

# The Aotea Bird Count, 2022 edition

George Perry

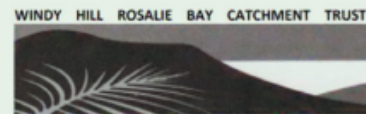
University of Auckland | Waipapa Taumata Rau



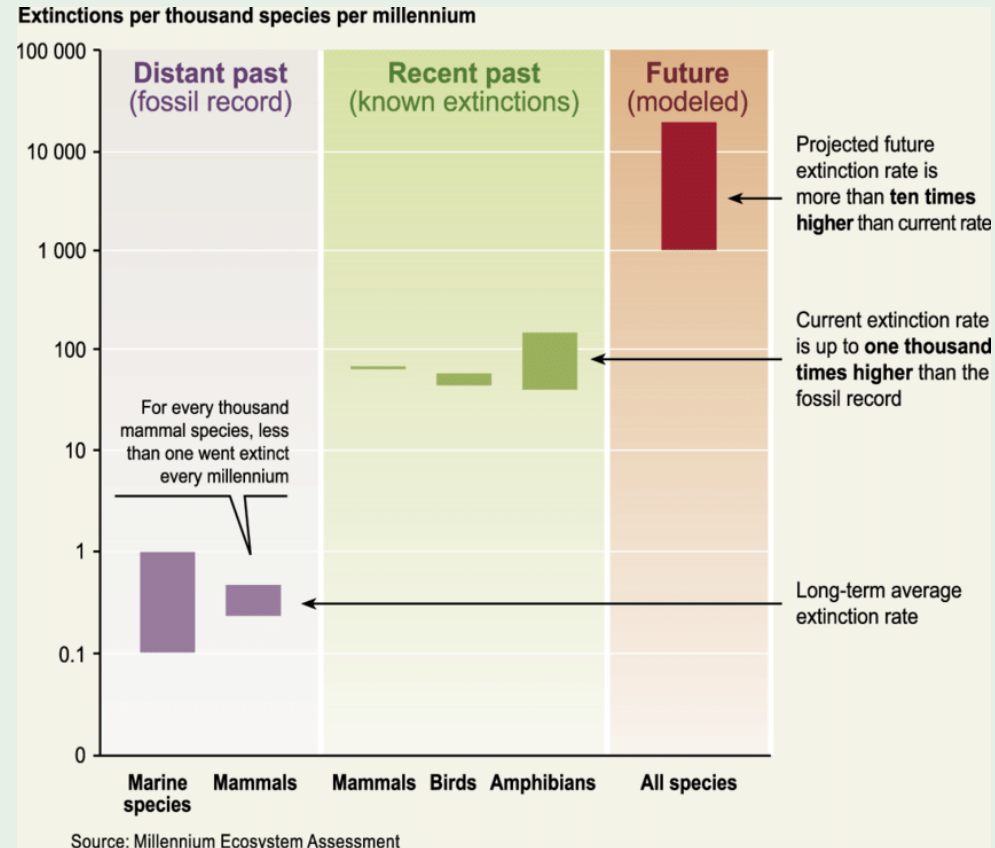
# Acknowledgments



- **Big thanks** to all the volunteers!
- Support of members of Ngāti Rehua Ngātiwai ki Aotea, the Department of Conservation – Te Papa Atawhai, Windy Hill Sanctuary, Glenfern Sanctuary, OME, Ecology Vision, and the Okiwi Community Ecology Project
- Thanks also to the hard work from the 'technical team', Thomas Daly, Kate Waterhouse, Judy Gilbert, John Ogden, Jacqueline Beggs, and Annamarie Clough for organising the Aotea Bird Count
- Funding of the report from the Auckland Council and support for their staff



# Edge of the sixth mass extinction?



10-30% of vertebrates are threatened with extinction

# 750 years of decline in NZ

## Humans



130 species of 'land' birds prior to human arrival in NZ, of which nearly 50% are now extinct



Possible contribution

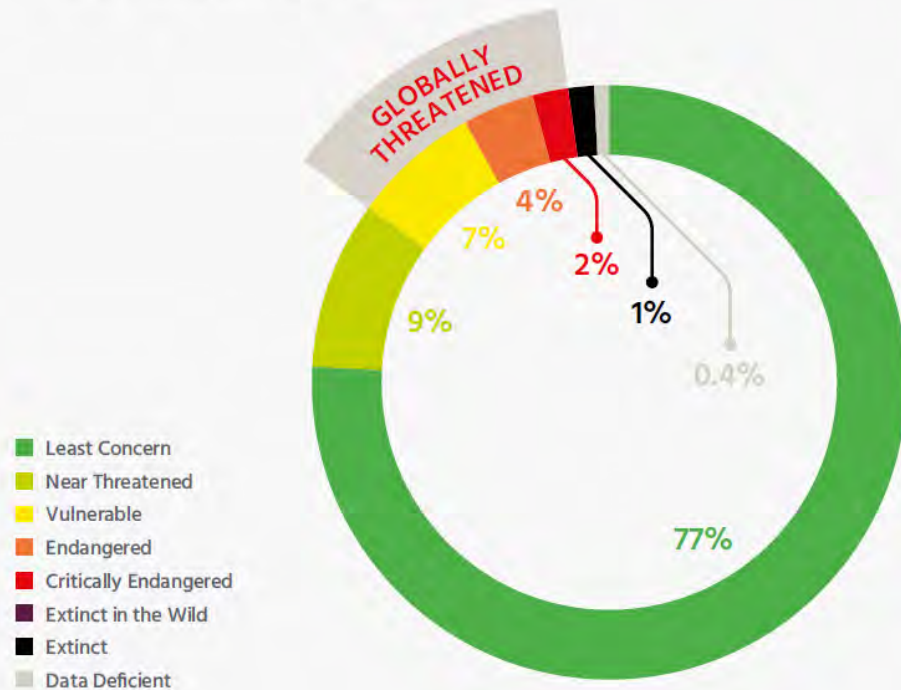
Certain contribution

From: Tennyson & Martin. 2006.  
*Extinct Birds of New Zealand*

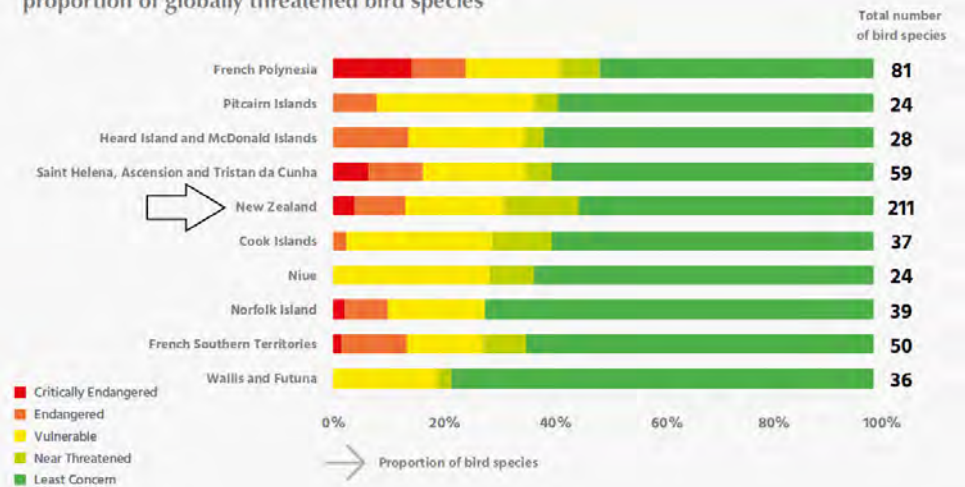
# 750 years of decline in NZ



### IUCN Red List Categories for birds



### Ten countries/territories with the greatest proportion of globally threatened bird species



State of the World's Birds 2022

# Aotea has suffered



- Koreke/New Zealand quail
- Tūturuatu/shore plover
- Hihi / stitchbird
- NI Kōkako
- Saddleback / tiēke
- Pīpipi / brown creeper
- Pōpokatea / whitehead
- Titipounamu / rifleman
- Kākāriki / yellow-crowned parakeet
- Black-bellied storm petrel
- White-headed petrel
- Kārearea / NZ falcon
- Korimako / bellbird
- Miromiro / tomtit
- Pāteke / brown teal

ART. XII.—*Notes on the Birds of the Great Barrier Island.* By Captain F. W. HUTTON, F.G.S.

[Read before the Auckland Institute, July 6, 1868.]

HAVING spent two months, this summer, in exploring the Great Barrier Island, I am enabled to lay before the Society, what I consider to be a tolerably complete list of the birds found there.

I have given the English names of those birds that I know to possess one, but many, of course, are known by their scientific names only. The native names were obtained from Maories on the Island.

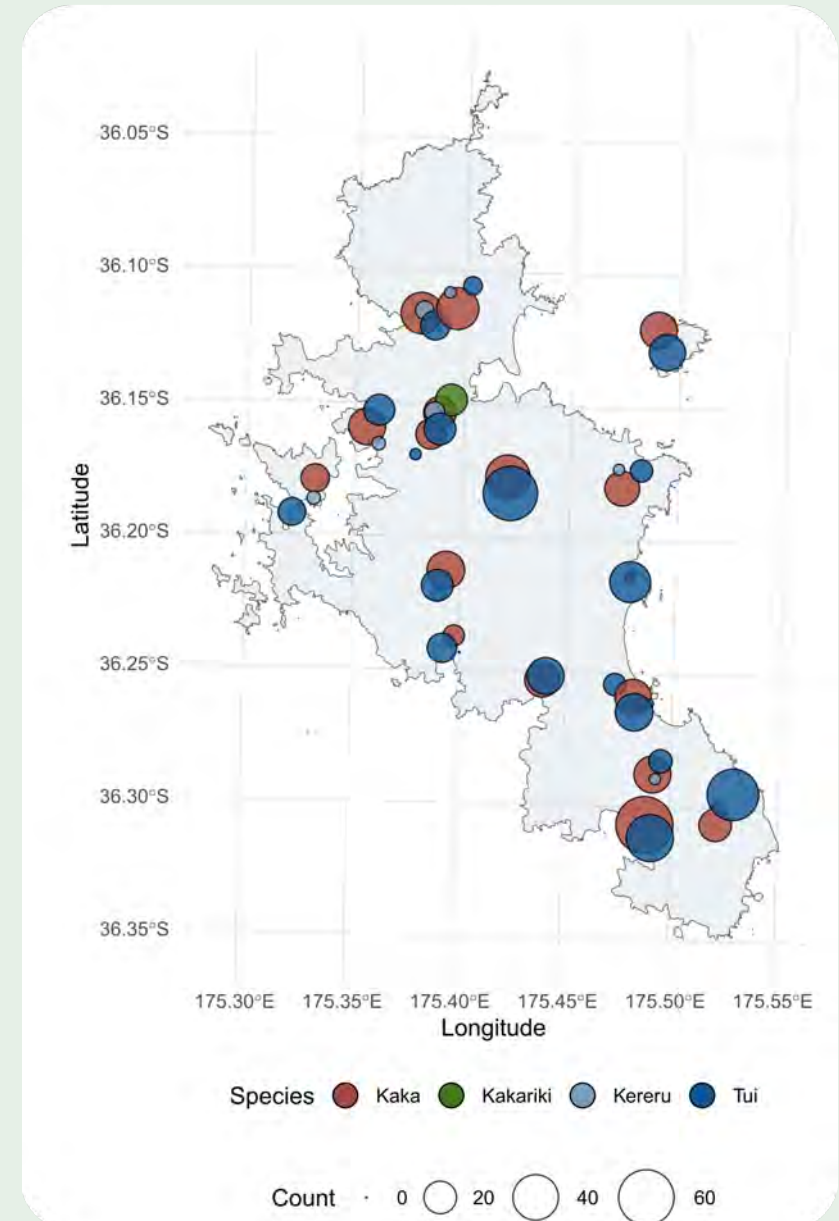
- \* 1. *Hieracidea Novæ Zelandiæ.* Sparrow-Hawk.
- \* 2. *Circus Gouldi.* Hawk. Common.
- \* 3. *Athene Novæ Zelandiæ.* More-Pork. Heruru. Kou-kou.
4. *Halcyon vagans.* King-fisher.
- \* 5. *Prothemadera Novæ Zelandiæ.* Tui. Very abundant.
- \* 6. *Pogonornis cincta.* Ihi. Not uncommon.
- \* 7. *Anthornis melanura.* Bell-bird. Korimoko. Abundant.
- \* 8. *Acanthisitta chloris.* Miru-miru. At Harataonga.
- \* 9. *Mohoua albicilla.* Popokotea. Very common.



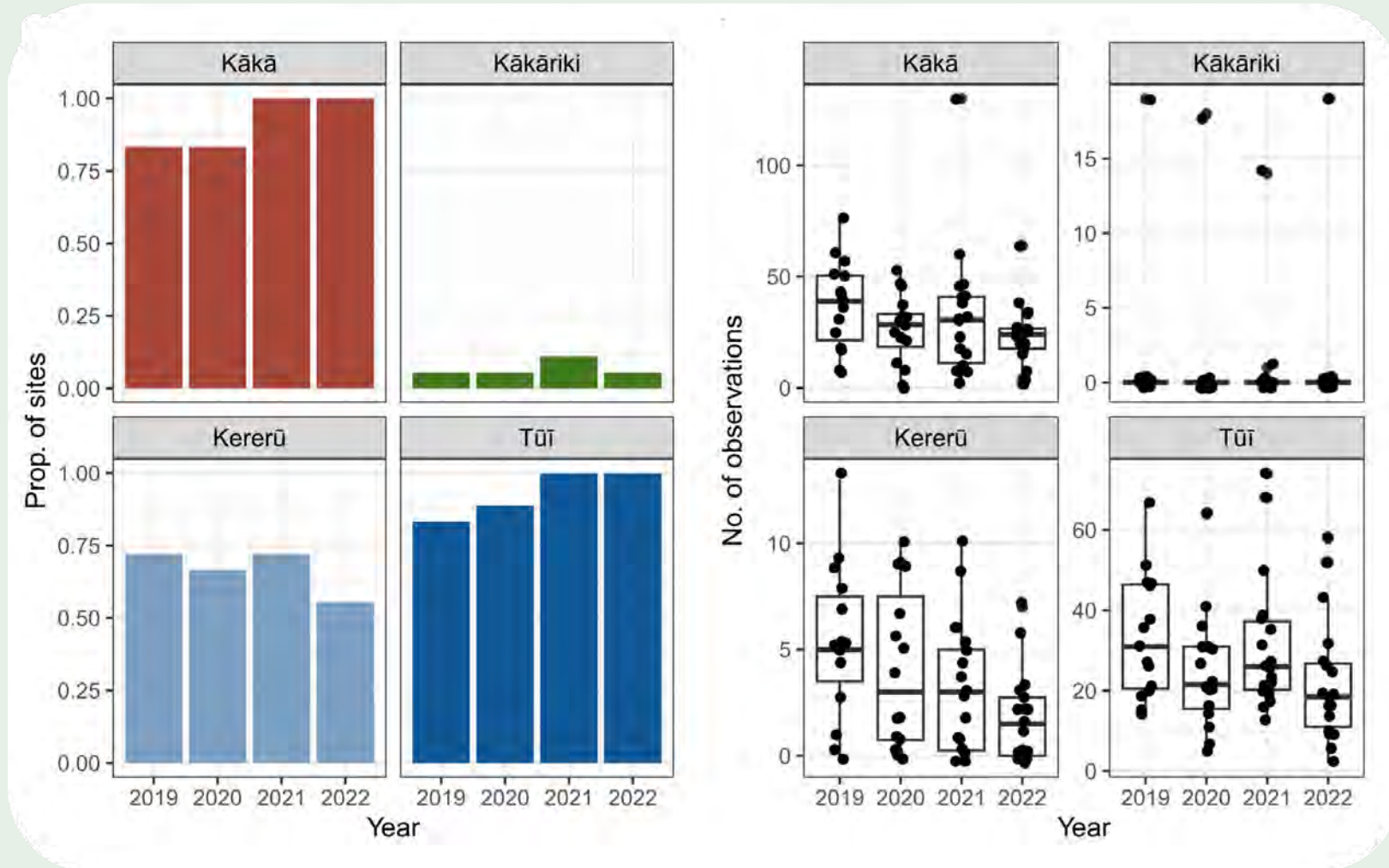
# Kākāriki, kākā, tūi and kererū

Most observations:

- tūi at Hirakimata (n = 74, f = 100%)
- kākā at Hirakimata (38, 100%)
- kererū at Okiwi (7, 50%)
- kākāriki at Okiwi (19, 60%)



# Kākāriki, kākā, tūi, and kererū





# Kākāriki heartening!



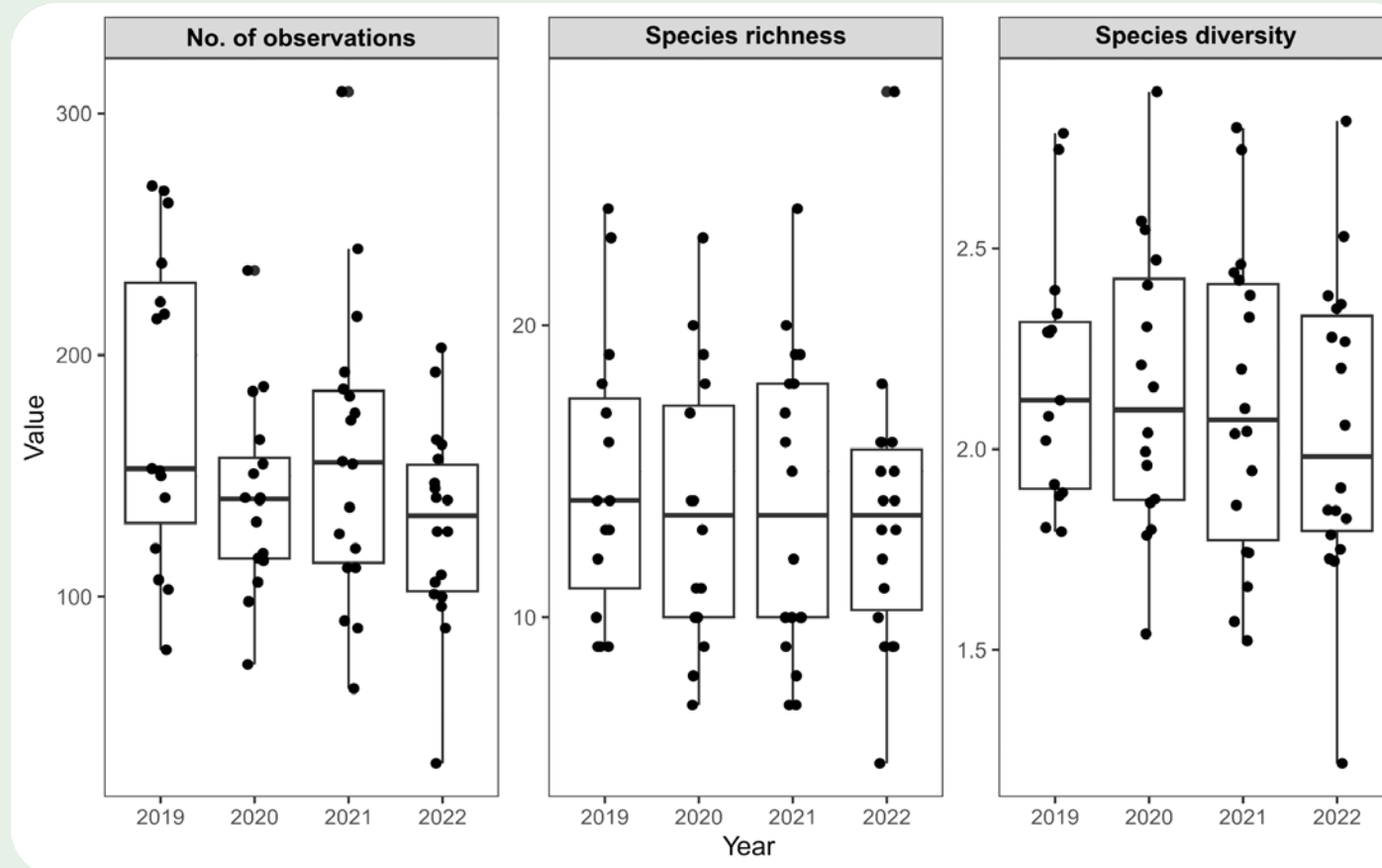
Intensive community monitoring and trapping at Okiwi bearing fruit!

This continues the trend seen in previous ABCs



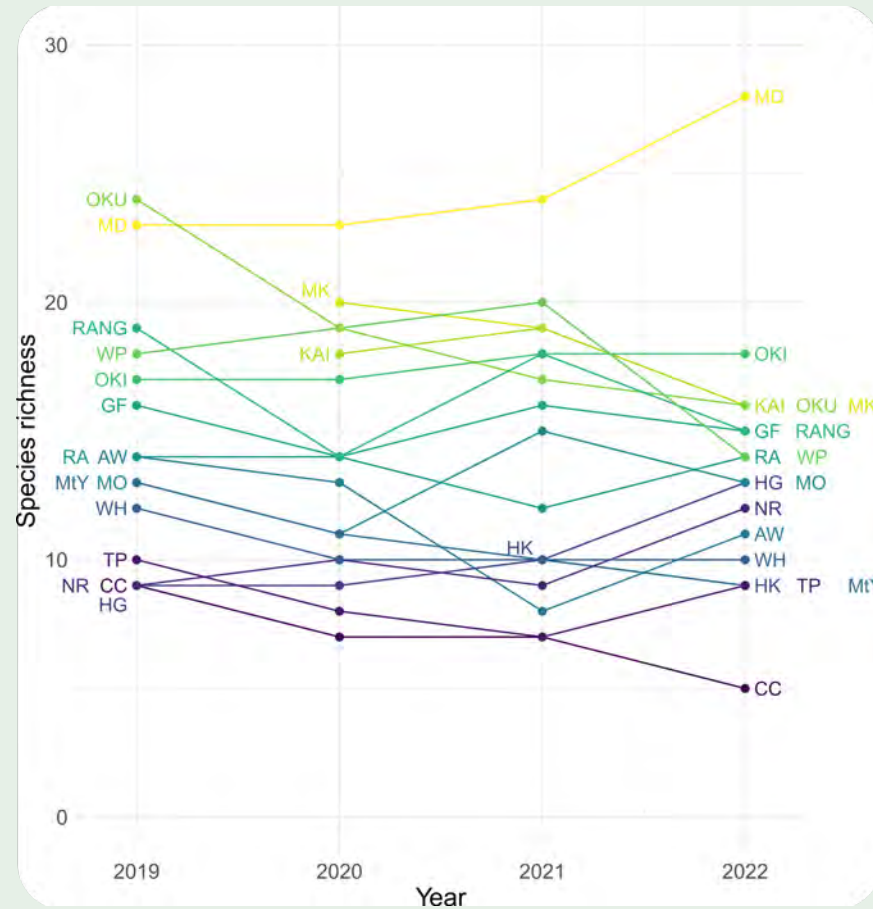
Image: Judi Lapsley Miller

# 'Change' over time



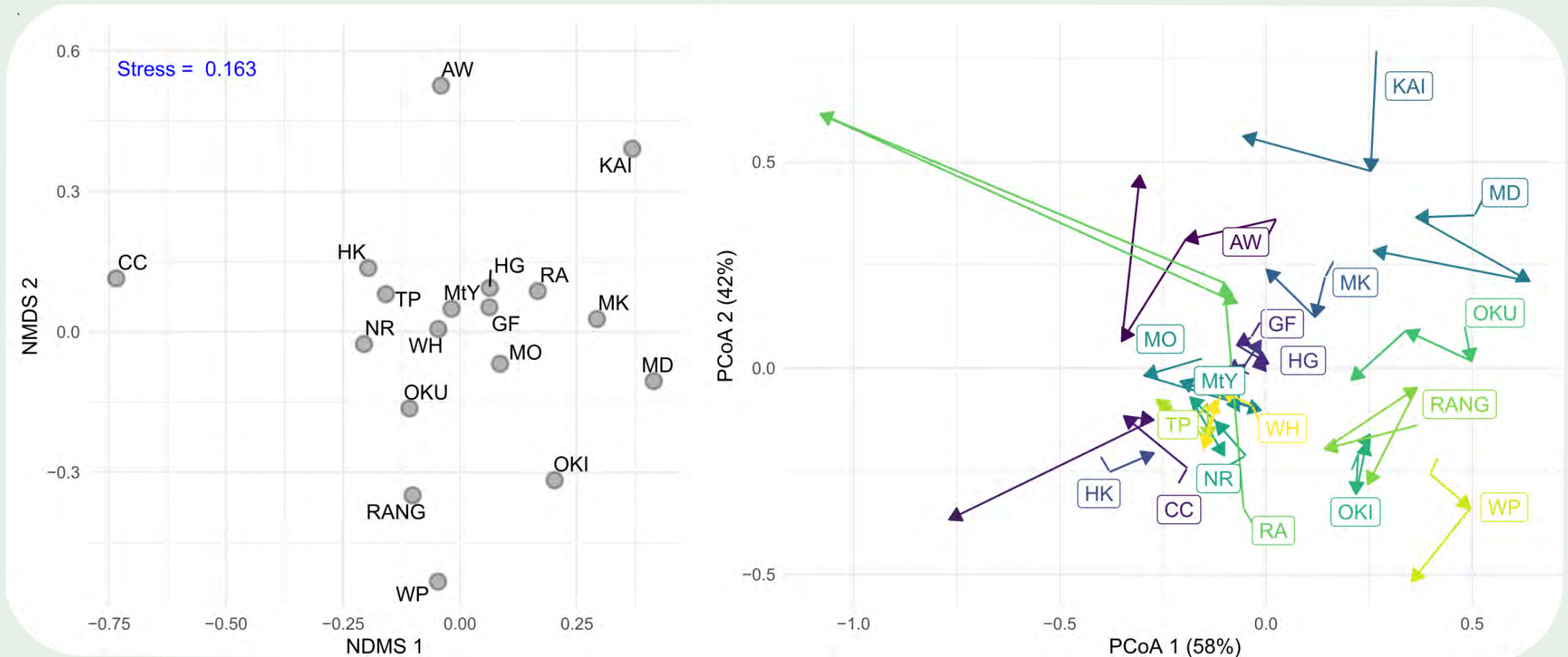
Need to be cautious interpreting such short-term data

# Change in richness by site



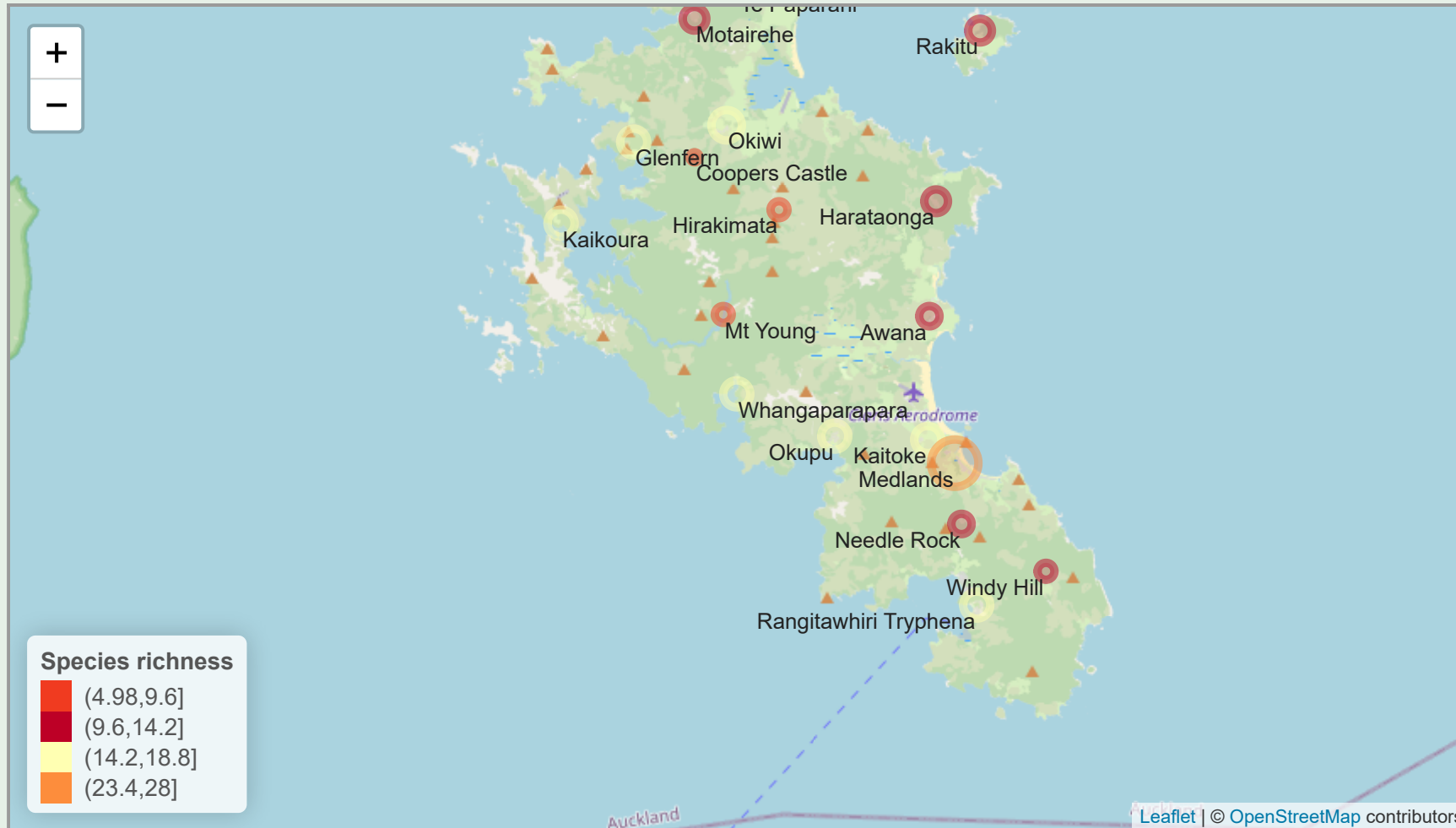
Need to be cautious interpreting such short-term data

# Trajectories of change?



No clear consistent trend across sites or times

# An interactive version!





# A few caveats...

All surveys suffer from biases; in this case

1. **Location:** trade-offs between accessibility and habitat
2. **Detection:** birds species vary in likelihood of observation due to size, sound, and behavioural differences
3. **Identification:** bird species vary in ease of identification



# Future ABCs



- The value of these datasets will only grow with time!
  - data and scripts are archived in an online repository (future proofing)
  - working on more interactive ways of exploring the data
- Integrate the data with citizen science projects such as NZ eBird or the NZ Bird Atlas?



# In a nutshell



- The **most frequently observed** species during the survey were kākā, tūī, riroriro, and piwakawaka
- The number of individuals observed ranged between 31 and 203 across sites.
- **Species richness** had a range of [5, 28], and **species diversity** ranged between [1.22, 2.82]
- Species richness and diversity were highest at **Medlands** and lowest at **Cooper's Castle**

# Questions? Comments?

