

Organ Pipes bats, 13 December.

December is usually the busiest month, with newborn pups and lactating mother bats. Fortunately we had some new recruits in Nathan Gregory,



And Andrew Mibus, who told us about his family home at Penshurst



Box C9 had a pair of Sugar Gliders in it.



But eventually we started finding big groups of bats.



As usual I did the south end and Steve's group did the north end. Soon Lindy, Pia & the processing team arrived, took the first 100+ bats up to the Visitor Centre, that Steve had laid out ready for them



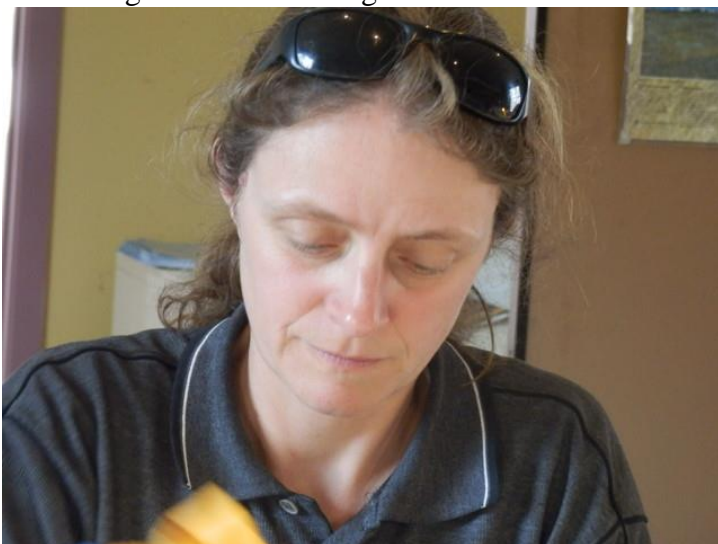
And away they went, blue gloves on many hands and many others scribing, lights with magnifying lenses, scales and calipers enough for all. And we had a visit from a long-lost bat enthusiast and her family in Lisa Godinho, who came with Marcus and their two boys, Raf and Remy. Lisa got to stay until the boys had enough and needed to be taken home.



With grapes and apricots to keep them happy along the way.



Amanda Bush did some of the bat assessing, with Armstrong Scherlies scribing for her.



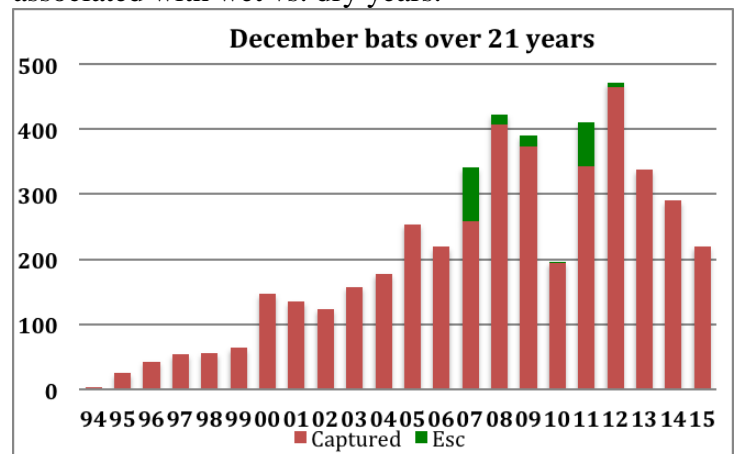
Lindy, Pia and Casey were kept very busy banding 117 juvenile bats while Steve and Danielle managed the microchipping and genetic sampling. Jess Whinfield is now a regular at Organ Pipes as well as at Ivanhoe.



Banding and microchipping is slow work, so it was near 8 p.m. when Nathan and Andrew came with me to start returning bats to their boxes, which was finished well after dark. Steve came down with the last lot of bats and we finished up around 10:30 p.m., then had to tidy up the Visitor Centre.



I left the park with Nathan after 11 p.m. – a long day's work for all. We had captured 220 bats, less than half the 470 at the peak in 2012. This is possibly a cycle associated with wet vs. dry years.



There were bats in 24 of the 39 boxes, just about a

record. Box 3 was disintegrating so Steve took it away for repair. Some boxes had a predictable mix of adult females and juveniles (C37, C01, C42) but some juveniles are now quite independent so box 40 had only 2 adult females with 19 juveniles. At two boxes, Gould's bats that had been flying about landed on the box lid and were captured.

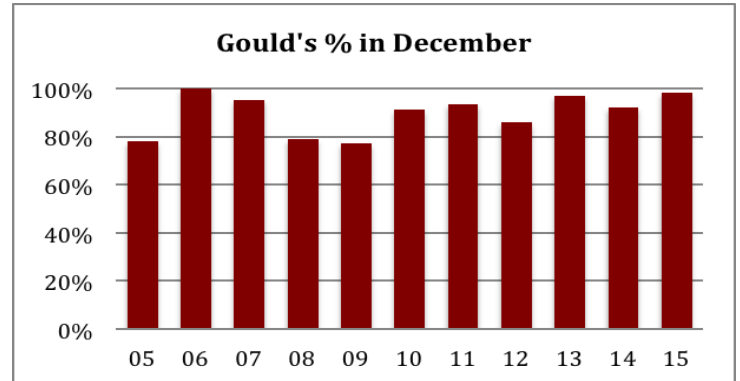
Box	Bat	Species	Adult		Juvenile	
			M	F	M	F
C37	53	Gould's		18	20	15
C01	52	Gould's		22	13	17
C42	35	Gould's	1	12	11	11
	1	Freetail	1			
C40	21	Gould's		2	11	8
C38	13	Gould's		6	3	4
C05	4	Gould's		4		
C07	4	Gould's	1	2		1
C17	4	Gould's		3		1
C15	3	Freetail		3		
C41	3	Gould's		3		
C43	3	Gould's	1	2		
C03	2	Gould's		2		
C22	2	Gould's	2			
C24	2	Gould's	2			
C31	2	Gould's		2		
C34	2	Gould's	2			
C35	2	Gould's		1	1	
C06	1	Gould's		1		
C16	1	Gould's	1			
C20	1	Gould's	1			
C23	1	Gould's	1			
C25	1	Gould's	1			
C27	1	Gould's	1			
C36	1	Gould's	1			
not	5	Gould's	1	1	2	1
	220	Totals	17	84	61	58

Fluctuation in the number of Gould's probably has much to do with wet vs dry years. Forest bats have ceased using the boxes in December the past 3 years.

Year	2011	2012	2013	2014	2015
Gould's	321	399	328	267	216
Lge Forest	14	73			
Freetail	8	3	9	23	4
Sthn Forest		1			
Mormo			1		
Total	343	476	328	290	220
Gould's %	94%	84%	97%	92%	98%

Boxes as conservation tools

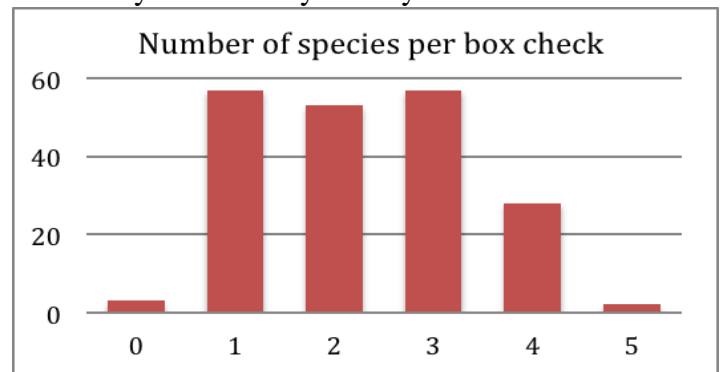
One important issue with the replacement of logged forest with bat boxes on young trees is whether they constitute a valid conservation tool, and are a satisfactory offset for the lost forest. In an undisturbed forest, Gould's Wattled bats are a minor species, perhaps 5 to 10% of the bats using the area. In our boxes, as shown by the history of December captures, they make up often well over 90% of the bats.



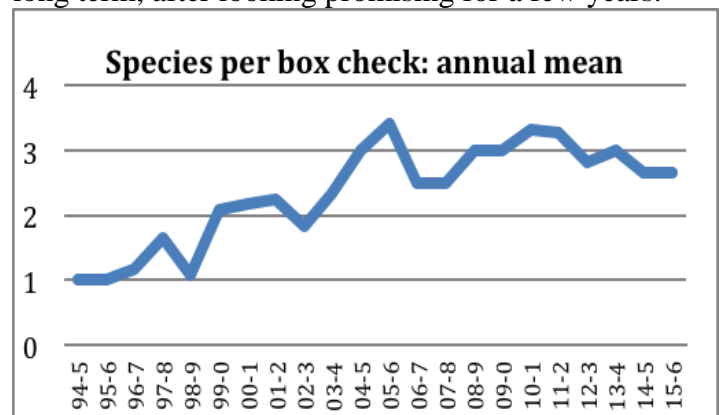
The dips down to 80% in 2008 and 2009 involved far more Forest and Freetail bats using the boxes in those years. This month Gould's made up 98% of the bats.

How many species do we find?

This month just two, nearly all Gould's and 4 Freetails. We have recorded 7 bat species in the boxes, the maximum of 5 at one time being recorded in 2004-5 and 2005-6. We found 4 species 6 times in 2004-5 but only once last year and not yet this year.

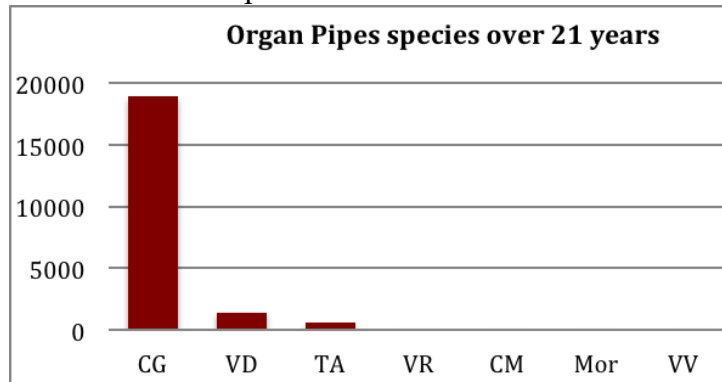


So diversity of species seems to be declining over the long term, after looking promising for a few years.

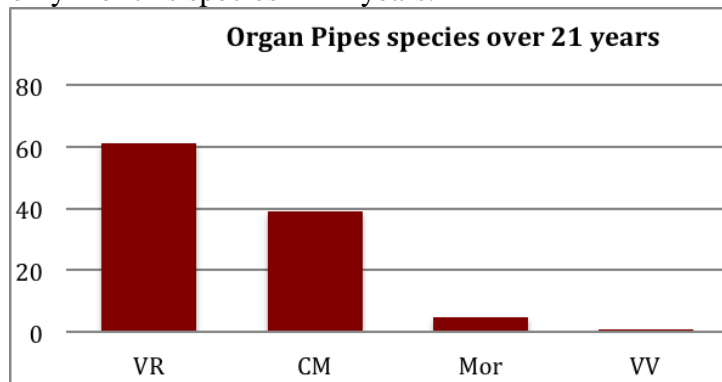


How many bats have we recorded?

The project got started in late 1994 when the first 10 boxes had been in place for 2½ years. We found 34 adult bats in 5 boxes in Nov. '94, and that has now grown to records of just short of 21,000 bats of 7 species. The last four species have so few records they don't even show up on this chart.



Leaving off the three species with many records, the minor species appear. The most recent *V. regulus* was in Oct 2013, so we've seen none for over 2 years. We have had two *C. morio* in the past 12 months. And only 39 Freetail, down from box usage in the 70s per year several years ago. Gould's now have the boxes more to themselves. The Little Forest bat is often the most abundant species found in harp traps, but we have had only 1 of this species in 21 years.



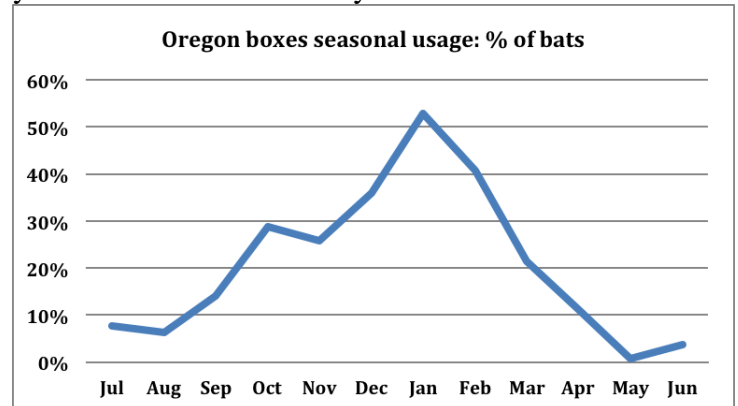
Old bat 88866



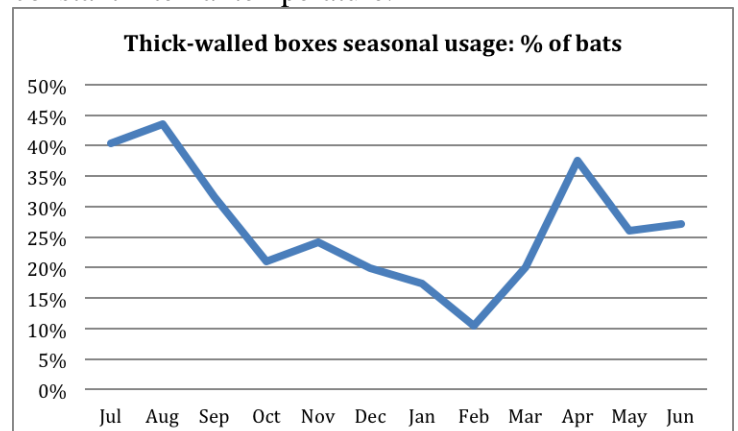
Since April 2012 we have had 23 box monitoring days and found this old female 21 times. She has been through a pregnancy each year. Pregnancy weight reached a peak last year at 22.4 gm. and this year was only 16 gm., but we found her in November with new-born pups and this month in C37 with 17 other lactating mother bats and 35 juveniles, two of them likely hers.

The old Oregon boxes

Our original 10 boxes were made by Kevin Jones, long-term FOOP member and carpenter in 1992. They all had over-large entrances, which have allowed Ringtails and rats to enter and take over. Boxes 2, 4 and 8 fell and smashed and were replaced by boxes of modified designs, 10 has been taken off to a detention centre somewhere, so only 6 of the originals remain. They have always attracted bats mainly in the warm months, Oct. to Feb, and are very little used in winter, over 21 years now. This month they held 44% of the bats.



The thick-walled boxes had another 26% of bats this month. They were intended to attract bats in the cold months, by offering better insulation to maintain a more constant internal temperature.

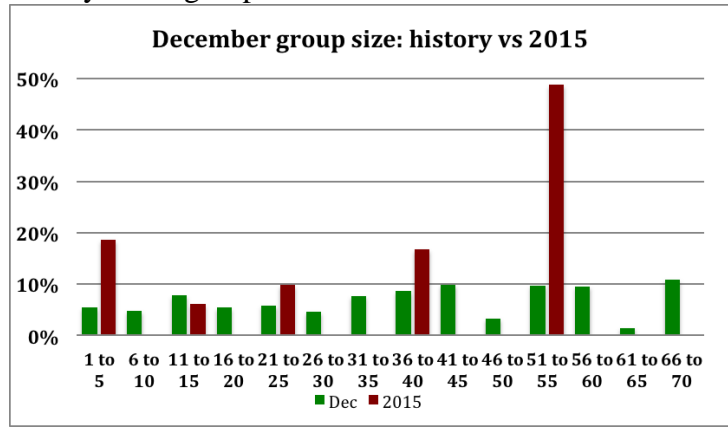


The pattern is very different from that of the Oregon boxes, with winter usage well above that of summer. So the intention to make boxes available that would be used in winter has been pretty successful.

Group size in December

We tend to get much larger groups in the breeding season/hot months than in winter, which is true of this year as of all years. The two biggest groups of 52 in

C01 and 53 in C37 make up 49% of this month's bats. Adding the 36 bats in C42 makes 66% or 2/3 of all this month's bats in 3 boxes. The chart below shows the spread of group sizes for December in all years to 2014, set against this month's: most bats in big groups, a few in very small groups of under 5 bats.



The team this month was: Stephen Griffiths, Lindy Lumsden, Pia Lentini, Mary Long, Jessica Whinfield, Jessica Taylor, Rachel Lee, Nathan Gregory, Armstrong Scherlies, Emmi Scherlies, Andrew Mibus, Danielle Eastick, Amanda Bush, Casey Visintin, Caroline Durre, Lisa Godinho and me: 17 people.

Next box check: Sunday 14 Feb 2016, 2 p.m.