



Charles Sturt  
University

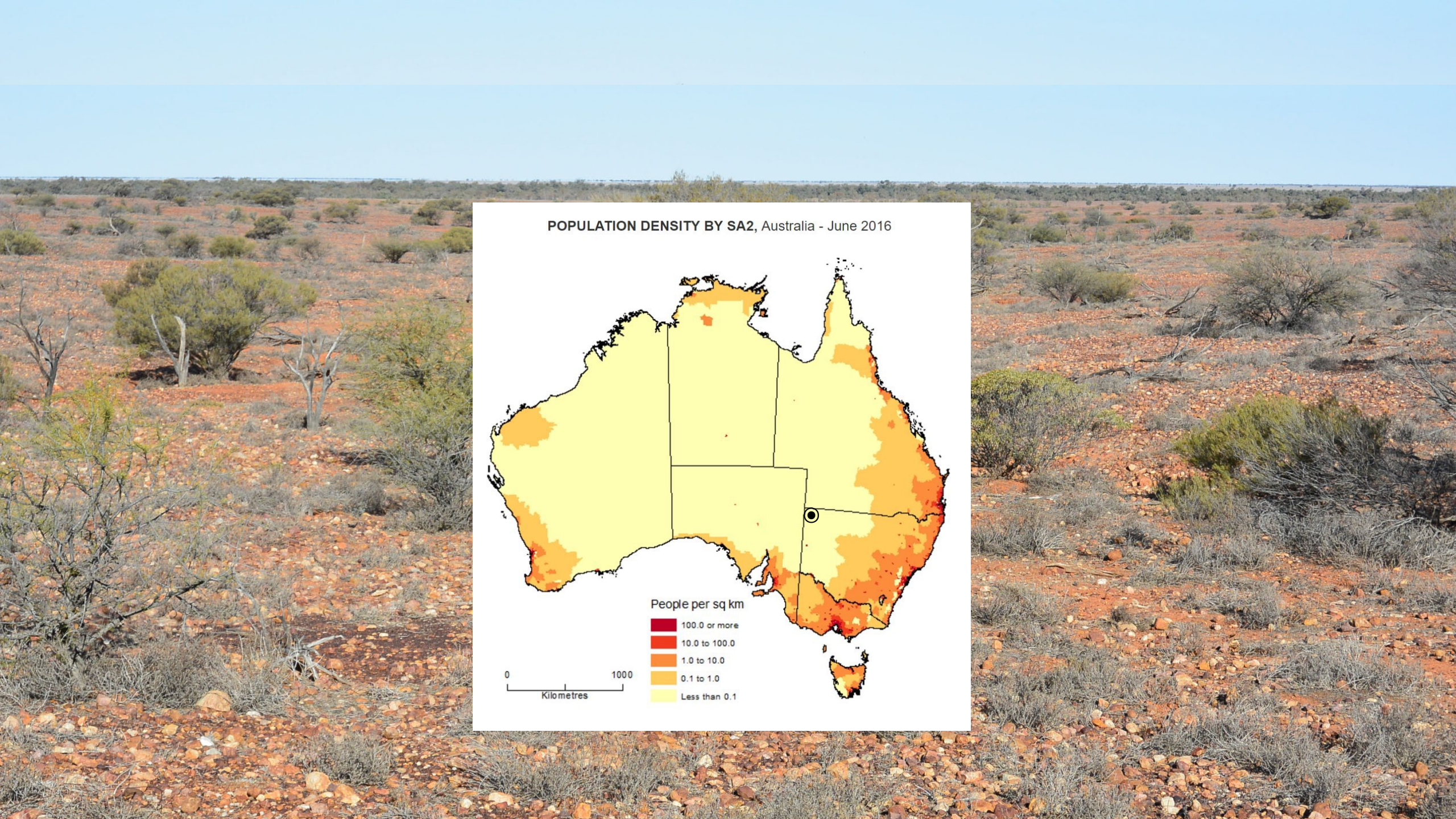
Taking the pulse of our planet:

Acoustics for monitoring biodiversity

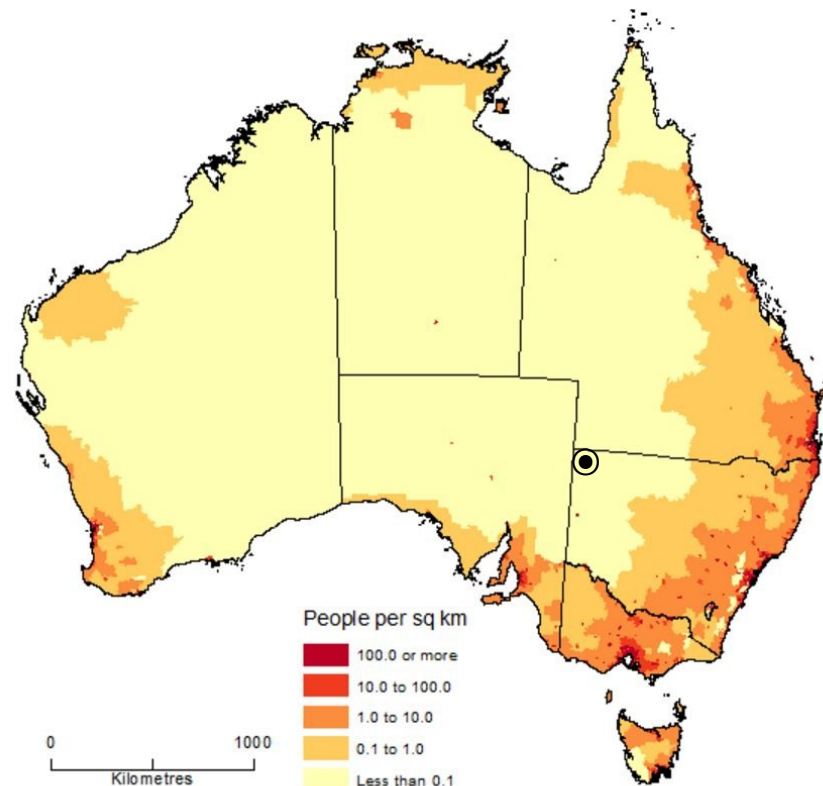
David M Watson

Professor of Ecology, Gulbali Institute

@D0CTOR\_Dave



POPULATION DENSITY BY SA2, Australia - June 2016





360 sensors

1TB SD cards/sensor

90 sites

Stratified by ecoregion

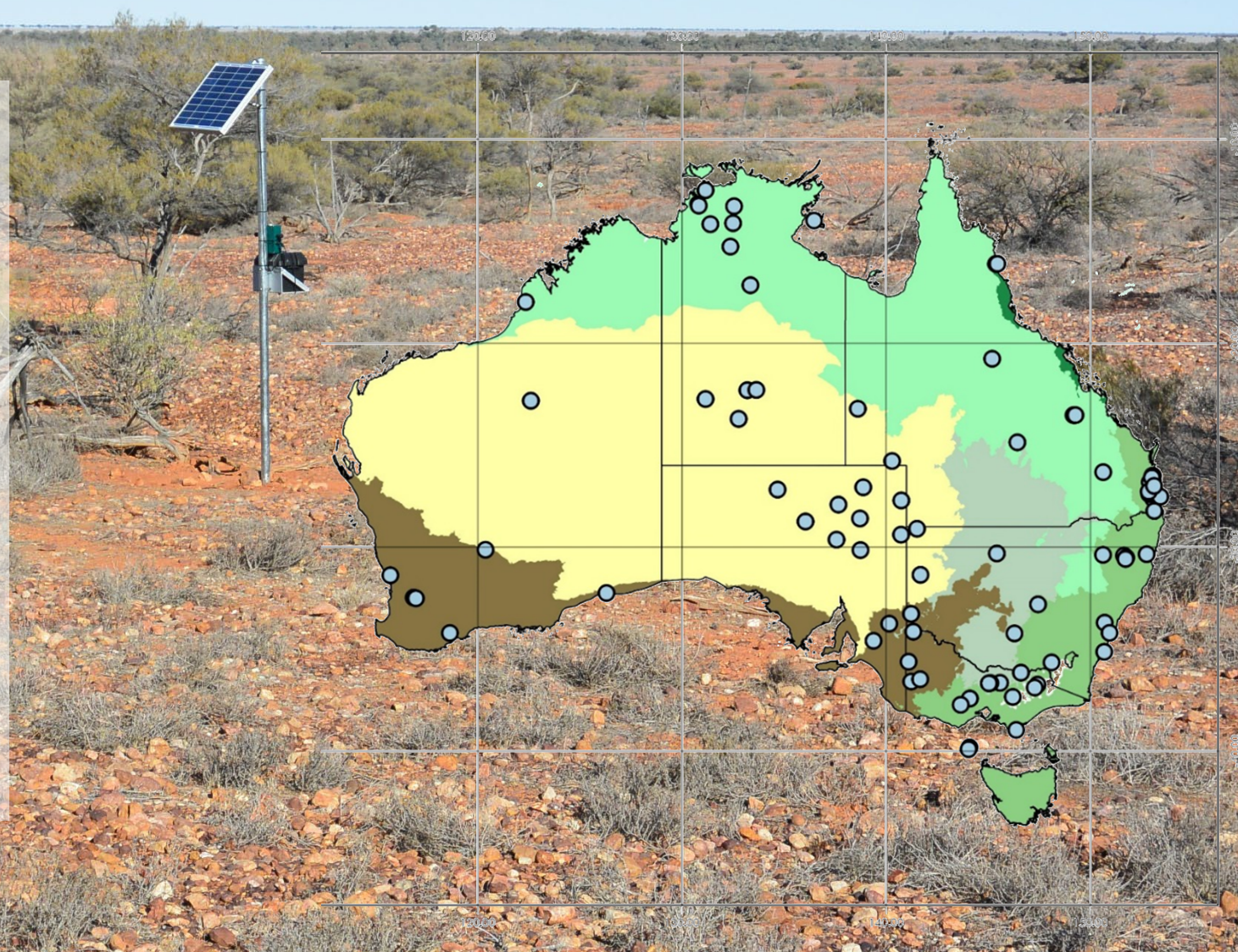
4 sensors per site

Stratified by productivity

2PB #openaccess data

cloud storage with Queensland  
Cyber Infrastructure Foundation

> 2000 years continuous sound



# Chief Investigators, A20

## QUT

- Paul Roe
- Margot Brereton
- Stuart Parsons



## UQ

- Richard Fuller
- Berndt Janse van Rensburg
- Martine Maron



## CSU

- David Watson
- Dale Nimmo
- Gulbali post docs



## UNE

- Paul McDonald



## JCU

- Lin Schwarzkopf
- Marcus Sheaves



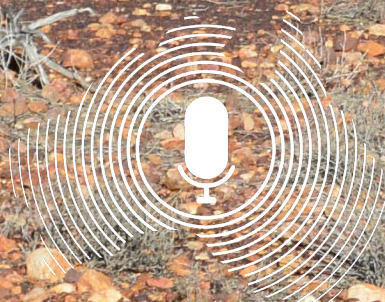
## Partners

- BirdLife Australia
- Queensland Cyber Infrastructure Foundation Ltd.
- Google Deepmind



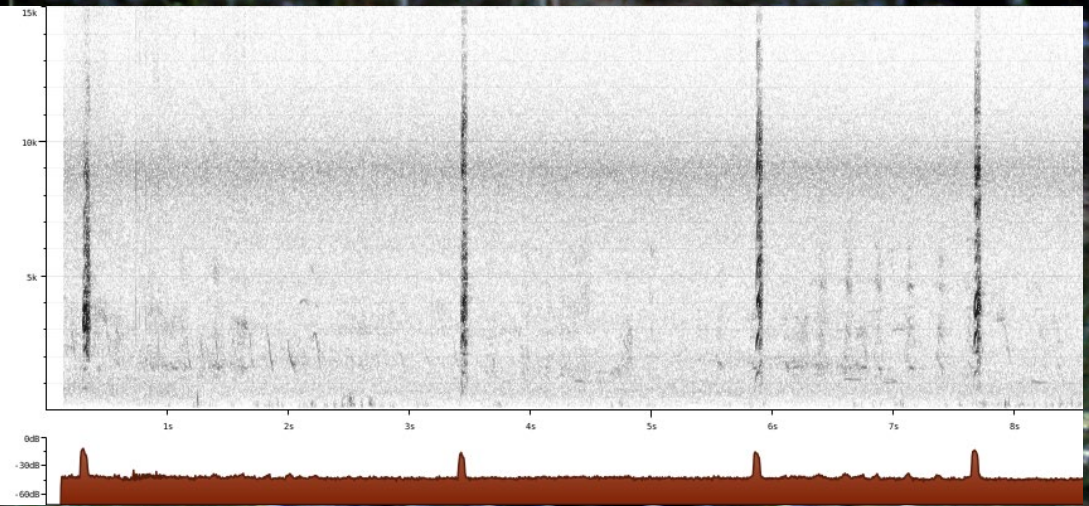
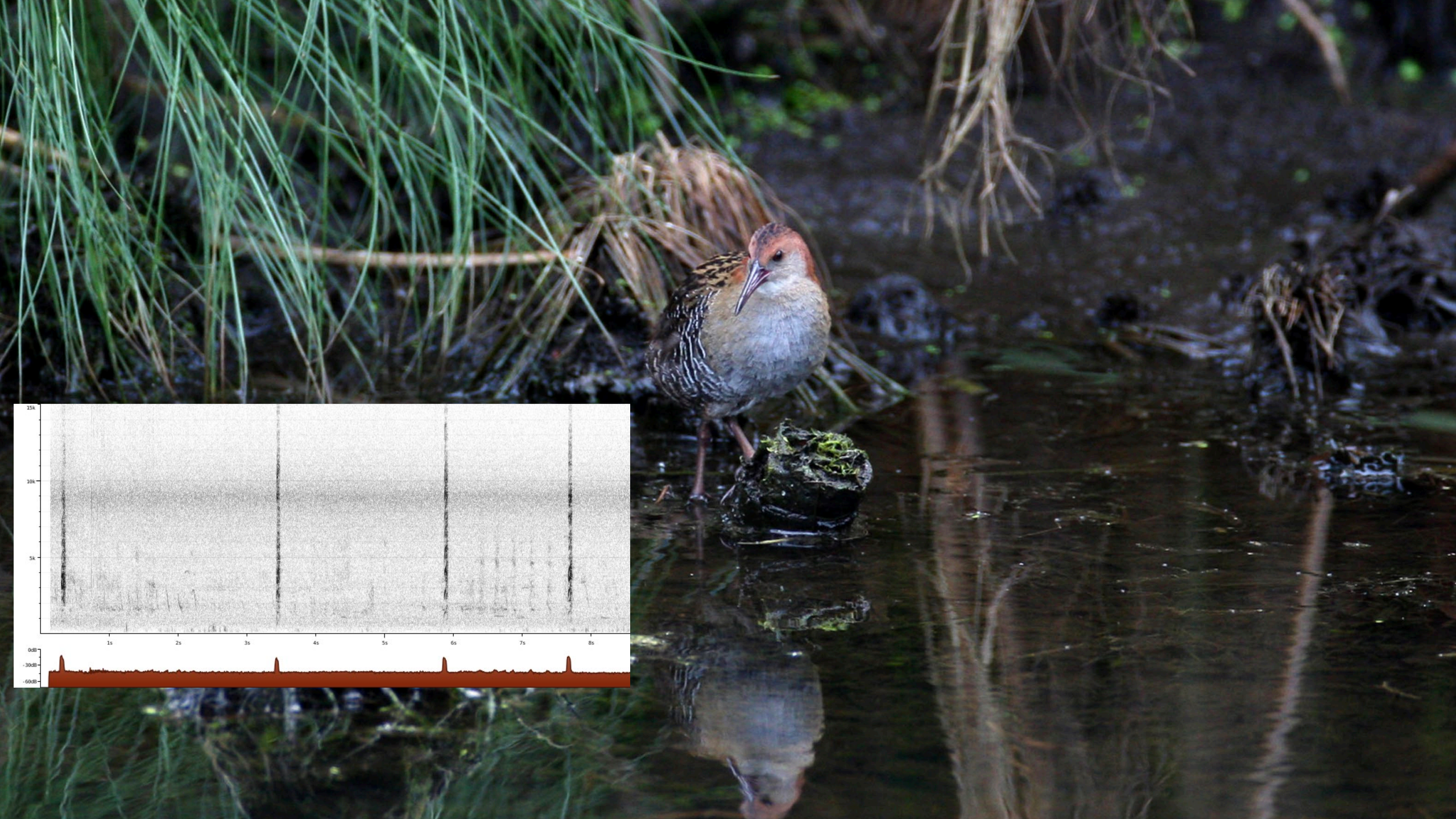
Australian Government

Australian Research Council



Australian  
Acoustic  
Observatory

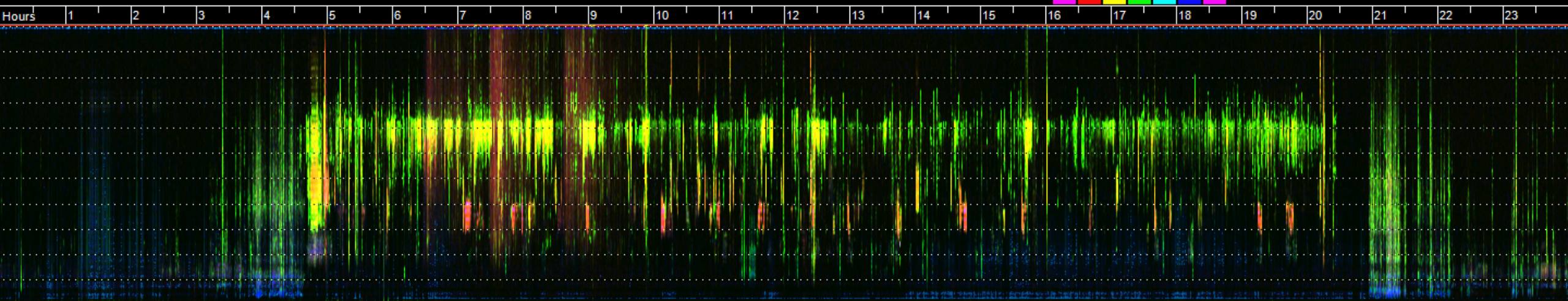




<ACIENT-RHZ> SPECTROGRAM of "LizZnidersic\_TasmanIsU2Mez\_20151114". Starts at 0016h; Nyquist=11025



SCALE:(time x kHz) (c) QUT.EDU.AU



<BGN-POW-SPT> SPECTROGRAM of "LizZnidersic\_TasmanIsU2Mez\_20151114". Starts at 0016h; Nyquist=11025



SCALE:(time x kHz) (c) QUT.EDU.AU



Australian  
Acoustic  
Observatory

11/2015 0100h 0200h 0300h 0400h 0500h 0600h 0700h 0800h 0900h 1000h 1100h 1200h 1300h 1400h 1500h 1600h 1700h 1800h 1900h 2000h 2100h 2200h 2300h 15



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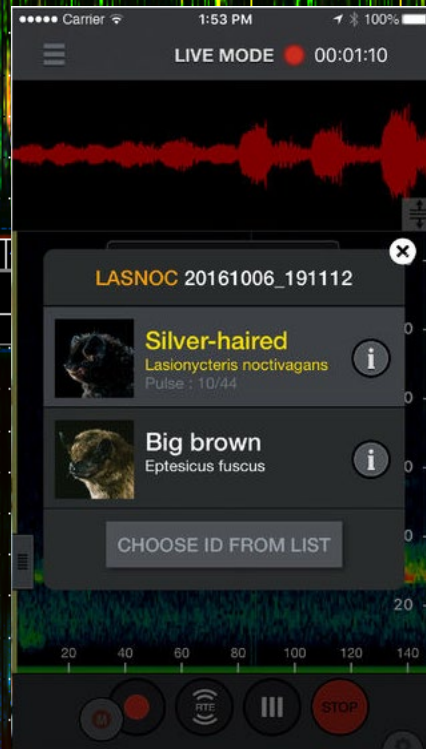
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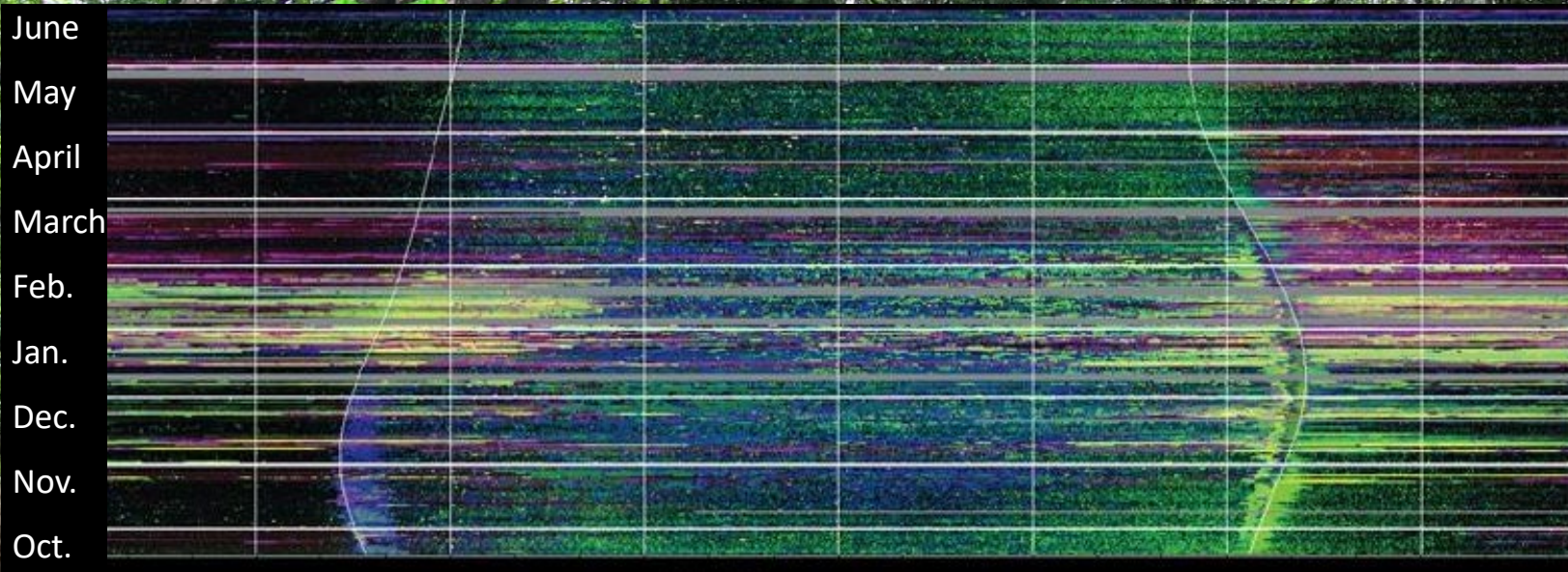
Australian  
Acoustic  
Observatory

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Hours 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19



11/2015 0100h 0200h 0300h 0400h 0500h 0600h 0700h 0800h 0900h 1000h 1100h 1200h 1300h 1400h 1500h 1600h 1700h 1800h 1900h 2000h 2100h 2200h 2300h 15







Thank you for  
**listening**

Gracias por  
**escuchar**