

Martha Brae Big Bridge

4-5th March 2015
(full moon)



&

25-26th March 2015
(new moon-1st qtr)





- SongMeter 384 kHz w/ SMX-US omni-directional microphone
- Microphone extended with 3.5m aluminum pole, positioned ~ 5 m above river
- River: med-high flow, clear
- Time: sunset - 30 min thru sunrise + 15 min
- 1-minute record, 4-minute pause
- All files reviewed by Susan Koenig using CallViewer v18



RESULTS

 Activity (detectability) not obviously affected by lunar cycle

 Noticeably more active (or detectable acoustically) during the new moon phase

Species	 No. of "bat passes" 4-5th March	 No. of "bat passes" 25-26th March	Feeding Guild	Roost Ecology
<i>Pteronotus parnellii</i>	16	22	Insectivore	Windsor Great Cave
<i>Pteronotus macleayii</i>	120	117	Insectivore	Windsor Great Cave
<i>Pteronotus quadridens</i>	41	120	Insectivore	Windsor Great Cave
<i>Mormoops blainvillei</i>	7	42	Insectivore	Windsor Great Cave
<i>Noctilio leporinus</i>	2	26	Piscivore	Coastal caves
<i>Erophylla sezekorni</i>	2	2	Nectarivore	Windsor Great Cave
<i>Artibeus flavescens</i>	3	4	Frugivore	Tree; opportunistic cave
<i>Artibeus jamaicensis</i>	8	11	Frugivore	Windsor Great Cave
<i>Tadarida brasiliensis</i>	582	718	Insectivore	Windsor Great Cave
<i>Molossus molossus</i>	0	6	Insectivore	Buildings



RESULTS

Hourly Activity Patterns

(# of passes; * = terminal buzzes [hunting or drinking])

4-5th March

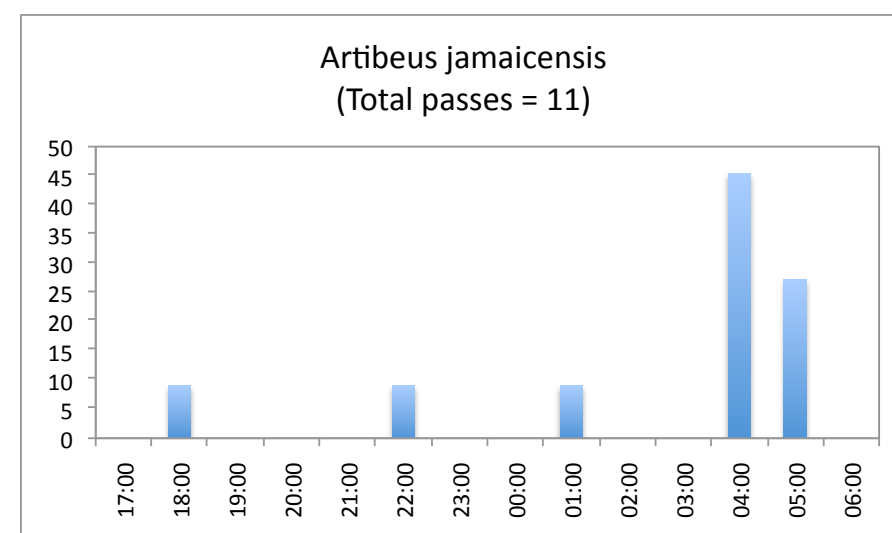
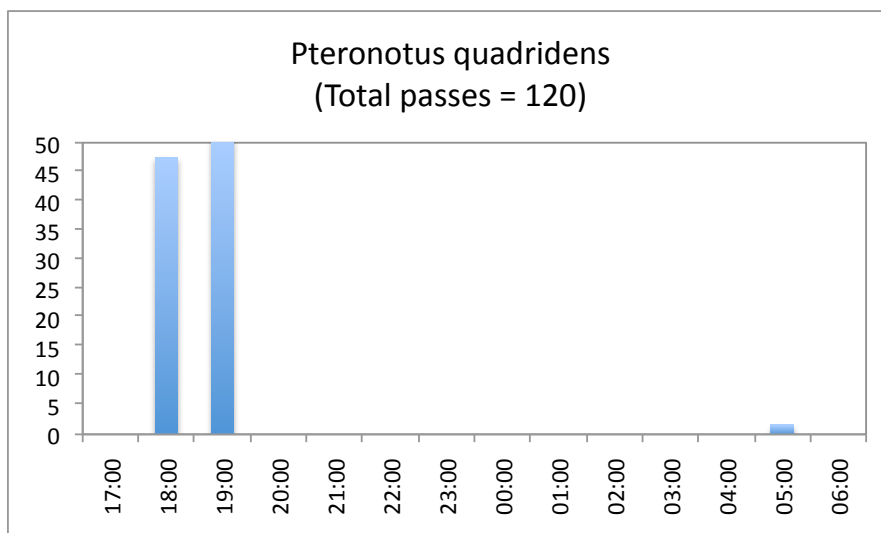
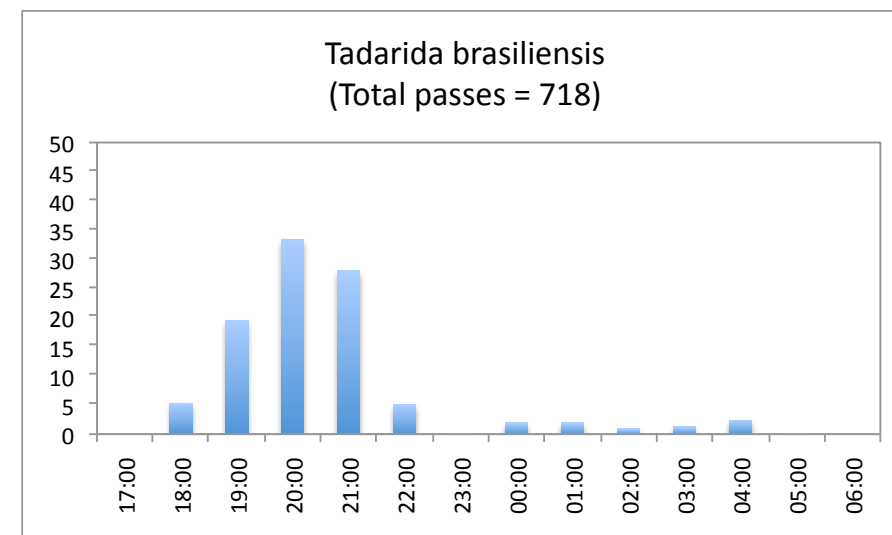
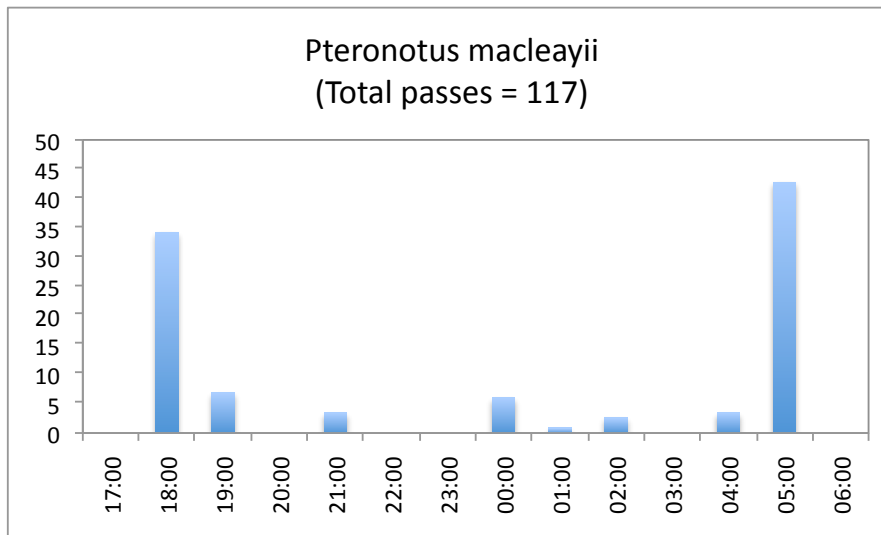
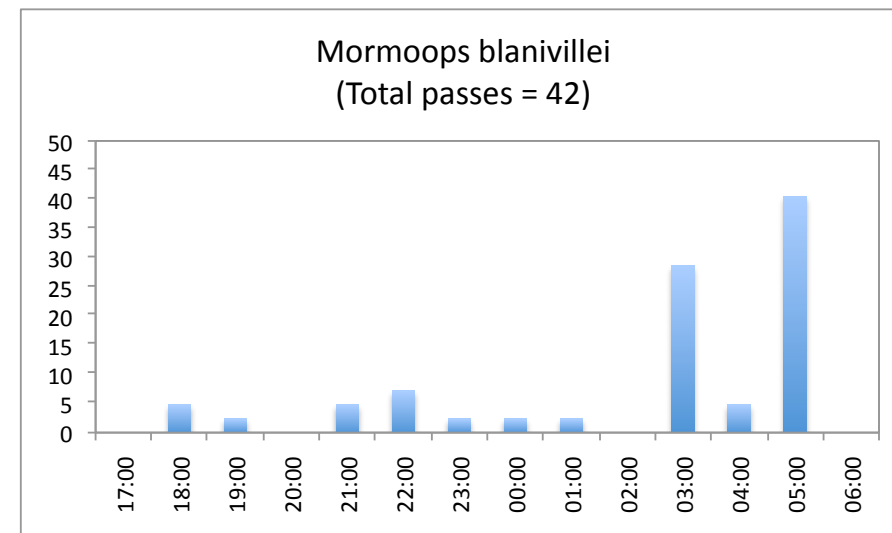
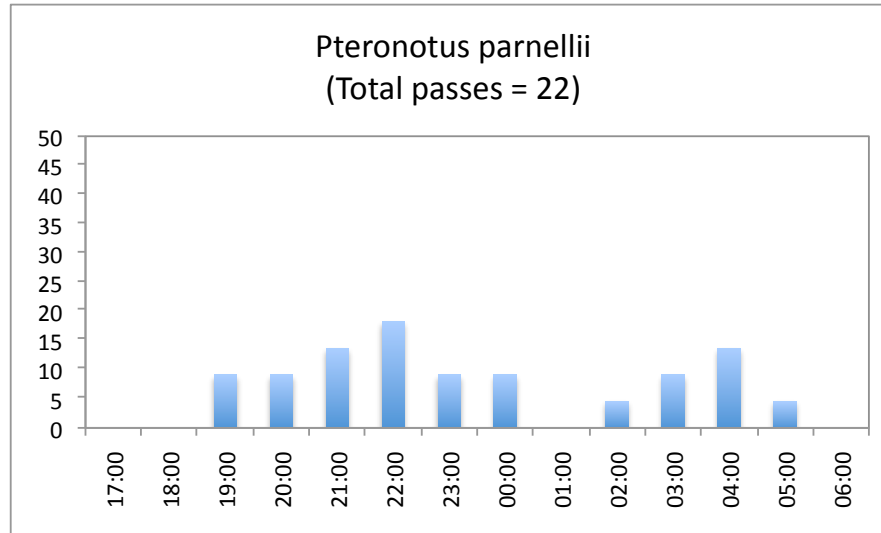
TIME	<i>Pteronotus parnellii</i>	<i>Pteronotus macleayii</i>	<i>Pteronotus quadridens</i>	<i>Mormoops blainvillei</i>	<i>Noctilio leporinus</i>	<i>Erophylla sezekorni</i>	<i>Artiteus flavescens</i>	<i>Artibeus jamaicensis</i>	<i>Tadarida brasiliensis</i>	<i>Molossus molossus</i>
17:00	0	0	0	0	0	0	0	0	0	0
18:00	1	30*	12	3	0	0	0	1	25*	0
19:00	1	15	4*	0	1	1	1	1	216*	0
20:00	3	0	2	0	0	0	0	0	191	0
21:00	1	1	0	1	0	0	0	0	28	0
22:00	2	2	0	0	0	0	0	0	6	0
23:00	0	0	0	1	0	0	0	0	1	0
00:00	2	0	0	1	0	1	1	0	28	0
01:00	1	0	0	0	0	0	0	1	4	0
02:00	1	2	0	0	0	0	0	3	4	0
03:00	2	0	0	0	0	0	1	0	16	0
04:00	0	5	0	0	1	0	0	1	26	0
05:00	2	24*	6	0	0	0	0	1	38	0
06:00	0	41*	16*	0	0	0	0	0	0	0



RESULTS

Hourly Activity Patterns of 4 insectivorous Mormoopidae bats (*Pteronotus* spp. & *Mormoops blainvillei*), 1 insectivorous Molossidae (*Tadarida brasiliensis*), and 1 frugivorous Phyllostomidae (*Artibeus jamaicensis*)
25-26th March

Percentage of activity





SUMMARY



- 7 of the 11 species resident in Windsor Great Cave were detected acoustically at the Martha Brae river
- An additional 3 species were detected: 1 tree-rooster, 1 coastal cave-rooster, 1 building-rooster
- Noticeably not detected acoustically were 3 Phyllostomidae (whispering) species (*Macrotus waterhousii*, *Monophyllus redmani*, and *Glossophaga soricina*) and the 3-gram insectivorous *Chilonatalus micropus*
- More activity was detected during the new moon: whether bats are more active during the new moon or the absence of moonlight requires more intense production of acoustic signals because vision is restricted cannot be determined from the acoustic survey methodology
- All bats require freshwater to drink, but the dominance of *Tadarida brasiliensis* may suggest that females of this species were lactating and, consequently, in greater need of water for milk production compared to maintenance of normal hydration levels.