

Investigating Rufous Scrub-birds in the NSW Gloucester Tops



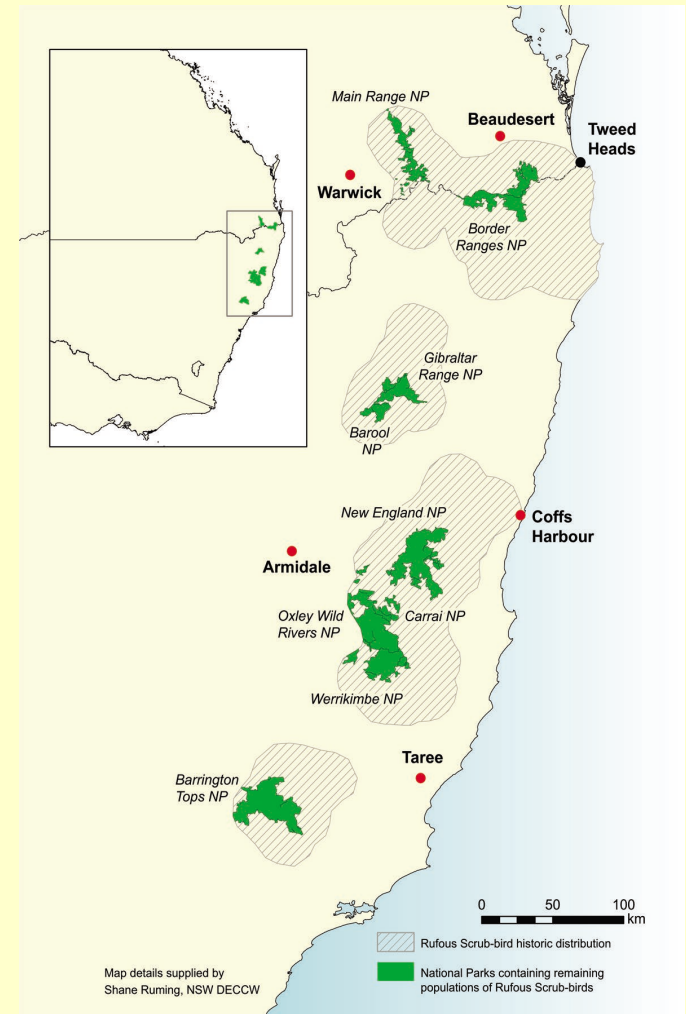
Alan Stuart

July 2019

Photos: Allan Richardson, Rob Kyte, me

Cryptic ... and in trouble

- Endangered
 - 1981 finding: 80% decrease in territories since European settlement
 - Further population decreases have occurred
 - Has disappeared from the lower altitude former parts of its range
- Five isolated remnant populations.
- Found on mountain “islands” with no escape route from climate change
- Secretive, skulking with limited flight
- Heard, but seldom seen
- Require dense understorey; deep leaf litter
- Little else is known about them!

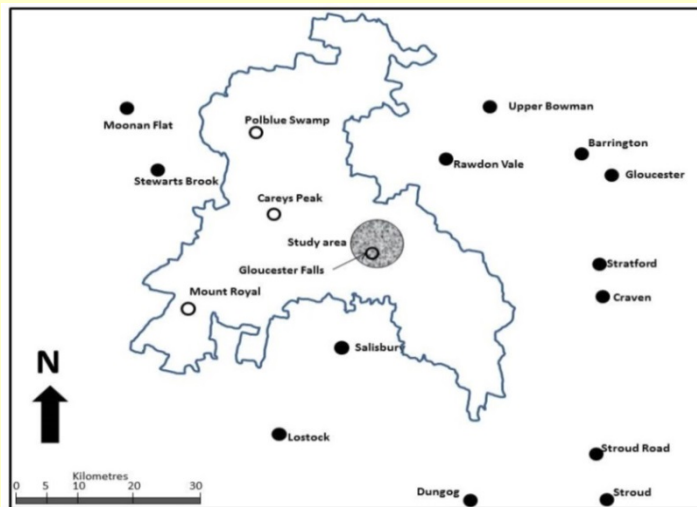


Past and present distribution*

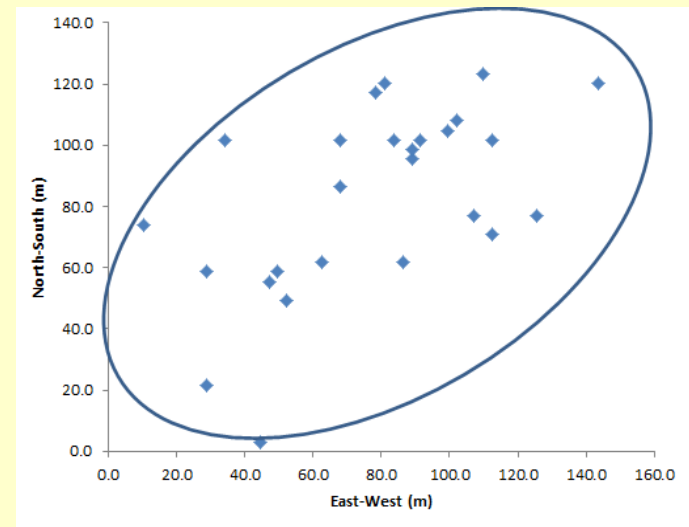
*from Gole & Newman 2010

Previously established

- Population stable in core habitat in the Gloucester Tops
 - Annual monitoring since 2010
 - ~4km radius site, ~5,000ha
 - 37 territories identified (~55% long-term occupancy)
- Birds not present at former territories below ~1,000m
- Singing areas are small (0.8-1.5 ha)



Study area in the Gloucester Tops



Locations within a singing area

The current study objectives

Singing behaviour

- How much does the singing behaviour vary over the course of the year?
- When is the best time of year for population monitoring programs?



Individual Scrub-birds

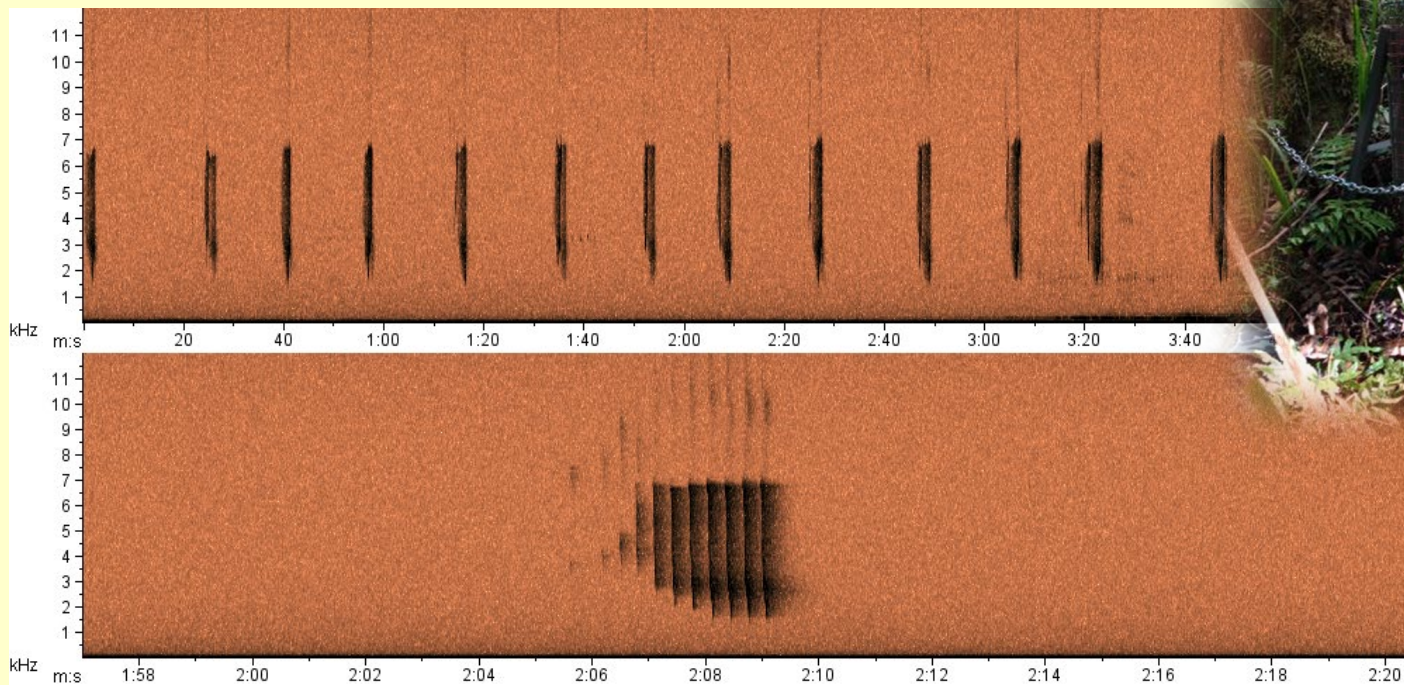
- Obtain biometric data for Gloucester Tops Scrub-birds
- For how long does a male Rufous Scrub-bird occupy a territory?

Territory size & home range

- Whereabouts are male Rufous Scrub-birds when they're not singing?

Singing behaviour of male Scrub-birds

- Using automated recording units (ARU) to study singing patterns of males at their territories
- Analyses based on # calls per 20 minute interval (transit time through a territory)



An ARU in the field

Sonogram of the Rufous Scrub-bird's main song (expanded view below)

Singing behaviour study

Data set

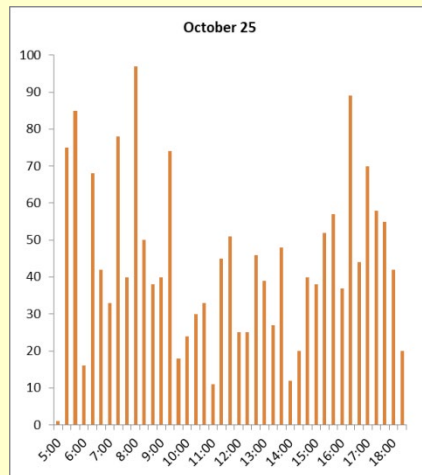
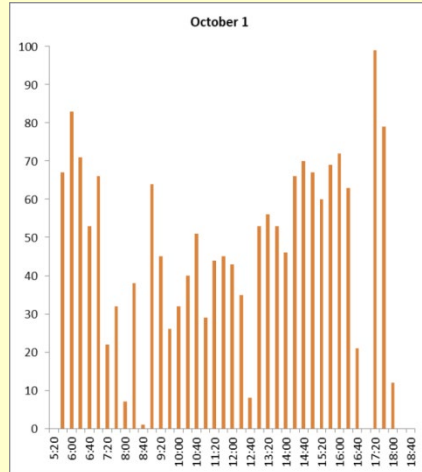
- 425 data-days analysed (~5,000 hours)
- Five Rufous Scrub-bird territories
 - 194 data-days at the most-studied territory
 - 120 data-days at a second territory

Parameters assessed

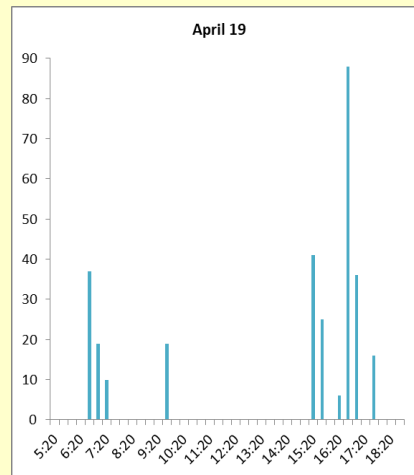
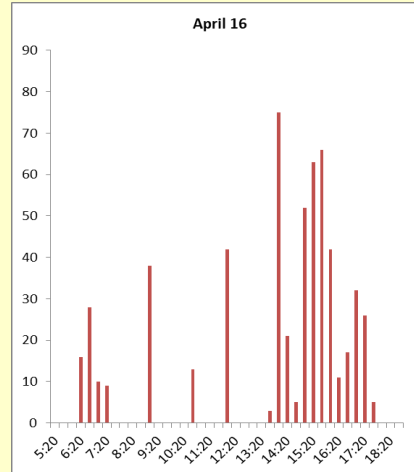
- Total calls per day
- Calls per active 20-minute period
- No. of active 20-minute periods per day

Examples of singing behaviour

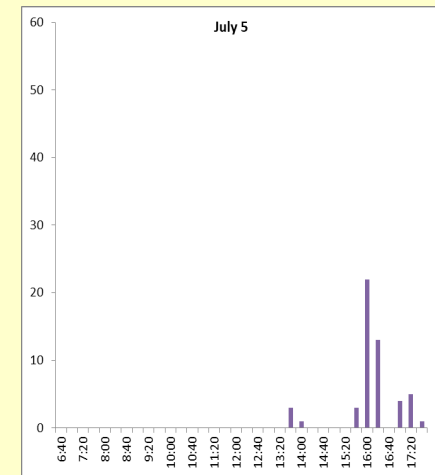
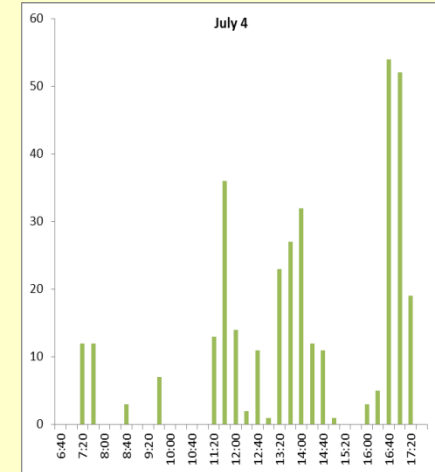
Spring



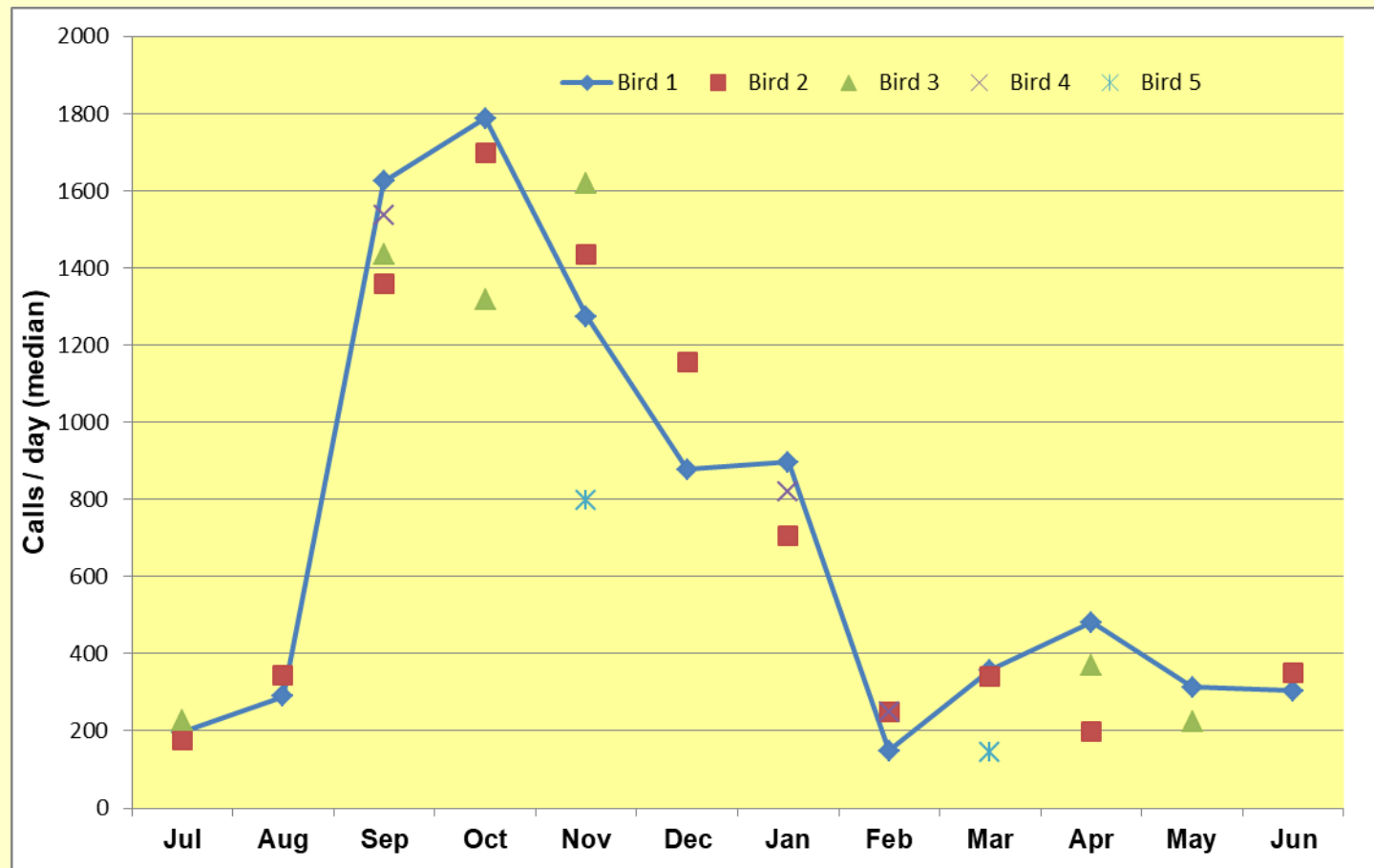
Autumn



Winter



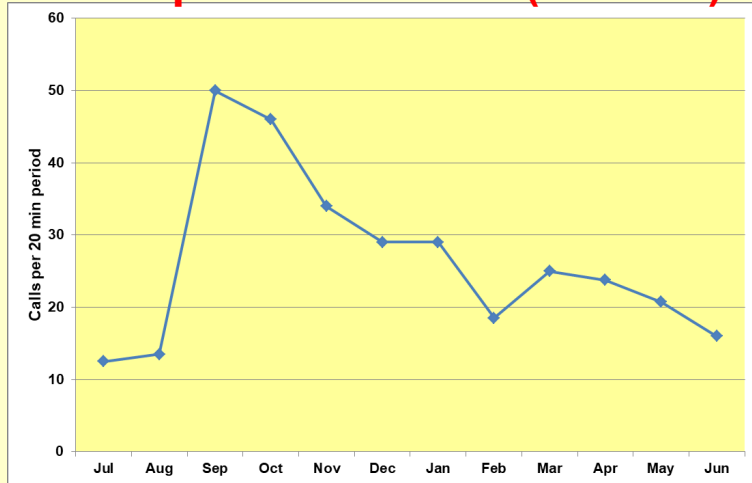
How often does a Scrub-bird sing?



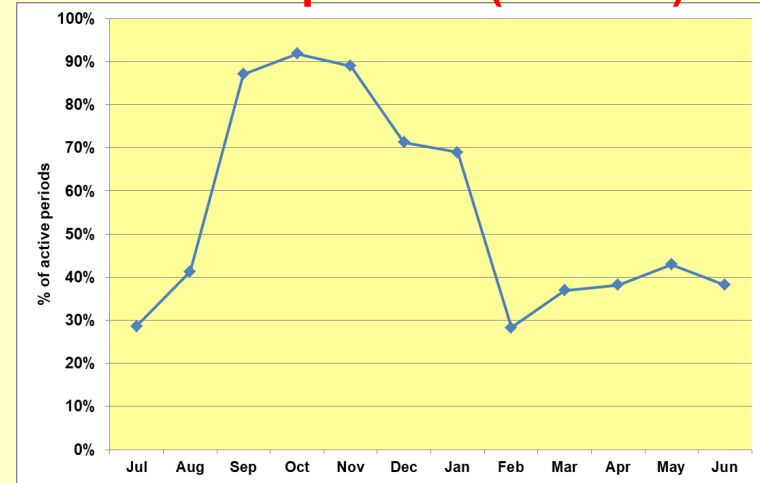
- 1000-1800 calls / day from mid-Sep for ~ 3 months
- Behaviours were similar for 5 individual Scrub-birds

Activity profiles

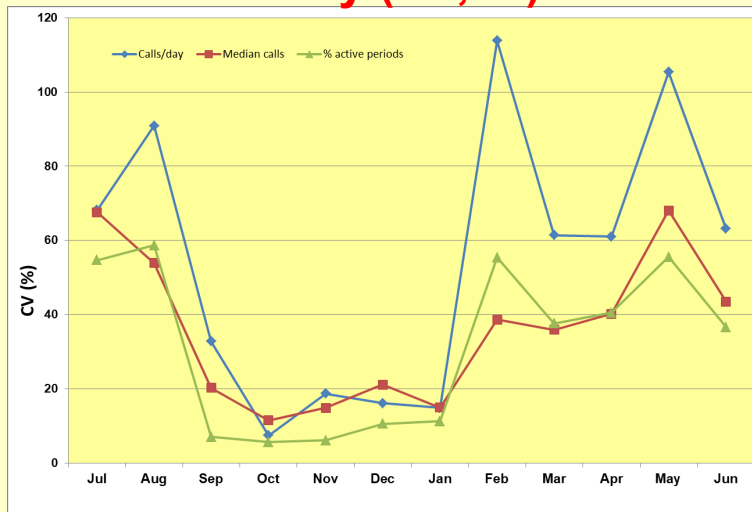
Calls per 20 minutes (median)



% active periods (median)



Variability (CV, %)



Breeding season peak in:

- The number of calls in active 20-min periods
- The number of active 20-min periods

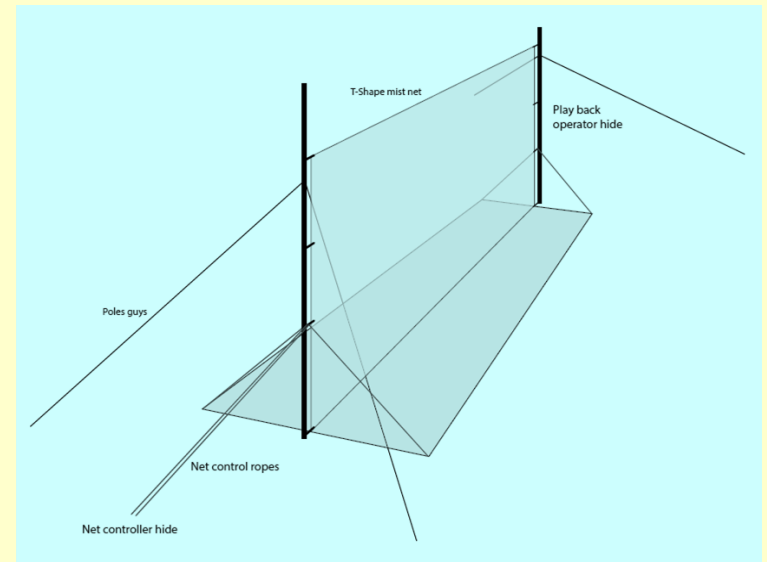
Non breeding season

- Singing activity decreases overall
- Much greater variability in singing behaviour. Some days very active.

Male Rufous Scrub-birds

Capture method

- Use of T-shaped net
 - In breeding season
 - Developed for Noisy Scrub-birds
- Two males banded and colour-banded in Nov-Dec 2018
- Methods for non breeding season are being trialled
- Re-sightings of colour banded birds
- Plans for future radio tracking



Acknowledgements

Rufous Scrub-bird singing behaviour

- Margaret O'Leary
- BirdLife Australia Southern NSW Branch (loan of two Song Meters™)

Rufous Scrub-bird banding project

- Rob Kyte
- Greg & Judy Little
- Sarah Comer & team
(WA Parks and Wildlife Service, Albany)
- Wilma Barden Memorial Grant



Banded November 2018, re-sighted April & May 2019