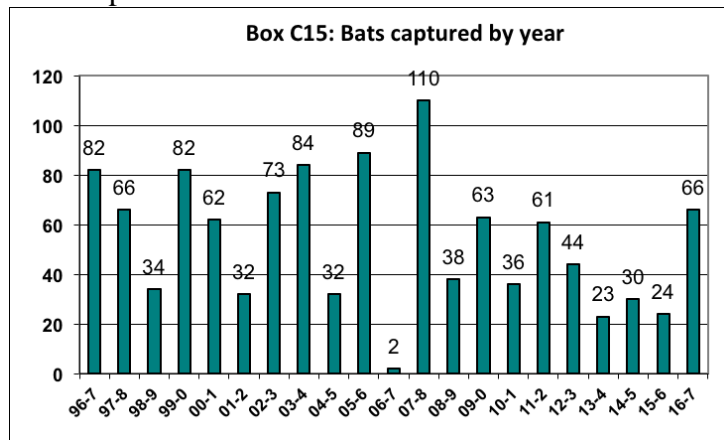
Boxes used by bats in December

The small boxes with small entrance slits (18 to 25) were set up in the hope they would attract the smaller bat species – Forest bats and Chocolate Wattled bats. None of these species seems to be continuing to use the boxes, so these boxes were largely empty this month, except for four that had very small groups of Gould's males in them – the males are smaller than the females and seem able to wriggle through smaller entrance slits.

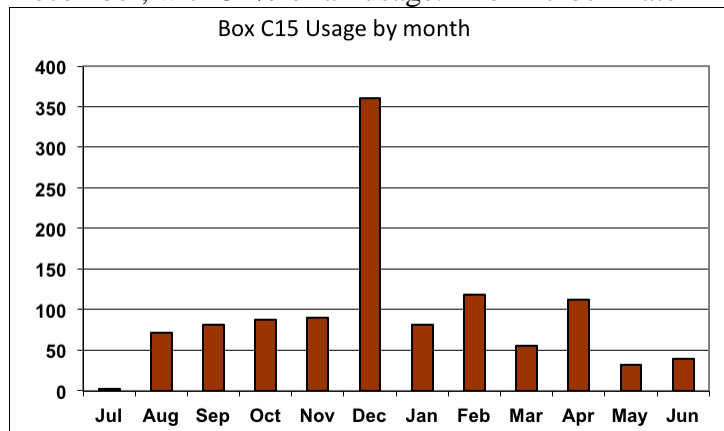
185 of the 318 bats (58%) were found in what I call the *standard Stebbings-design* boxes (13 to 17, 27, 39, 44), so these seem to suit their needs well in summer. Another 58 bats (including 5 Freetails) were in the three *very large* boxes (41 to 43) at the south end of the area and another 51 were in the old *Oregon-timber* boxes (1 to 9) – nearly all in box 7, which Steve has recently repaired and repainted.

Box 15

For many years this was the box most favoured by the bats (now 1133 bats), then a few years ago it was overtaken by C16 (now 1225 bats). The peak (2007-8) and trough (2006-7) of the series are adjacent years. Most years are either well above or well below the mean of 54 bats p.a.



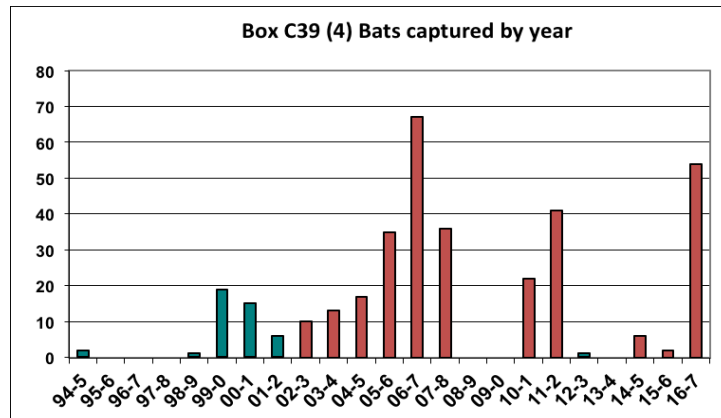
Its seasonal pattern shows a very strong dominance of December, with 32% of all usage. The microclimate



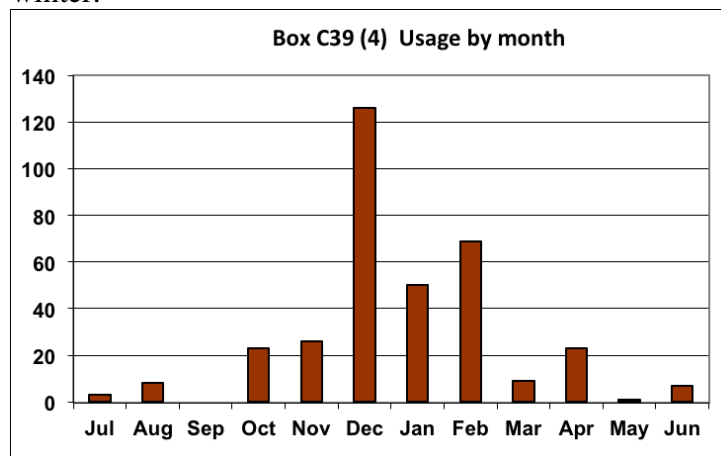
this month must be judged very good by the bats and far less so the rest of the year.

Box 39 (originally C4)

This was an Oregon box, first set up in 1992, but was rebuilt after it fell in April 2002, and renumbered as 39. The earlier version was little used before that and for some years usage increased spectacularly after the rebuild, then collapsed again from 2008 (when we moved to bi-monthly) and has been little used since, until now.

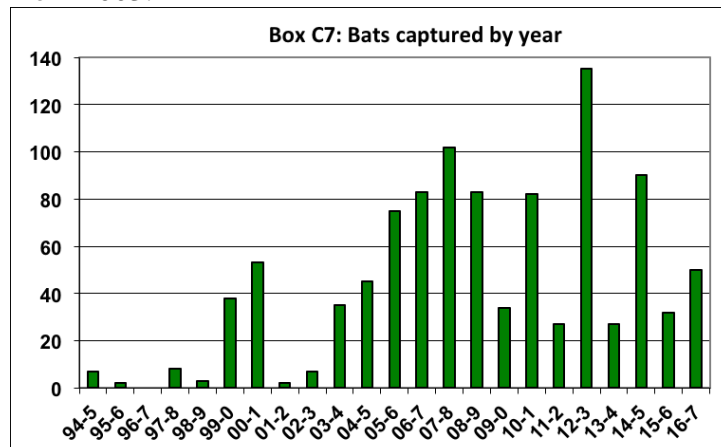


Like box 15 it seems most attractive to the bats in Dec., somewhat less in Feb., and is little-used in autumn/winter.

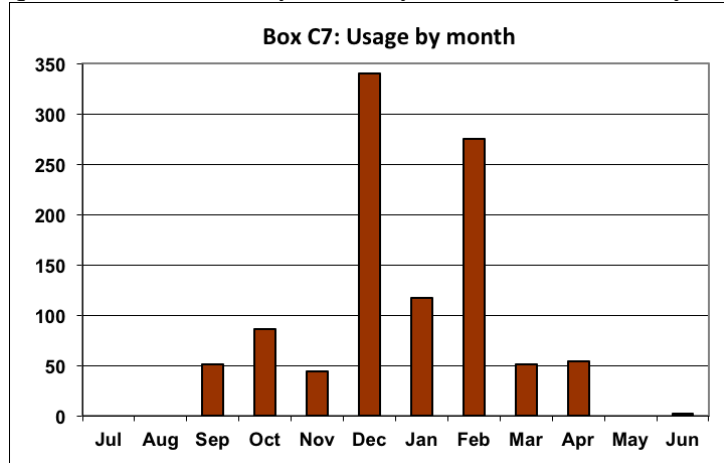


Box 7

Another of the original Oregon boxes installed in 1992, little used for some years, then it suddenly took off from 2003.



This box, too, is mainly favoured in December, and quite a lot in February, but very little the rest of the year



All three of these boxes have been much used as breeding sites by Gould's, hence the big groups in them this month.

Banded and PIT-tagged bats

We now have a database of 1,241 banded and/or PIT-tagged Gould's and Forest bats, and another 110 PIT-tagged Freetails, including 30 Gould's banded and another 110 PIT-tagged this breeding season, and 10 new Freetails. That's been a big effort over 4 years since Dec 2012. Lots of practice and skill-development for our banders and a huge workload for bat assessors. All this voluntary time is very much appreciated.

Next box check: Sunday 19 Feb. 2 p.m.