

Organ Pipes bat box check 19 Aug 2012

Jackson's Creek was in flood, though less turbulent than it had been the day before. A remarkably large group assembled to help with the afternoon's work, including a big contingent of 13 from Chish-olm TAFE in Rosebud, led by teacher Paul Bertuch. Stephen Griffiths had come to help extract the bats from the boxes. I gave an initial talk to the group, then off we went to start two ladders around the usual circuit.



The first box, C16, was bursting with 33 Gould's, all torpid and inert.



The box also had a large group of bat fly pupae



All the bats for the day were Gould's until Stephen found a solitary Freetail in a big group of 32 Gould's in C15, the last box to be checked



The Chisholm students were keen to see sugar gliders so Paul set the ladder beneath SG2 and there was a leaf next inside with glider curled up asleep, indifferent to being peered at by 15 stud-ents.



Breandan very kindly opened the Visitor Centre for us, so we spent the evening in comfort. Ian and Nina Gondos came up from Frankston and

helped with the bat assessing, the students sharing the talk of data recording.



The one Freetail for the day
Debbie arrived just as we finished the last bat but came down with us to manage the release line-up, with everyone opening their calico bags and slowly letting the bats wriggle out and fly off. We had two banded bats for the day and one of them was captured in this photo, flying between the two rows of students



We finished up with 102 bats, all but one of them Gould's, and only two old Gould females were still carrying bands.

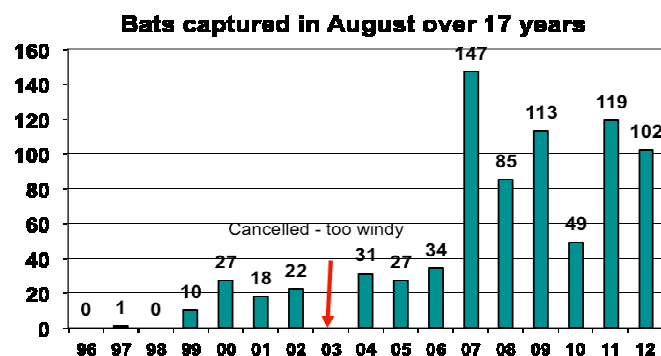
| Box | Bats | Species | Adult | | Banded |
|-----|------|----------|-------|----|--------|
| | | | M | F | |
| C16 | 35 | Gould's | 12 | 23 | 1 |
| C15 | 31 | Gould's | 12 | 19 | 1 |
| | 1 | Freetail | | 1 | |
| C36 | 14 | Gould's | 7 | 7 | |
| C31 | 9 | Gould's | 4 | 5 | |
| C40 | 4 | Gould's | | 4 | |
| C34 | 3 | Gould's | 1 | 2 | |
| C24 | 3 | Gould's | 1 | 2 | |
| C23 | 1 | Gould's | | 1 | |

| | | | | | |
|-----|------------|---------------|-----------|-----------|-------------|
| C01 | 1 | Gould's | 1 | | |
| | 102 | Totals | 38 | 64 | 1.68 |

There were 1.68 females to each male, well below what we find during the breeding season in late spring. The catch this year fits the pattern set in 2009 and 2011, the very low 2010 figure looking like an aberration.

| Year | 2008 | 2009 | 2010 | 2011 | 2012 |
|--------------|-----------|------------|-----------|------------|------------|
| Gould's | 76 | 109 | 43 | 113 | 101 |
| Lge Forest | 4 | 4 | | 3 | |
| Freetail | 5 | | 6 | 3 | 1 |
| Total | 85 | 113 | 49 | 119 | 102 |

The two old banded female Gould's had been captured in April and June, along with several others, which must be roosting elsewhere this month



Which boxes are used in August?

We have boxes with 5 slightly different designs set up at the park, the differences being mainly internal volume and entrance slit size, and 9 boxes made from much thicker timber (45mm). I have classified them as

Oregon (first 10) set up in 1992, all made of Oregon timber, and with very large entrance slits (25 to 35 mm). 10 boxes: 1 to 10

Stebbings (closer to the original design by Robert Stebbings (UK), with 15 mm entrance slits, pine: 6 boxes: 13 to 17, 27

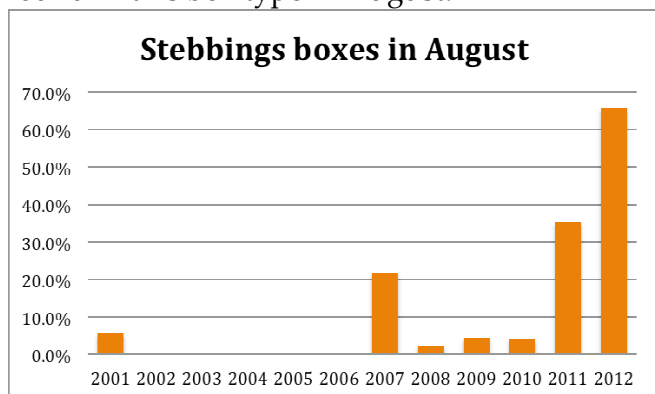
Small: 12 mm entrance slits, about 27 smaller volume than the Stebbings boxes: 8 boxes: 18 to 25

Thick: 15 mm entrance slits, about 5% smaller than the Stebbings boxes: 9 boxes: 28 to 34, 36, 37

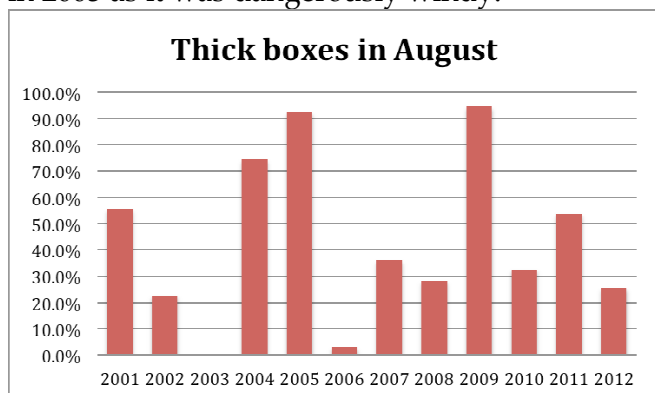
Very large: 16 mm entrance slits, two-and-a-half times the internal volume of the Stebbings boxes. 3 boxes: 41 to 43

This month, 66% of our bats were found in Stebbings boxes (mainly boxes 15 & 16) and 26% in Thick boxes. Is this the usual pattern for August? Do the bats prefer the same subset of boxes at the same time each year?

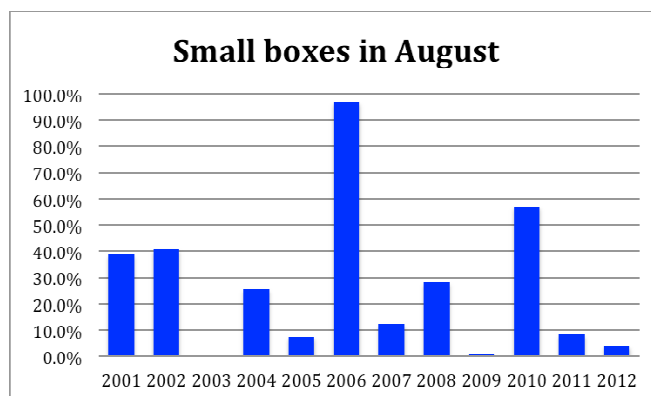
For the Stebbings boxes this has been a most unusual year, with a far larger percentage of bats than usual choosing to roost in this box type. In fact most often either no bats or fewer than 5 are found in this box type in August.



The thick boxes have an even more variable history of use in August. In 5 of the past 12 years, more than half the bats were found in this box type, two years being over 90%. But one year it was close to zero. Boxes were not checked in 2003 as it was dangerously windy.



This year only 4% of the bats were found in the Small boxes, but in 2006 it approached 100%.



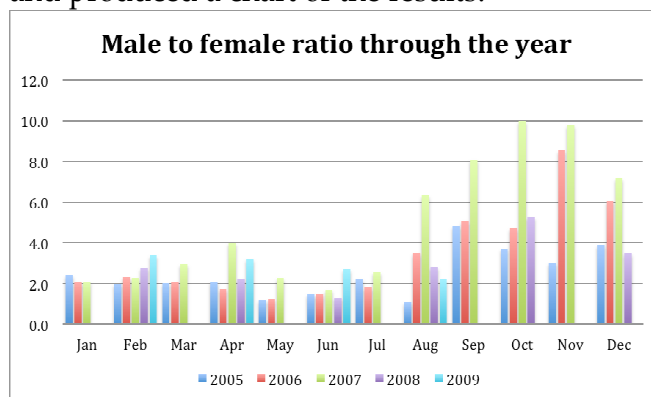
So I think the message is that the bats do not seem to have consistent preferences for particular box designs, and are largely unpredictable about where they will be found to roost in August box checks. Things like internal temperature and humidity may be more important to them than entrance slit or internal volume.

Big groups of bats in August.

The two big groups this month were in C15 (31 Gould's and a Freetail) and C16 (35 Gould's). We have only found 3 other groups of more than 30 bats in August since the project started. There were 32 bats in C32 in 2004, and in 2009 we had two big groups, 33 bats in C28 and 39 bats in C36. On all three occasions the big groups were in the Thick boxes, so this year's experience is very unusual. Again it shows that the past may not be a good guide to the future.

Males and females in August

The ratio of males to females roosting in the boxes goes through an annual cycle. I have brought together the ratios from the years 2005 to 2009, for which my records are fairly complete and produced a chart of the results:



What is shown is that the ratio fluctuates around 1 or 2 to 1 from January to July, then rapidly

rises to a peak in October/November when females dominate the roost in terms of abundance. August is usually the month of "take-off", so this month's ratio of 1.68 is uncommonly low. We should find it is very different when we check the boxes again in October.

Next box check: Sunday 14 October at 2 p.m.