Auckland Island seabird research

Gibson's and white-capped albatross 2019–20

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PARKER CONSERVATION

Introduction

- Long-lived
- Slow-breeding
- Very limited breeding range
- Vulnerable to accidental capture in fisheries

= High conservation concern


Est: 2015


0
10
20 km
Disappointment Isl
Auckland Isl
Adams Isl


Est: 1991

Scope

Gibson's albatross

- Population size
- Survival
- Productivity
- Recruitment
- Foraging range

White-capped albatross

- Survival
- Foraging range
- Tracking device recovery

Gibson's albatross

25 December–11 February

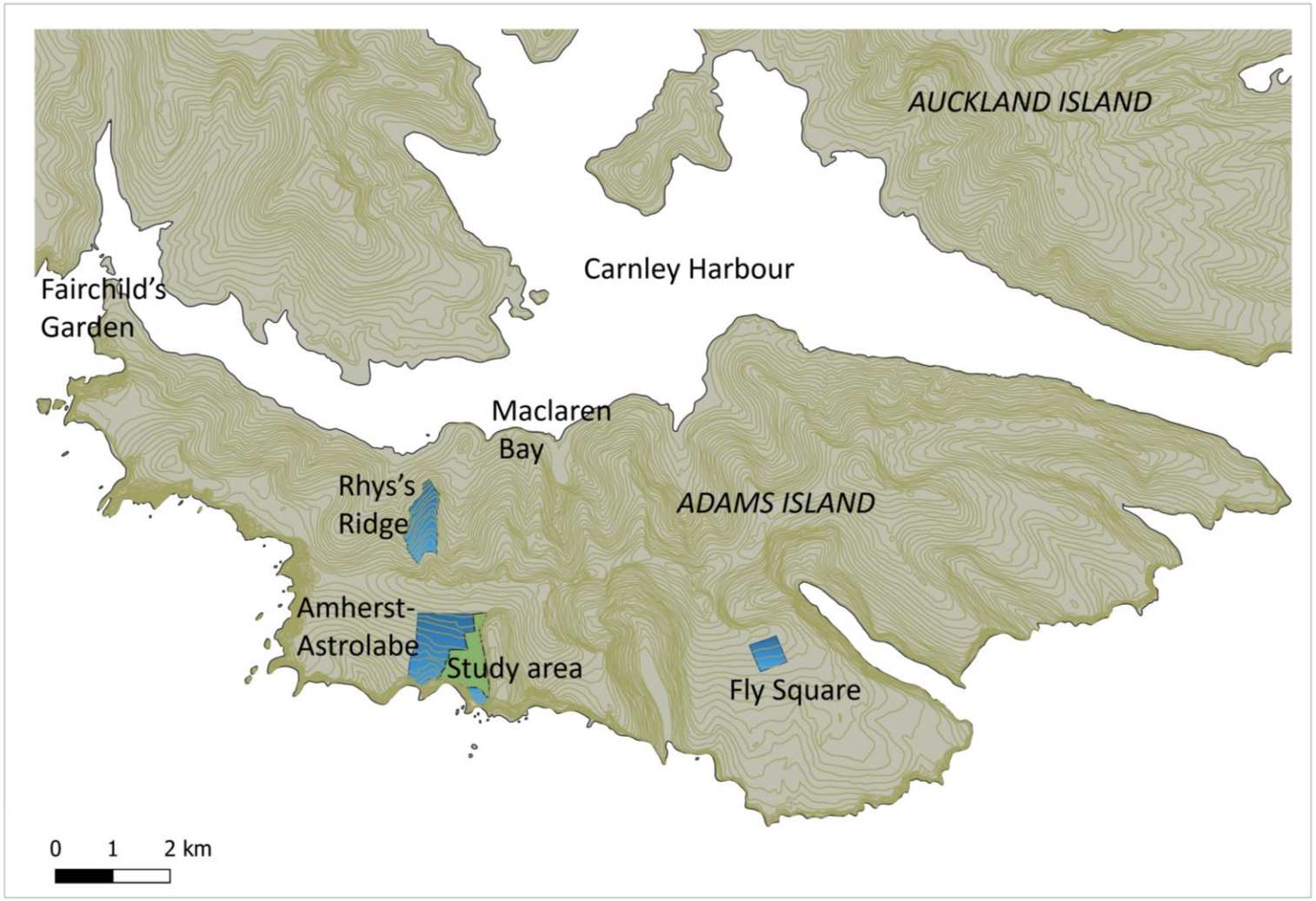
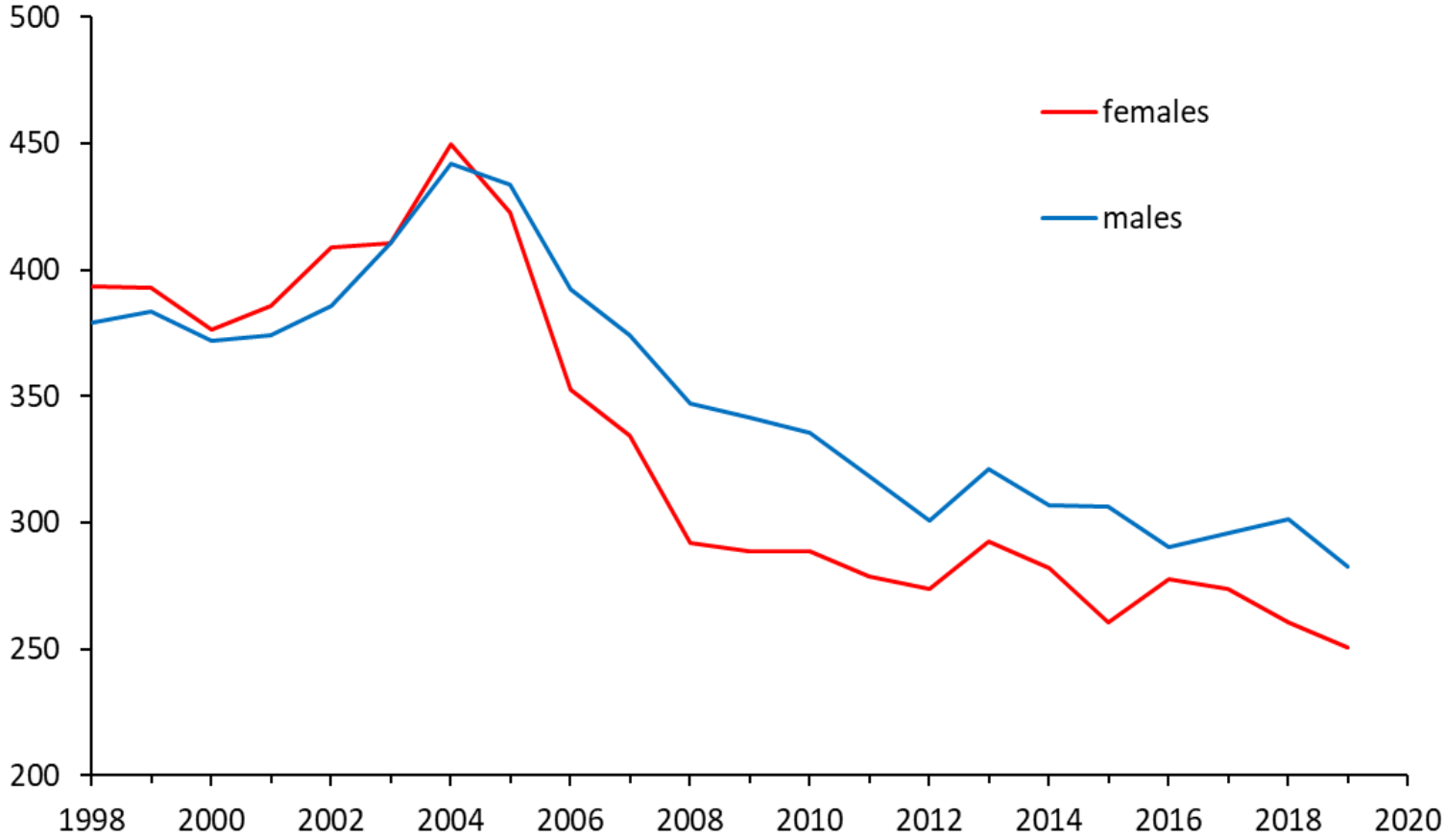


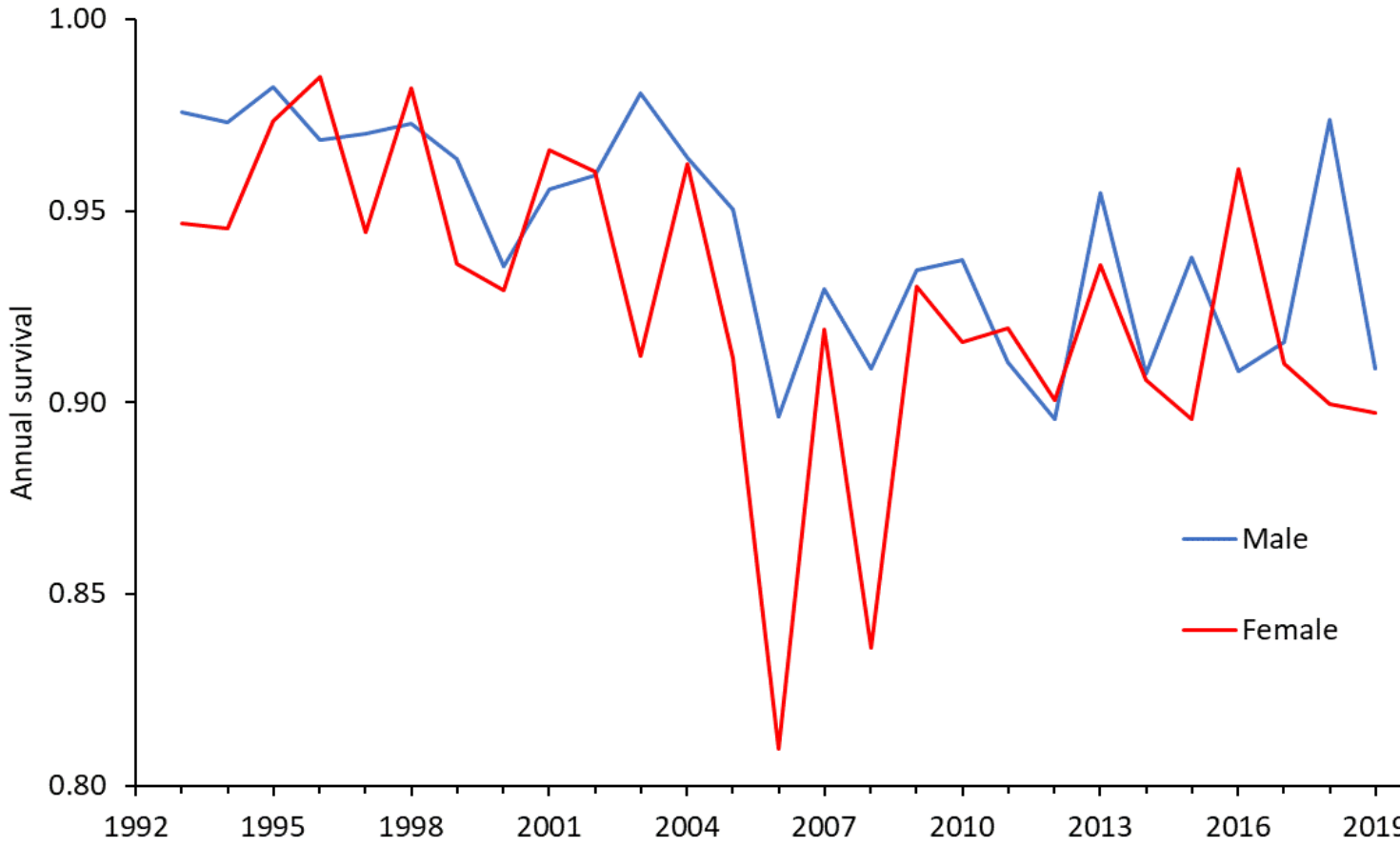
Photo: Stephen Bradley

Gibson's study area population trend



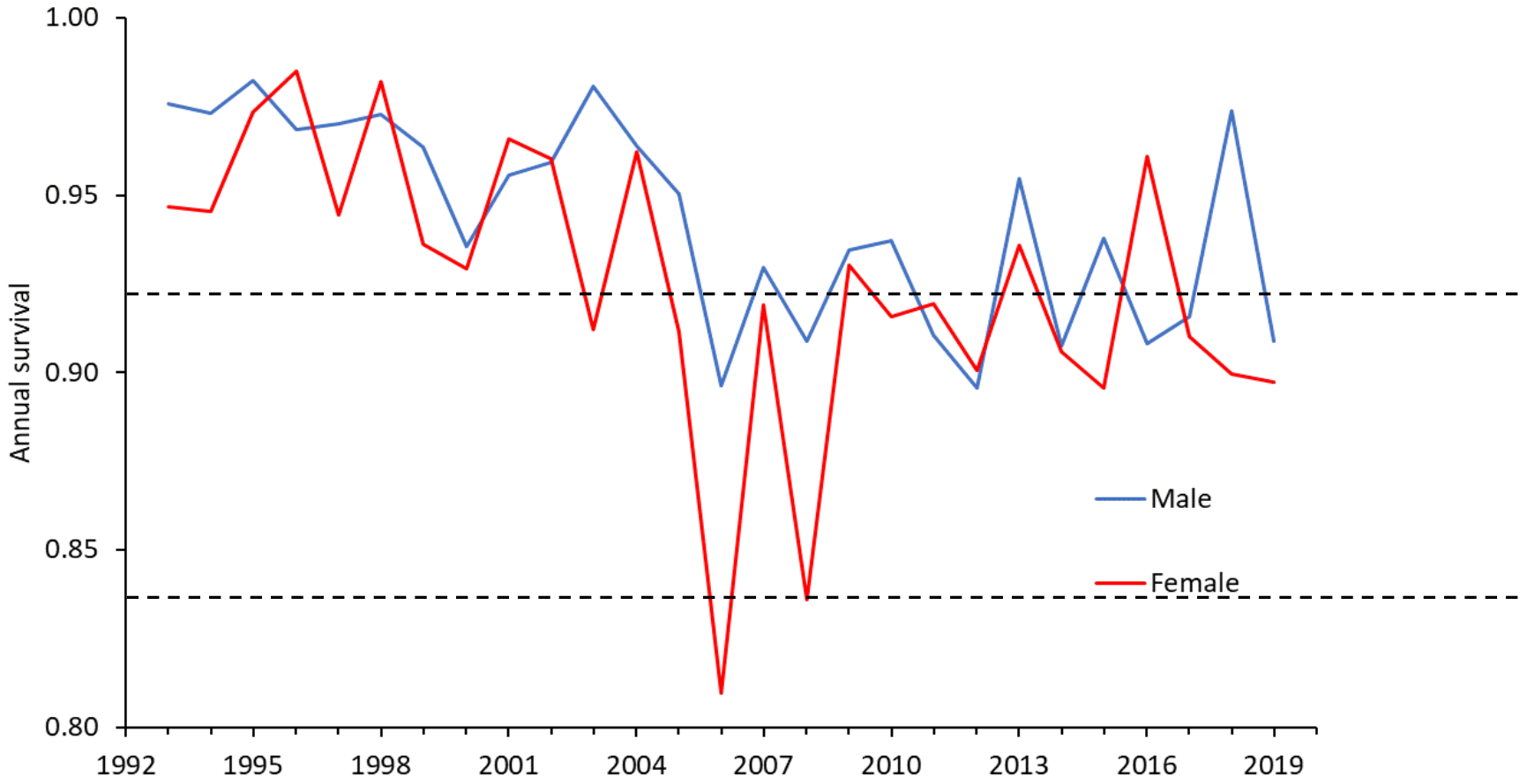
The number of breeding Gibson's albatrosses in the Adams Island study area estimated by mark-recapture. Note: mark-recapture population estimates are not reliable in the last year of data collection, so we show only results up to 2019

Gibson's survival



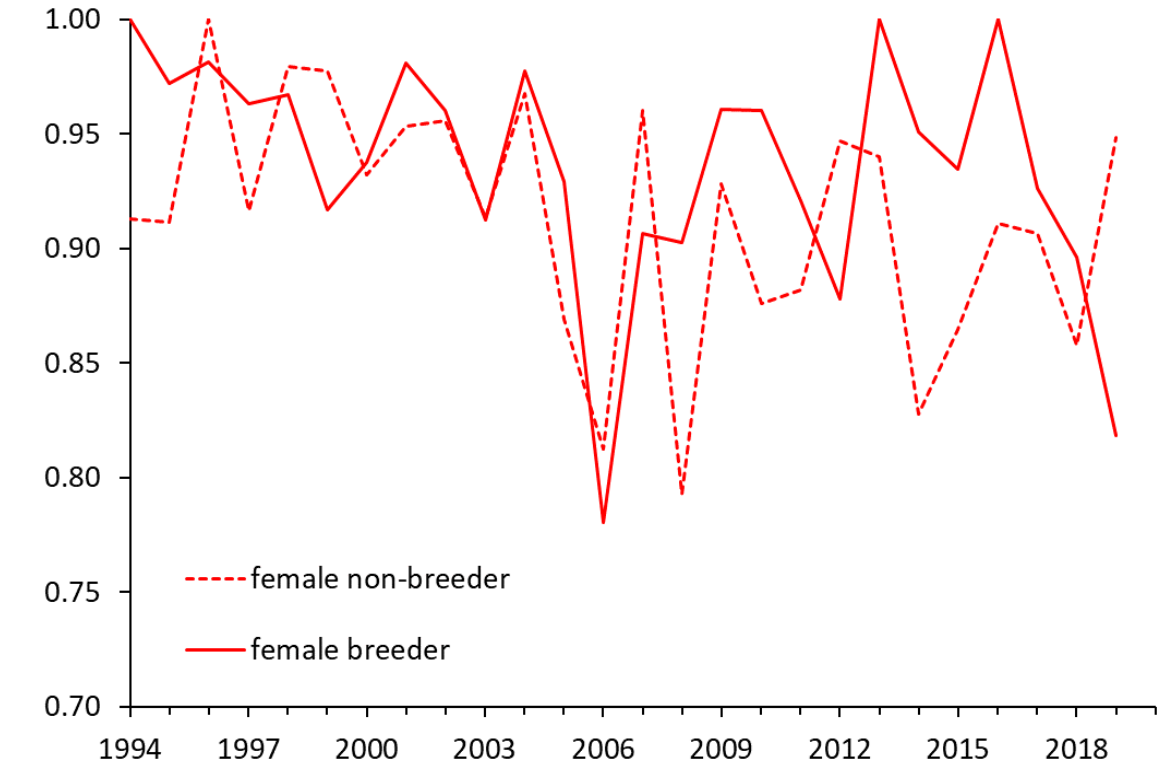
Annual survival of Gibson's albatross in the Adams Island study area since 1993, estimated by mark-recapture
(mark-recapture estimates of survival for 2020 are unreliable so not presented)

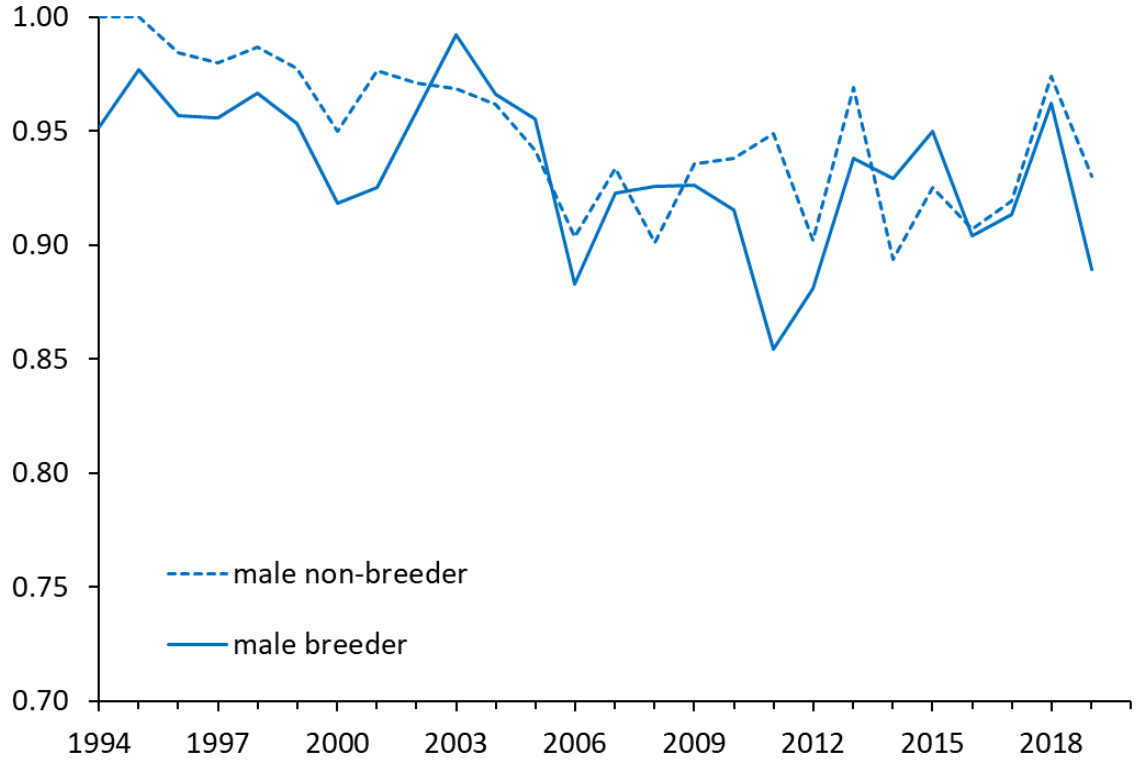
Gibson's survival



Annual survival of Gibson's albatross in the Adams Island study area since 1993, estimated by mark-recapture (mark-recapture estimates of survival for 2020 are unreliable so not presented)
Dashed lines represent survival range of several albatross species that were declining

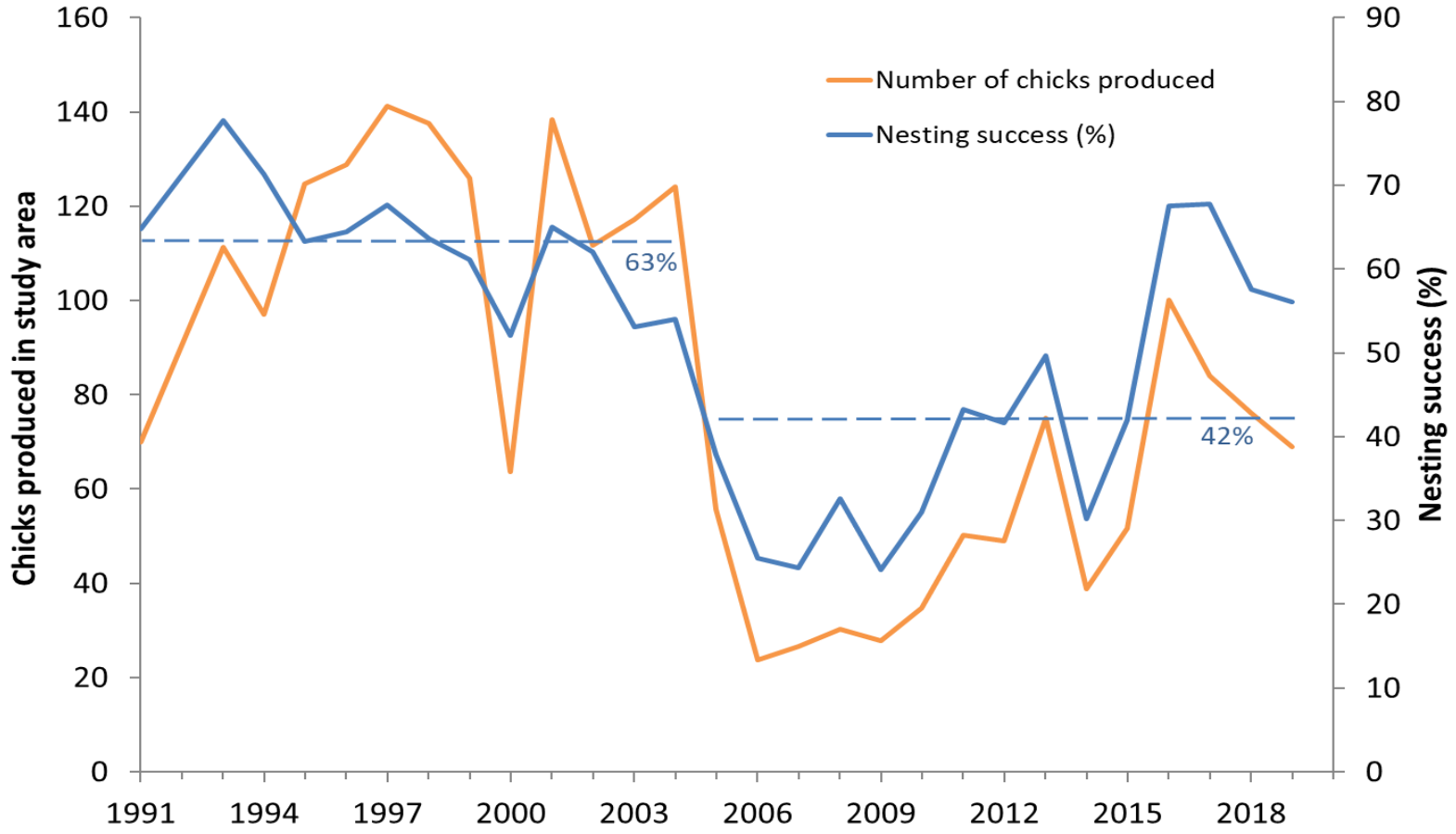
Gibson's survival





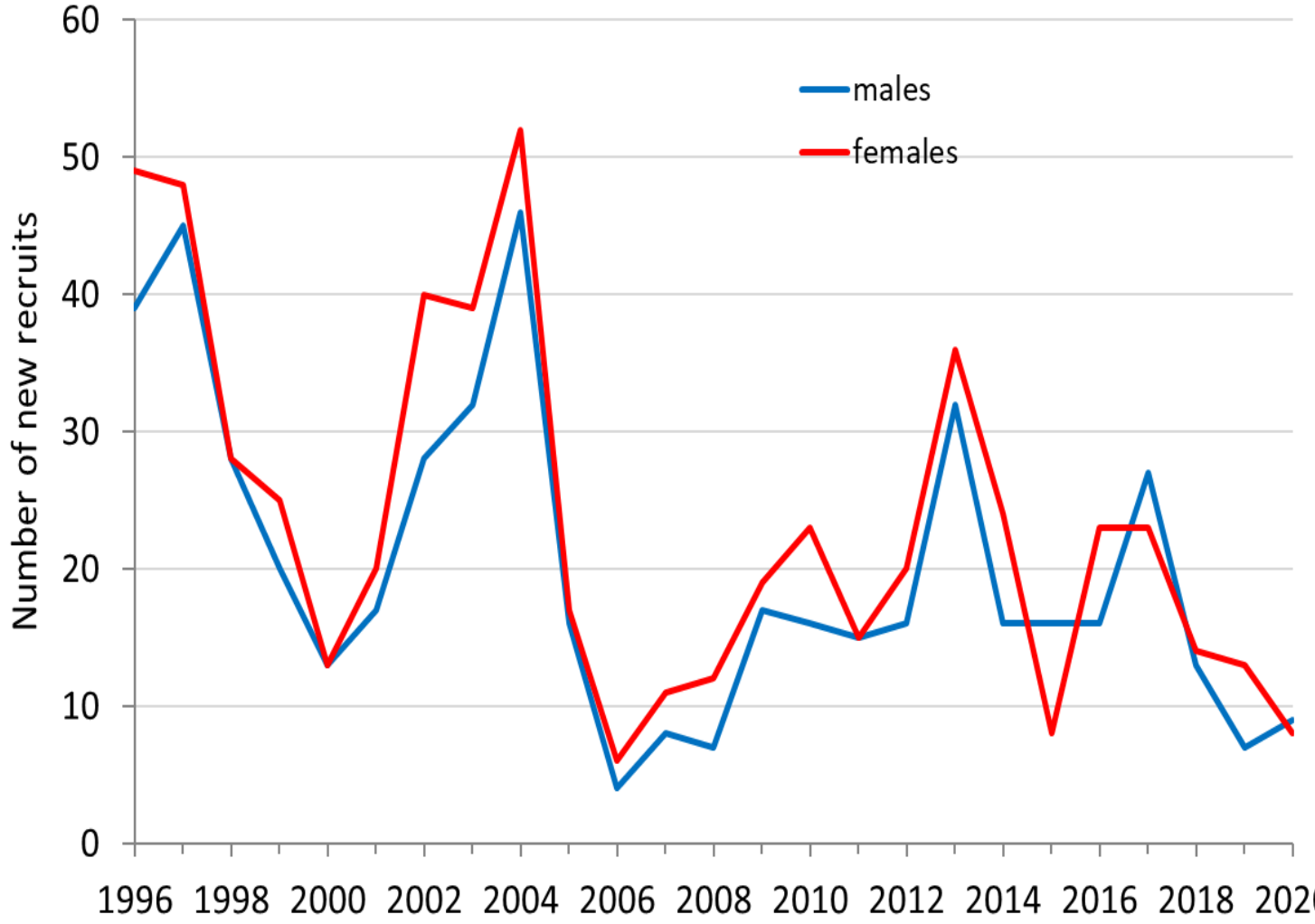
Survival estimated separately for breeding and non-breeding female (left) and male (right) Gibson's albatrosses, estimated by mark-recapture

Gibson's productivity



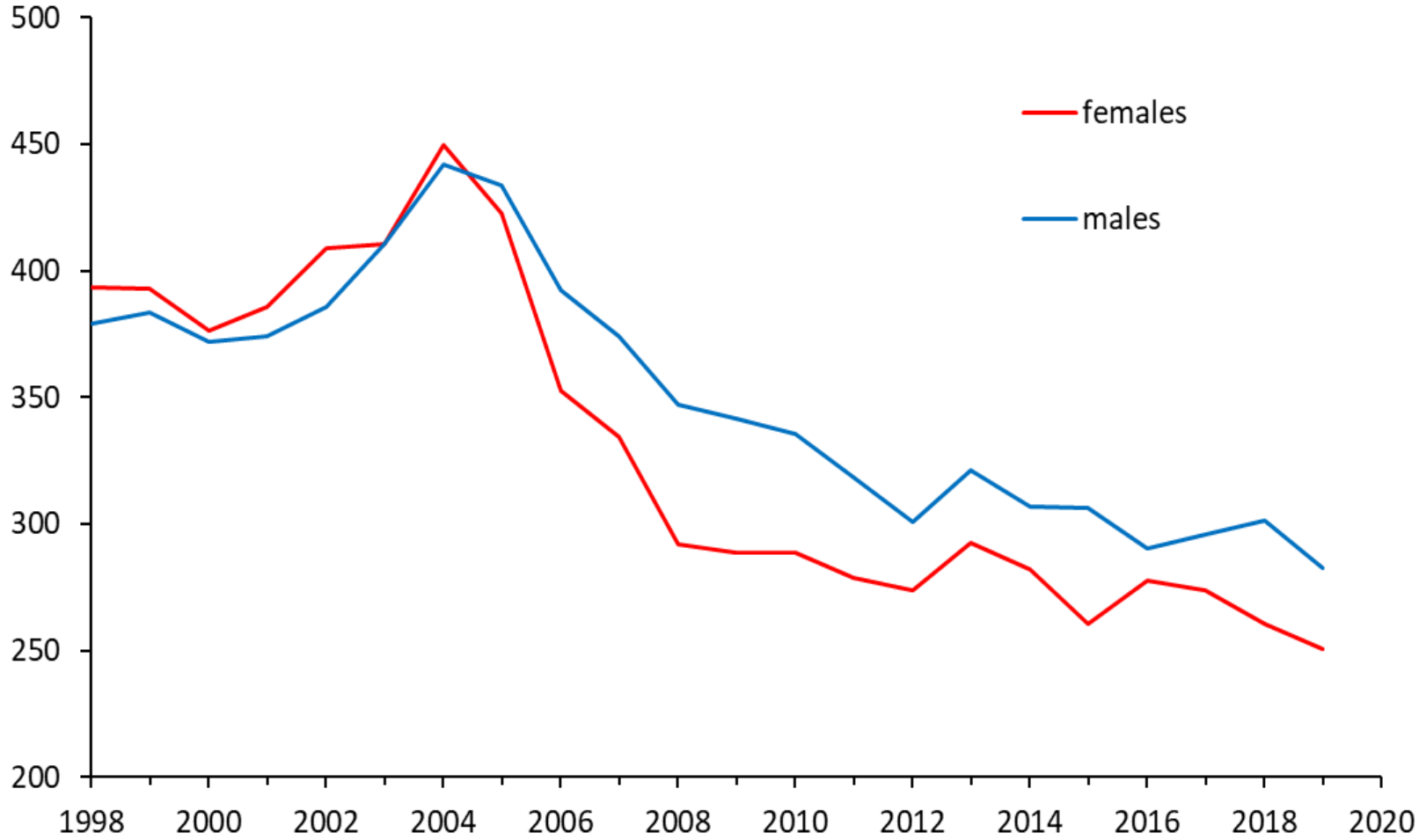
Gibson's albatross nesting success and the number of chicks fledged from the study area on Adams Island since 1991. Dashed lines indicate average nesting success in two periods, 1991–2004 and 2005–2019

Gibson's recruitment

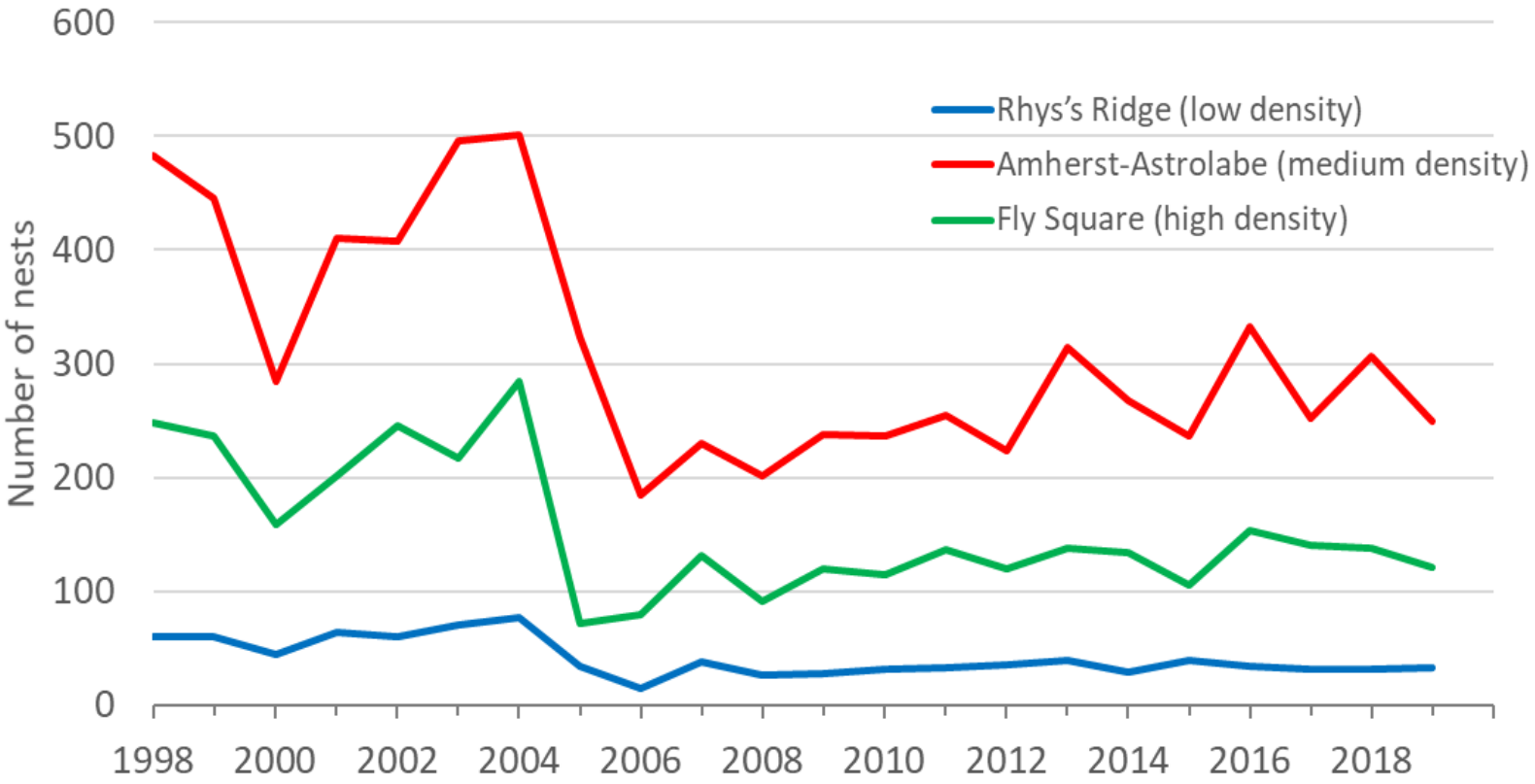


Recruitment: number of Gibson's albatross breeding for the first time in the study area on Adams Island since 1996

Gibson's study area population trend

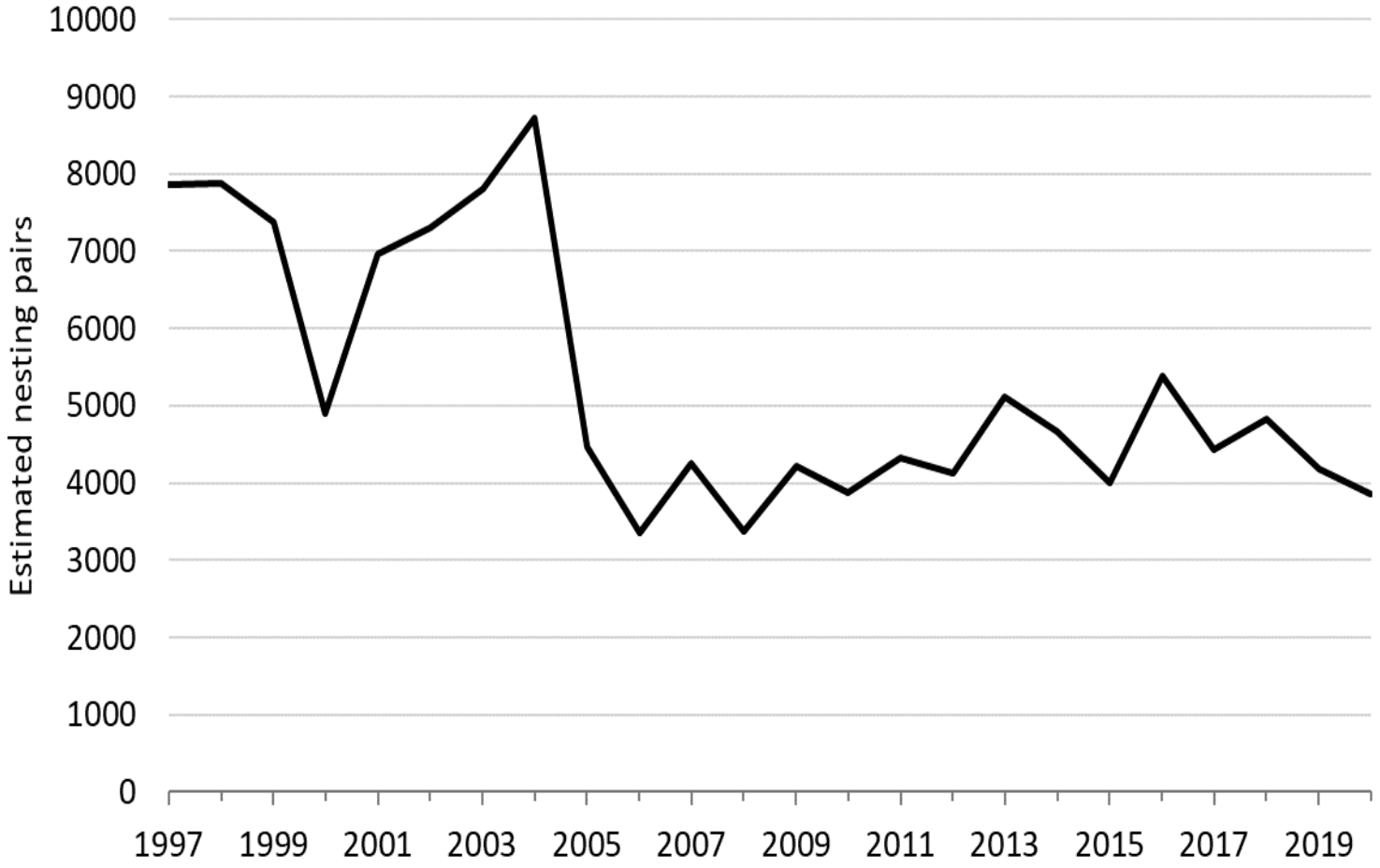


Gibson’s census blocks

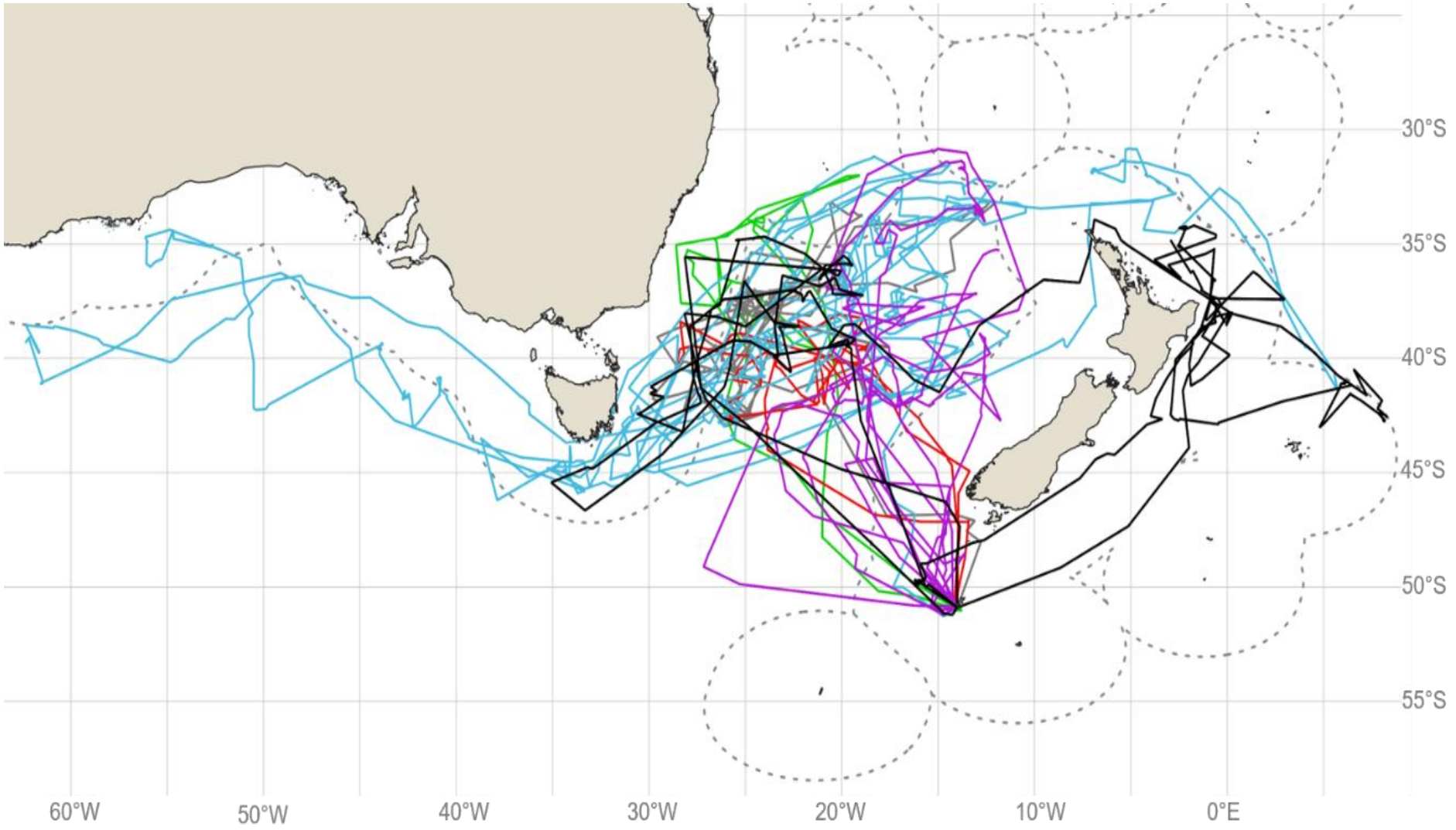


The number of Gibson's wandering albatross nests in three census blocks on Adams Island 1998–2020

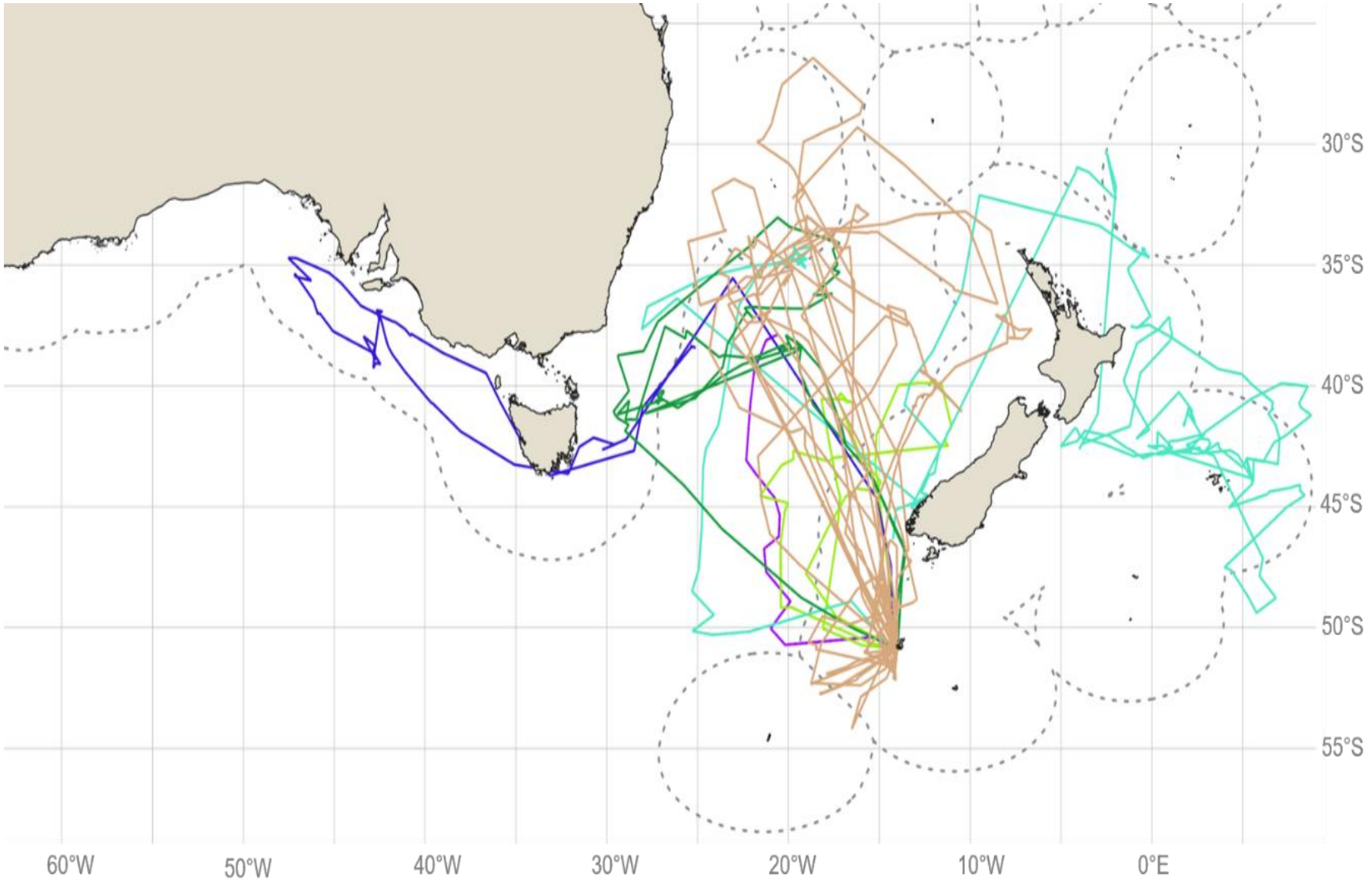
Gibson’s population trend



Breeding population size of Gibson's albatross 1997–2020. The estimated number of nesting pairs on the island is based on annual counts in the three census blocks corrected by the proportion of the total population in 1997 that was nesting in those three counted blocks



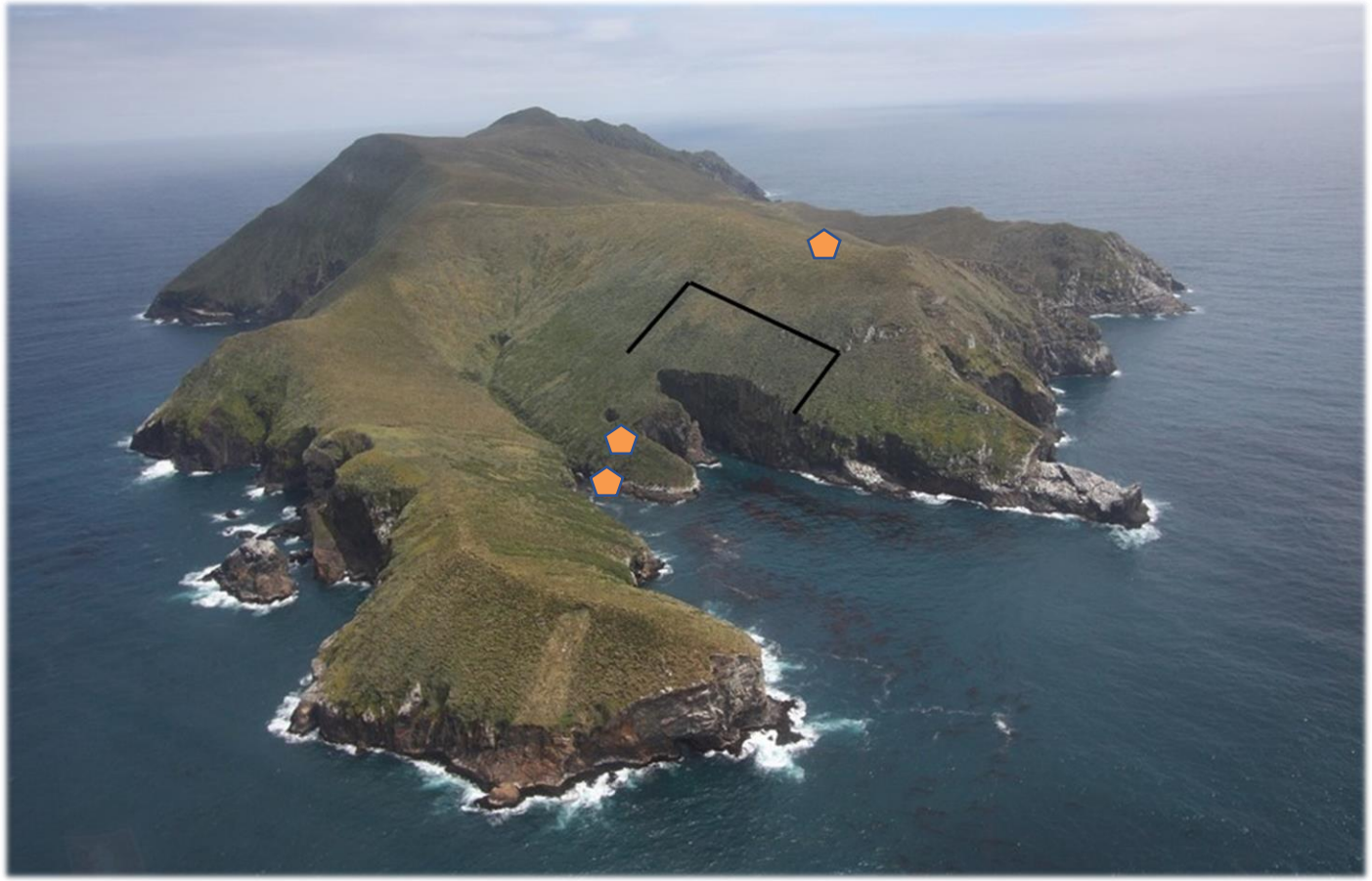
Foraging range of Gibson's albatross whose breeding failed during the tracking period Feb–Sept 2019. Males are grey and black (n=2) and females coloured (n=4)

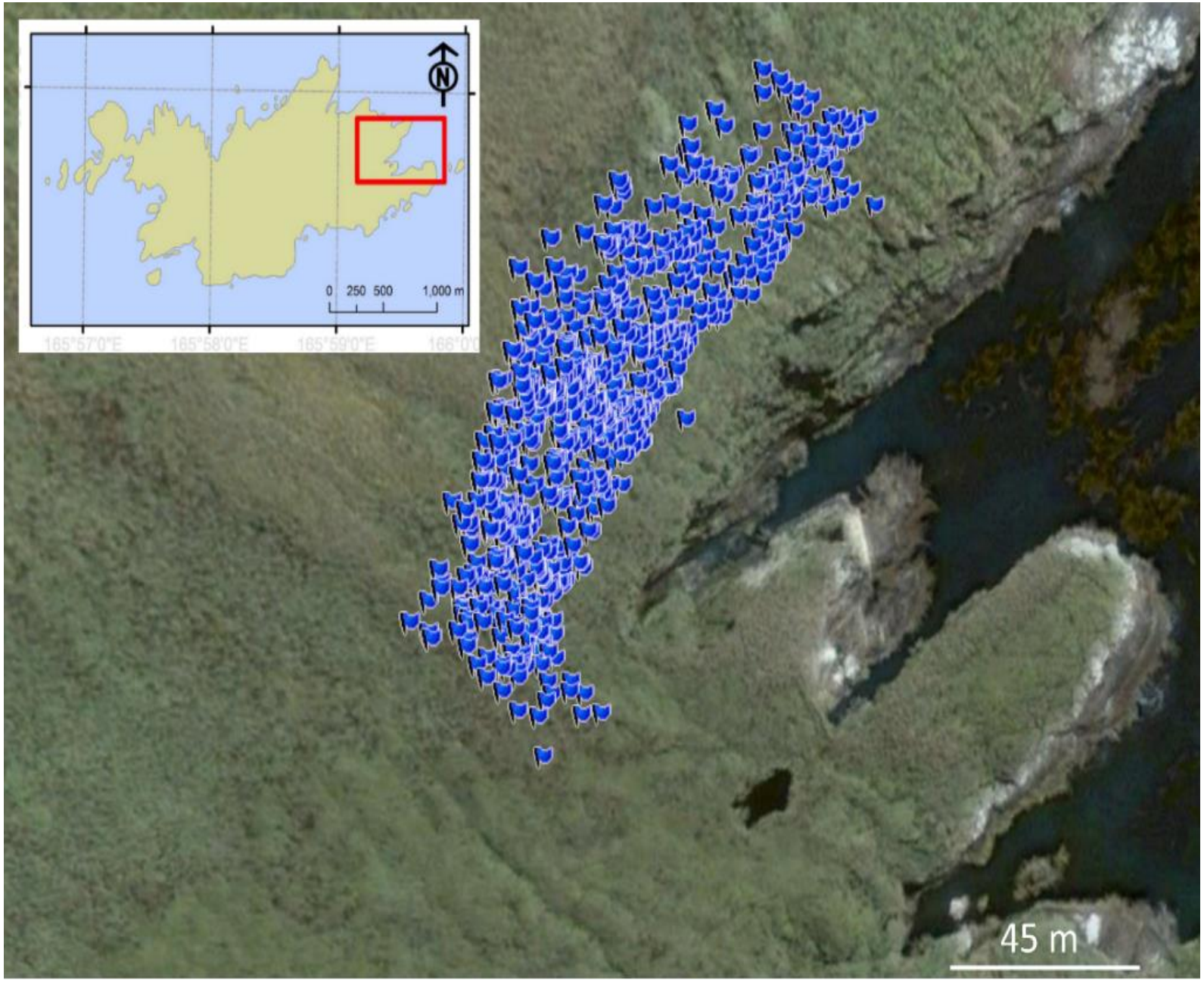


Foraging range of breeding Gibson's albatross tracked Feb-Sept 2019. All six are female

White-capped albatross

White-capped albatross




N
0 250 500 1,000 m
165°57'0"E
165°58'0"E
165°59'0"E
45 m

White-capped albatross

- 6th annual visit
- 21 – 23 January
- Torrential rain and early pick up
- New vessel operator

White-capped albatross

Bands deployed

- 2015: 150
- 2016: 83
- 2017: 160
- 2018: 128
- 2019: 122
- 2020: 0

Banded population 643 birds
(+ historic bands x 36)

WCA Resighting rates

21% of 150 in 2016	3.0 days on island
24% of 233 in 2017	2.5 d
33% of 393 in 2018	2.5 d
34% of 557 in 2019	2.5 d
26% of 643 in 2020	1.5 d

White-capped albatross

Study impact and feasibility

- Nervous species
- Steep terrain
- Windy
- Delicate island
- Challenging access

WCA survival estimates

- Survival 2015-2020 estimated at 0.90 (CI 0.86 - 0.93)
- Data not adequate for estimating time-varying annual survival rate
- 0.93 to 0.98 in albatross species that were not experiencing significant mortality from bycatch

  (Verán et al. 2007: Laysan albatrosses).
- 0·92 CI = (0·910; 0·930) when fishing effort was high

  (Black-footed albies)

Slip in study area

Recommendations

Gibson's albatross

- Recovery stalled by relatively high annual mortality and >10yrs low productivity
- Pop size, structure, trend should remain priorities

White-capped albatross

- Resighting priority, min 5d in Feb
- Breeding success, failure rates: nest cams over two years

Acknowledgements

Funding DOC and levy on quota holders of relevant commercial fish stocks

DOC Murihiku Joseph Roberts, Sharon Trainor, John Peterson and Rory Hannan, reception and duty officers

Igor Debski and Katie Clemens-Seely organised transport and logistics

MV *Tranquil Image* and MV *Awesome* crew provided safe passage to, around and from the islands