

# Grey petrels

*Procellaria cinerea*

## Campbell Island, NZ



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## Outline:

- What
- When
- How
- Results



## Grey petrels

- *Procellaria*
- Large
- Circumpolar



## Nine populations

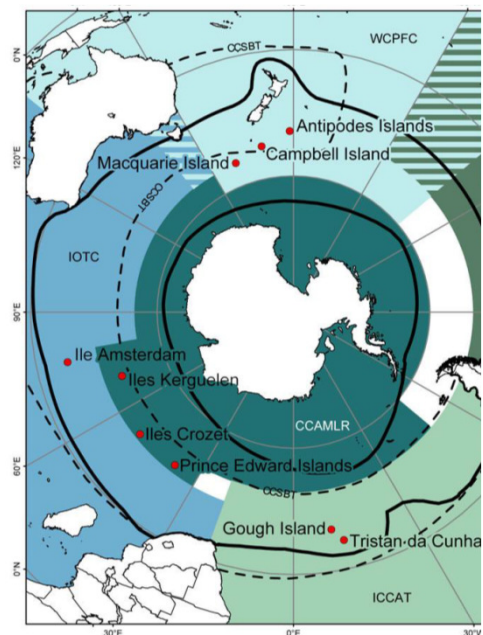


Image: ACAP



## New Zealand region

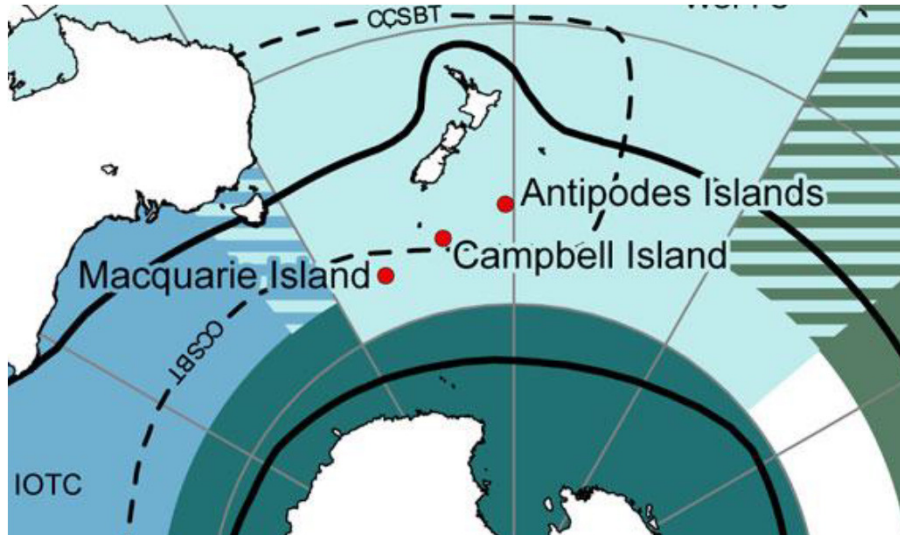


Image: ACAP



## Threat status

- IUCN - near threatened
- DOC - naturally uncommon
- ACAP - priority



## Threats

- Introduced mammals
- Winter
- Incidental fisheries mortality



## Recovery

- Macquarie
- Marion
- Campbell?

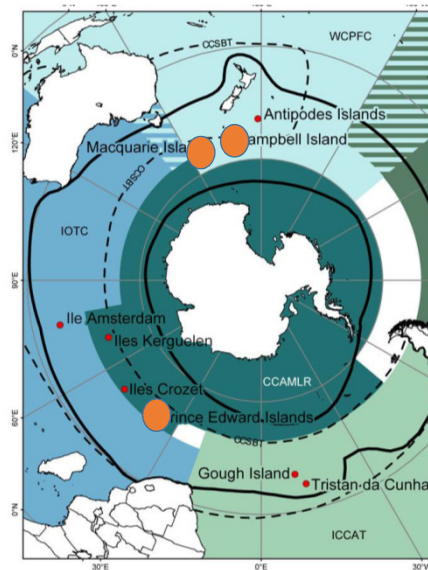


Image: ACAP



## Campbell Island

- Rats
- Historical grey petrel records
- Rat eradication 2001



Photo: Kyle Morrison



## Aims

- Spatial extent of grey petrel population
- Population estimate



Photo: Kyle Morrison





## Timing

- Winter  
July 13- August 6
- Summer  
January 19-29



## Access



## Survey design

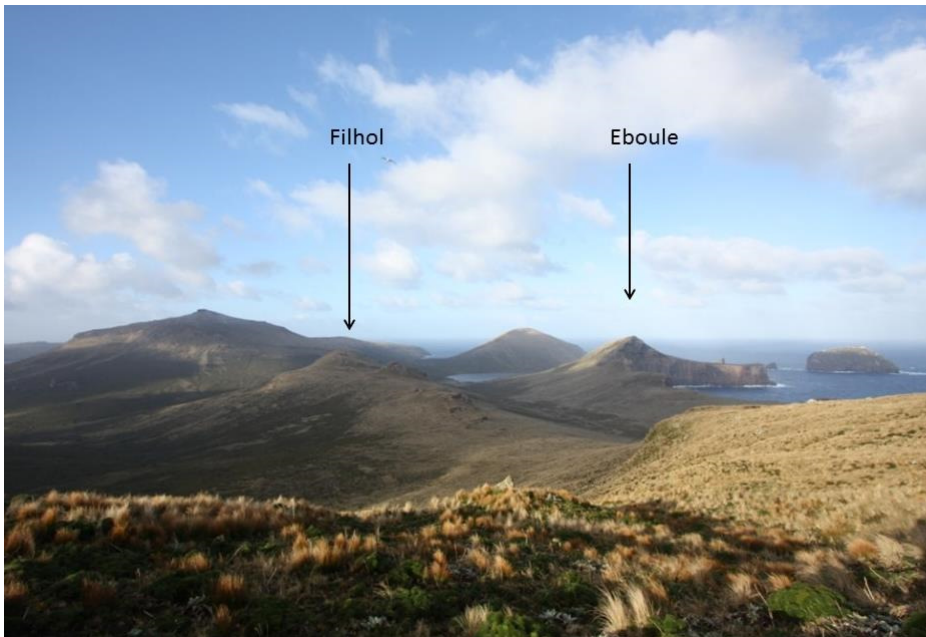
- Survey transects
- Randomised transects
- Strip searches
- Circular plots



## Survey design

- Historical information
- Habitat type
- 'Spill-over' areas





## Survey design





## Survey design

- How many burrows?
- Burrow occupancy
- Habitat characteristics



## Survey design

- Boat surveys
- Birds in flight

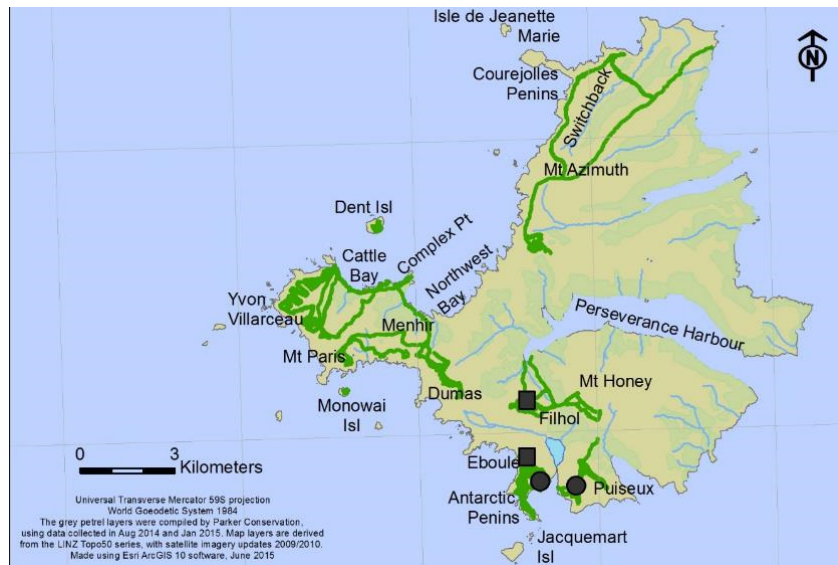


## Results

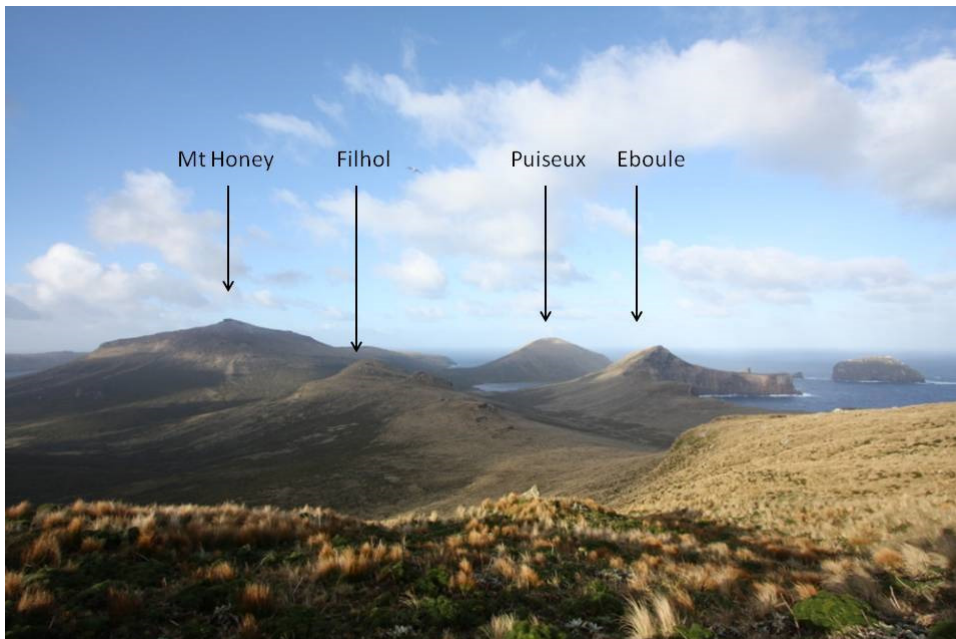
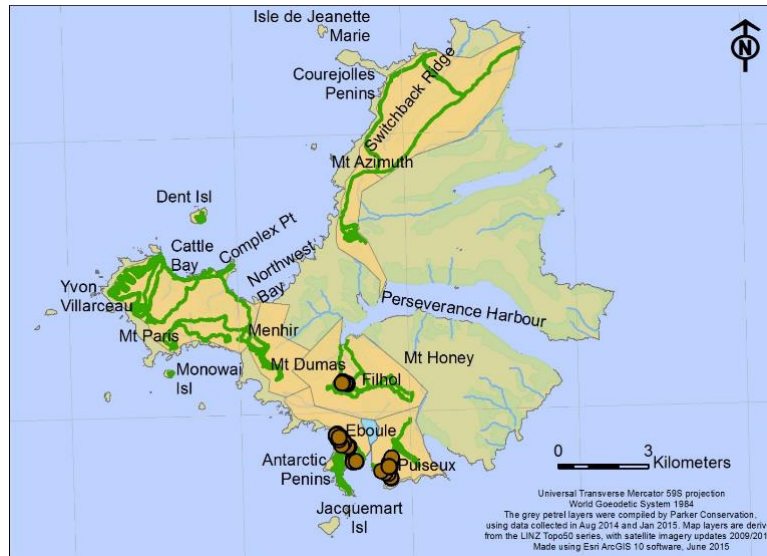
- Winter 17 days
- Summer 6 days



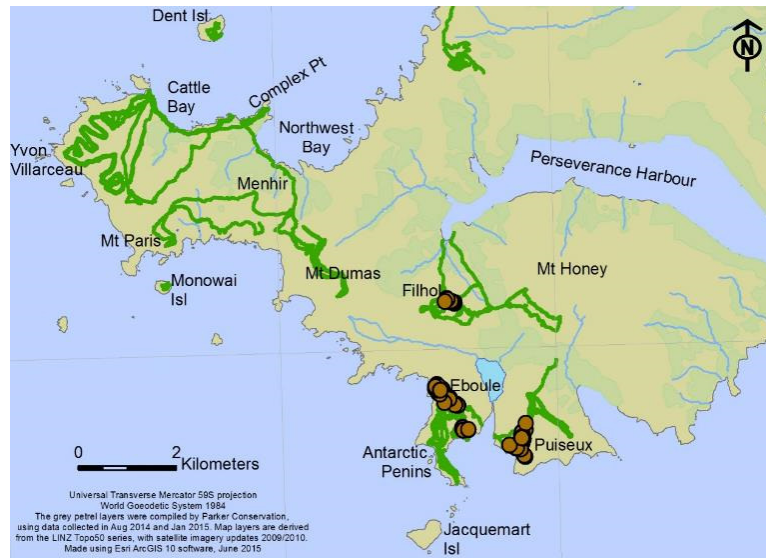
## 221 km of survey transects



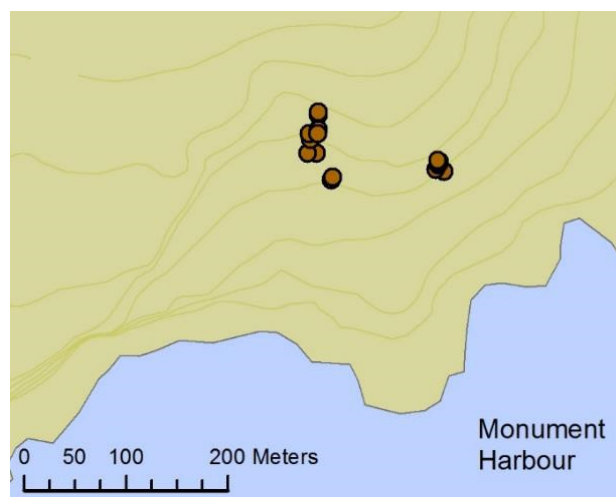
# Four colonies



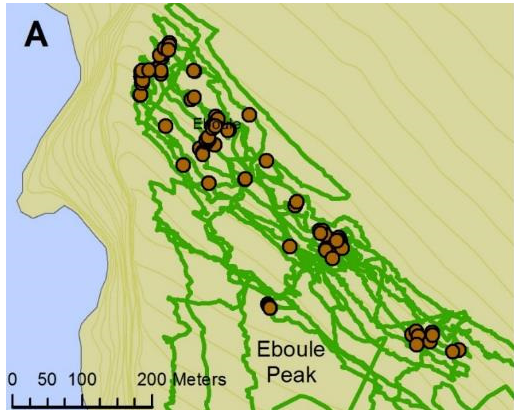
## Spill over areas



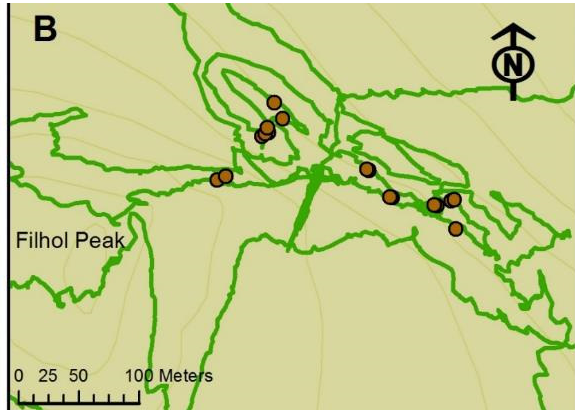
## Random transects versus strip searches



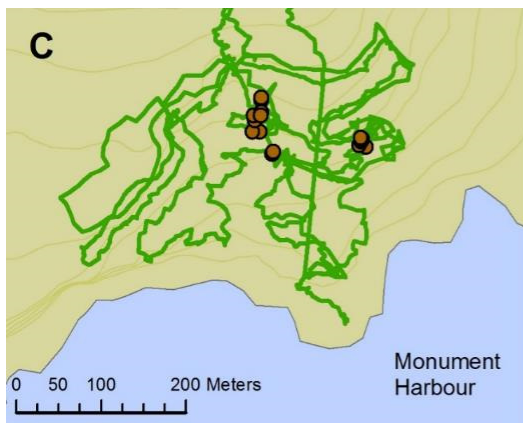




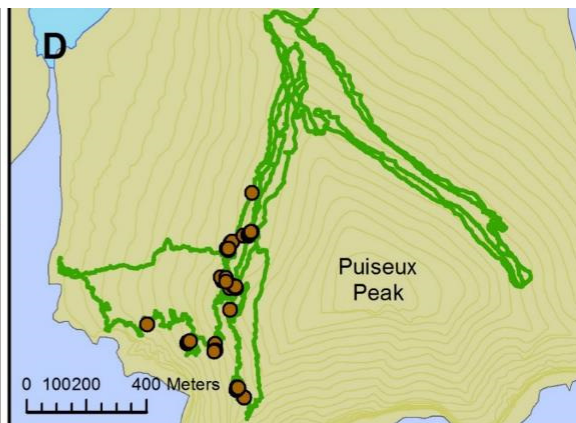
Eboule Peak  
59



Filhol Peak  
17



South Eboule  
30



Puisseux Peak  
43





- Monowai and Dent Islands high numbers of burrowing petrels
- but no evidence of grey petrels



- 149 burrows
- 1300 m validation transects
- 4 burrows missed (3% pooled)
- Corrected total: 153 burrows



- 25/42 occupied by breeding effort
- Egg whole 3
- Egg broken 2
- Chicks 20
  
- Adults singles 2
- Adult pairs 2



- 59% burrows occupied (by a breeding attempt)
- 90 pairs (at the mid-chick stage) on Campbell Island

## 54 nautical miles of boat observations

- Perseverance to Northwest Bay (via north)
- Northwest Bay (inner and outer bay)
- Northwest Bay to Monument (via south)
- Monument to Perseverance (return)

And 17 days of winter fieldwork



- Birds seen in flight only four times
- All at colonies



- Despite 212 km of survey transects
- Only four grey petrel colonies on Campbell Island



- Two colonies known
- Two colonies not known



- Campbell = 11,700 ha
- Possible that grey petrels were not detected in some areas



- Macquarie Island have recovered markedly since cats were eradicated in 2000





- Small 14 years after rat eradication
- But apparent growth
- Two previously unreported colonies



- Recommendations
  - tracking studies to compare Antipodes
  - genetic studies
  - resurvey

