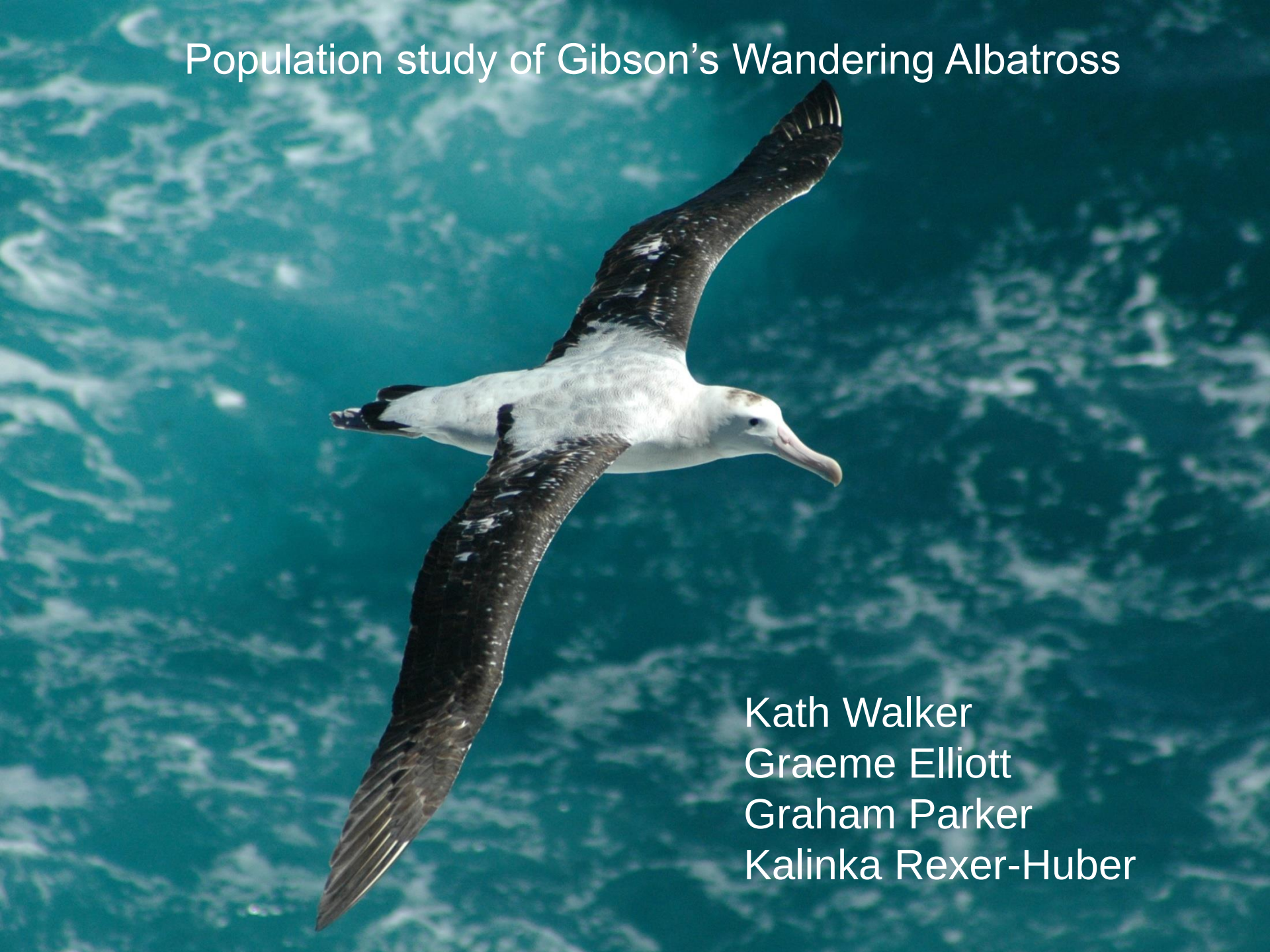
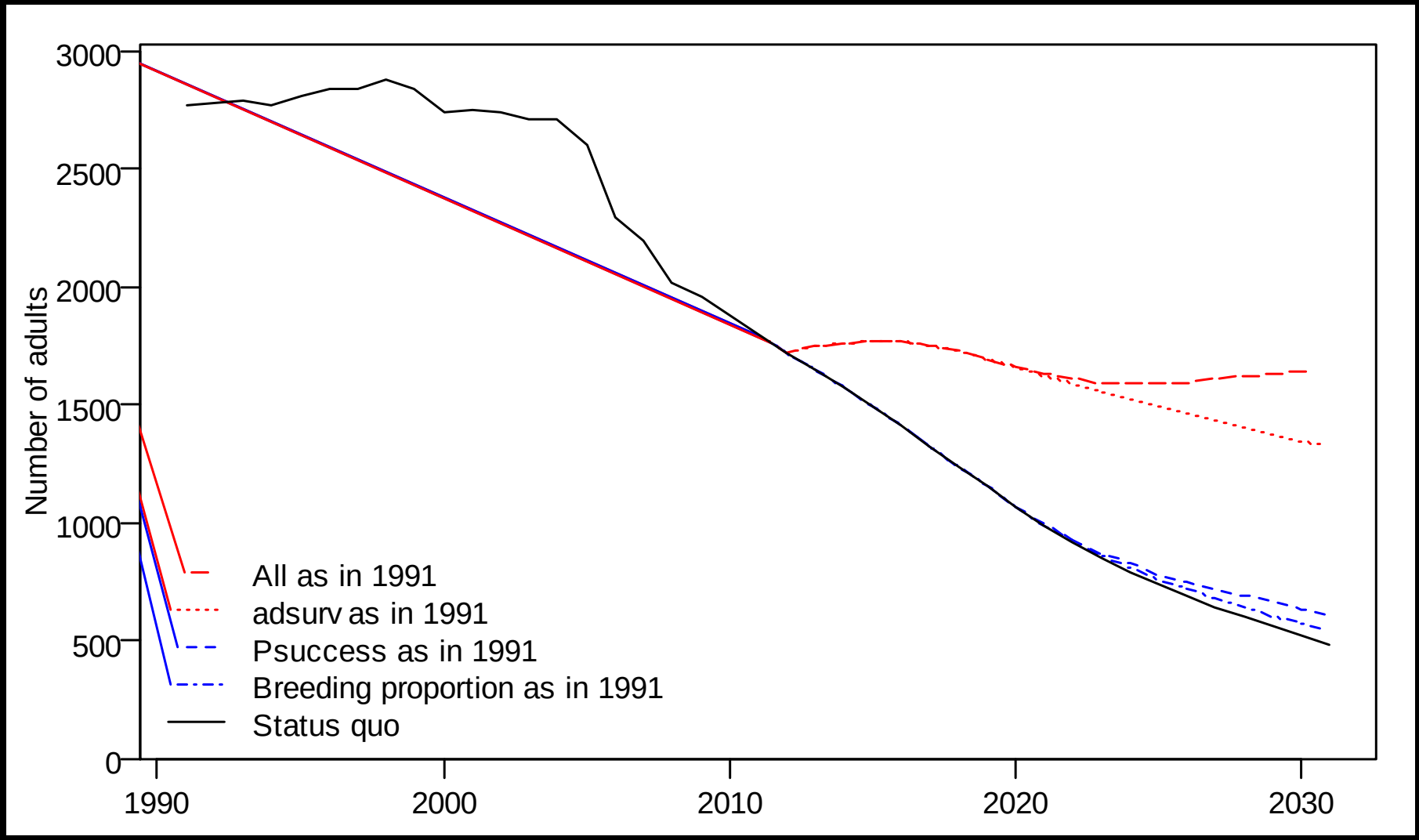
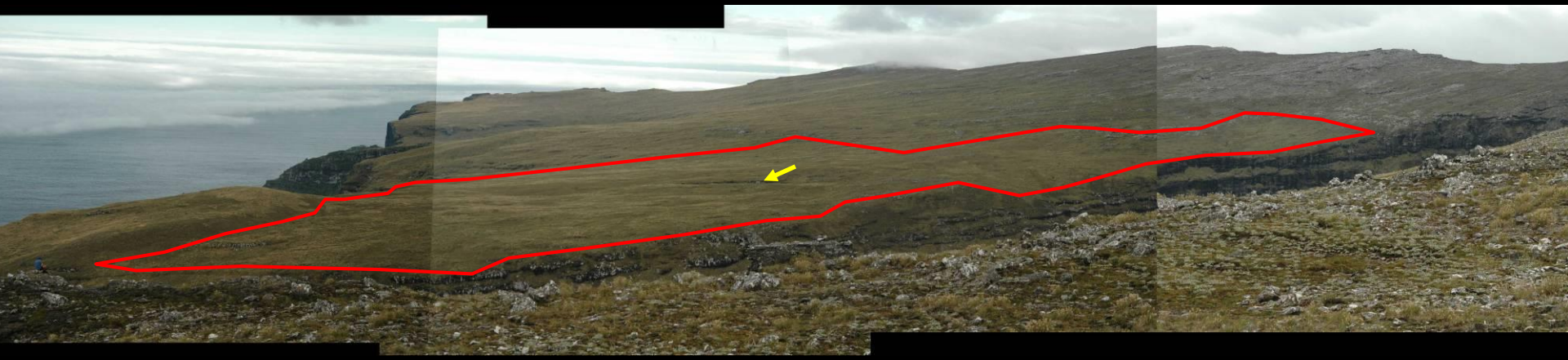
Population study of Gibson's Wandering Albatross



Kath Walker
Graeme Elliott
Graham Parker
Kalinka Rexer-Huber


3000
2500
2000
1500
1000
500
0
Number of adults
1990
2000
2010
2020
2030
All as in 1991
adsurv as in 1991
Psuccess as in 1991
Breeding proportion as in 1991
Status quo

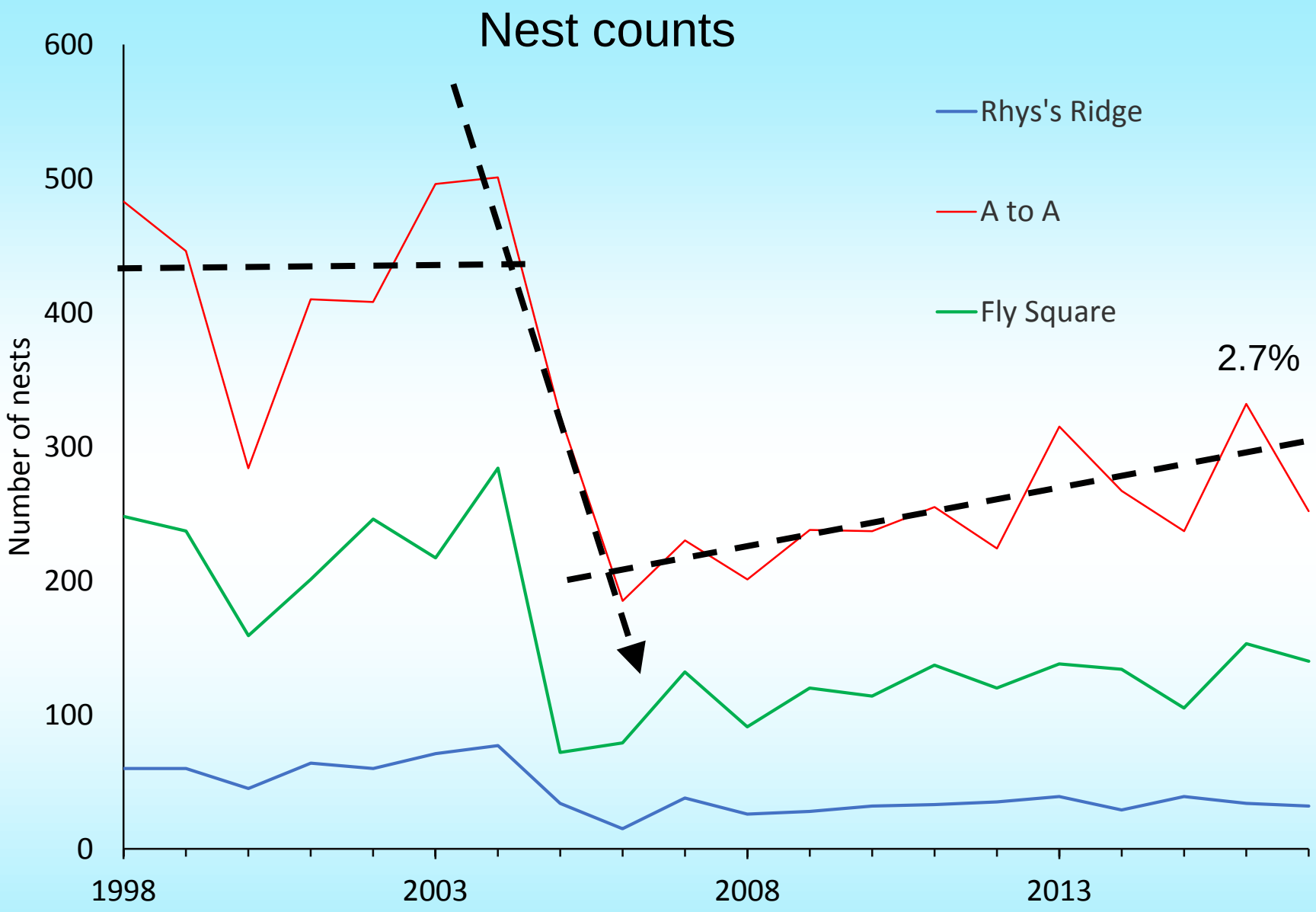

A classic cirque lake filling a glacier-carved basin with its outlet blocked by a large moraine.
Godley Valley
Lake Speight
Coleridge Bay
Western Harbour
Breaksea Point
Monumental Island
"Fairchilds Garden" — famous for spectacular and colourful megaherbs.
Skua-Gull Flat
157
Castaway depot
Masked Island
Anjou Point
Fingerpost
Boatshed Bay
Trinity Cove
Camp Cove
Castaway depot site
Harris Bay
New Zealand Falcon — Carnley area is main centre of Island's population.
Western Arm
Fall Bay
Fingerpost
Survey Bay
Magnetic Bay
Maclaren Bay
Magnetic station
509m S.W. Adams
Auckland Island Rail present in stream mouths around Island.
Auckland Island Banded Dotterel main breeding area.
White-capped (Shy) Mollymawk breeding colony.
Wandering Albatross — major breeding colony.
Mt Dick
705
Lantern Rocks
Astrolabe Point
A cirque lake damned behind a rock threshold.
Lake Turbott
Amherst Rock
South Cape
Cape Thomson
Adams Island
Adams I, Disappointment I, Ewing I and some small Islands of the group have flora and fauna unmodified by introduced plants and animals.
World's southernmost tree ferns
Fly Harbour
Emergency Bay
Emergency Point
Haskell Point
Flagstaff
220
Flagstaff Point
Musgrave Peninsula
Tagua Bay
Coastwatchers hut
631
Mt D'Urville
Lion Rock
Tundra fellfield vegetation, covered rock, cushion bog, alpine rush.
Snowgrass communities; snowgrass of New Zealan
Carnley Harbour
Carnley Harbour is an eroded sea-filled caldera occupying the former crater of a huge shield volcano centred near Musgrave Peninsula.
Grafton Point
Fingerpost
Forges Bay
Fleming Bay
640m
The Dome
Lower Dome
Castle



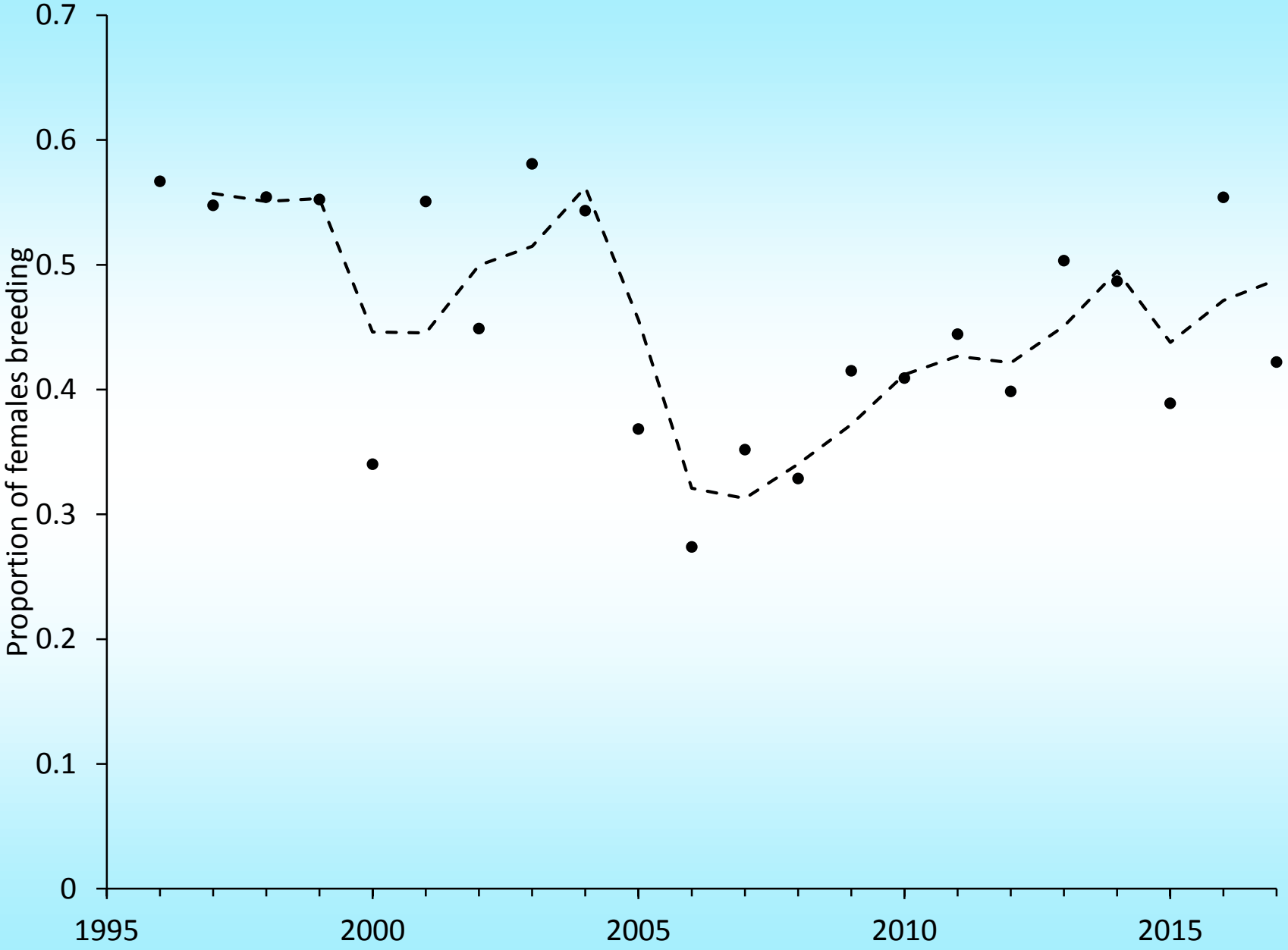
Wandering albatross breeding timetable

- It takes a year to raise a chick
  - Lay in January
  - Chicks fledge in the following December – February
- In one visit to the island in Jan – Feb you can collect all the data you need

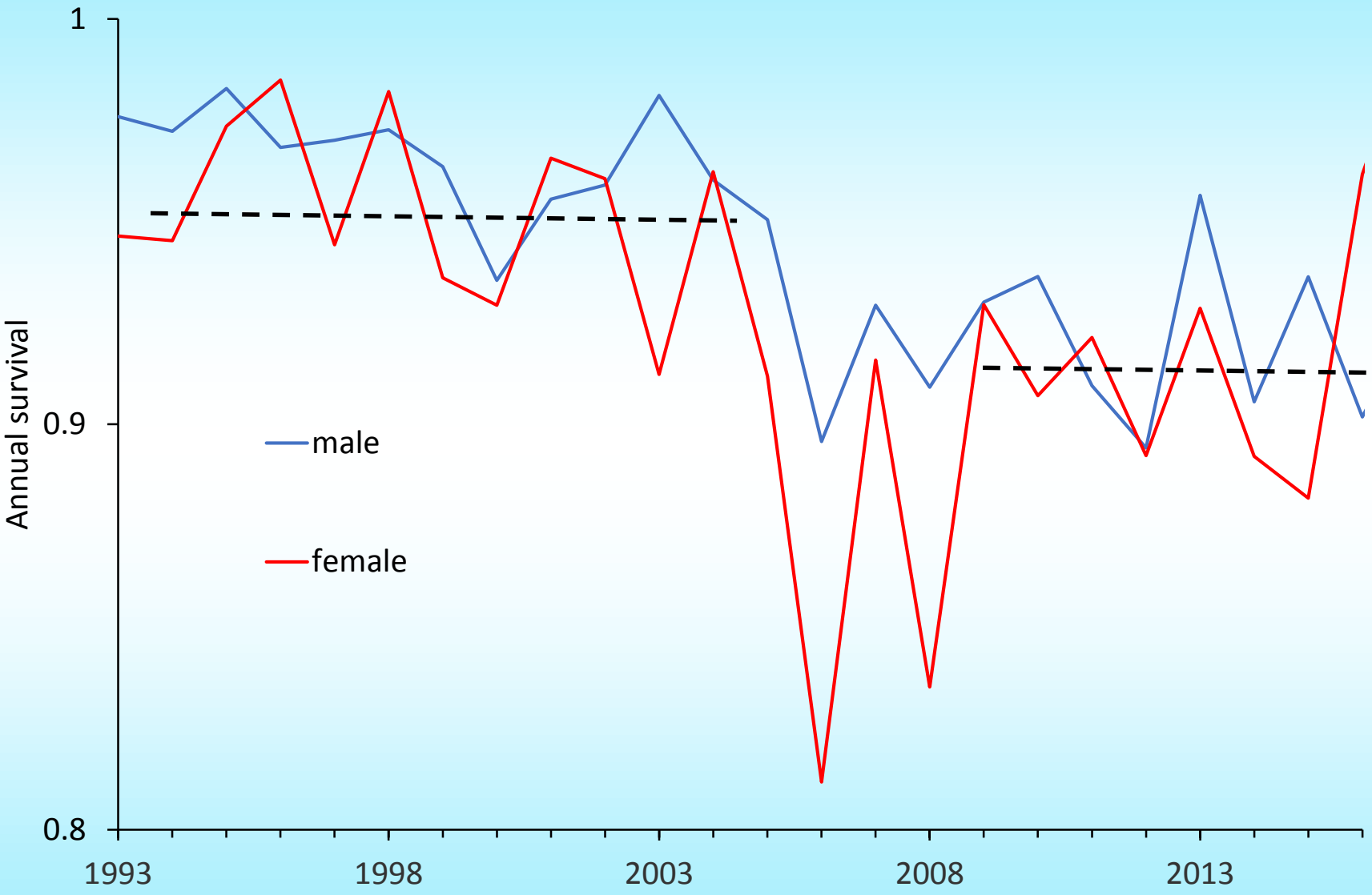
- Assess the nesting success of the previous year's nests and band the chicks in the study area
- Band and resight birds nesting in the study area for mark-recapture analysis
- Mark and map all the nests
- Count the nests in the census blocks
- Sufficient data for a population model


Nest counts
Number of nests
600
500
400
300
200
100
0
1998
2003
2008
2013
Rhys's Ridge
A to A
Fly Square
2.7%

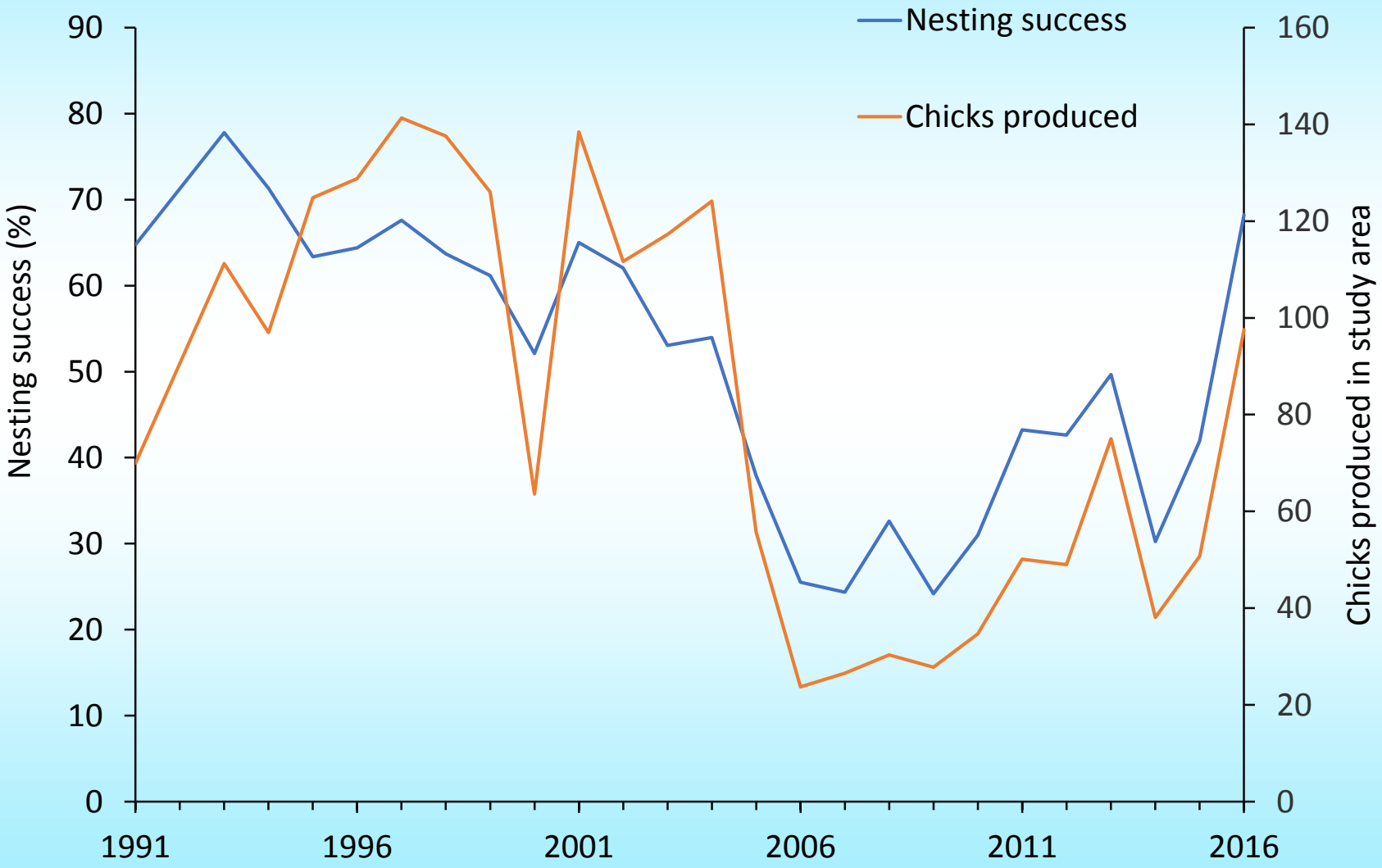
Mark-recapture estimates of the number of breeders

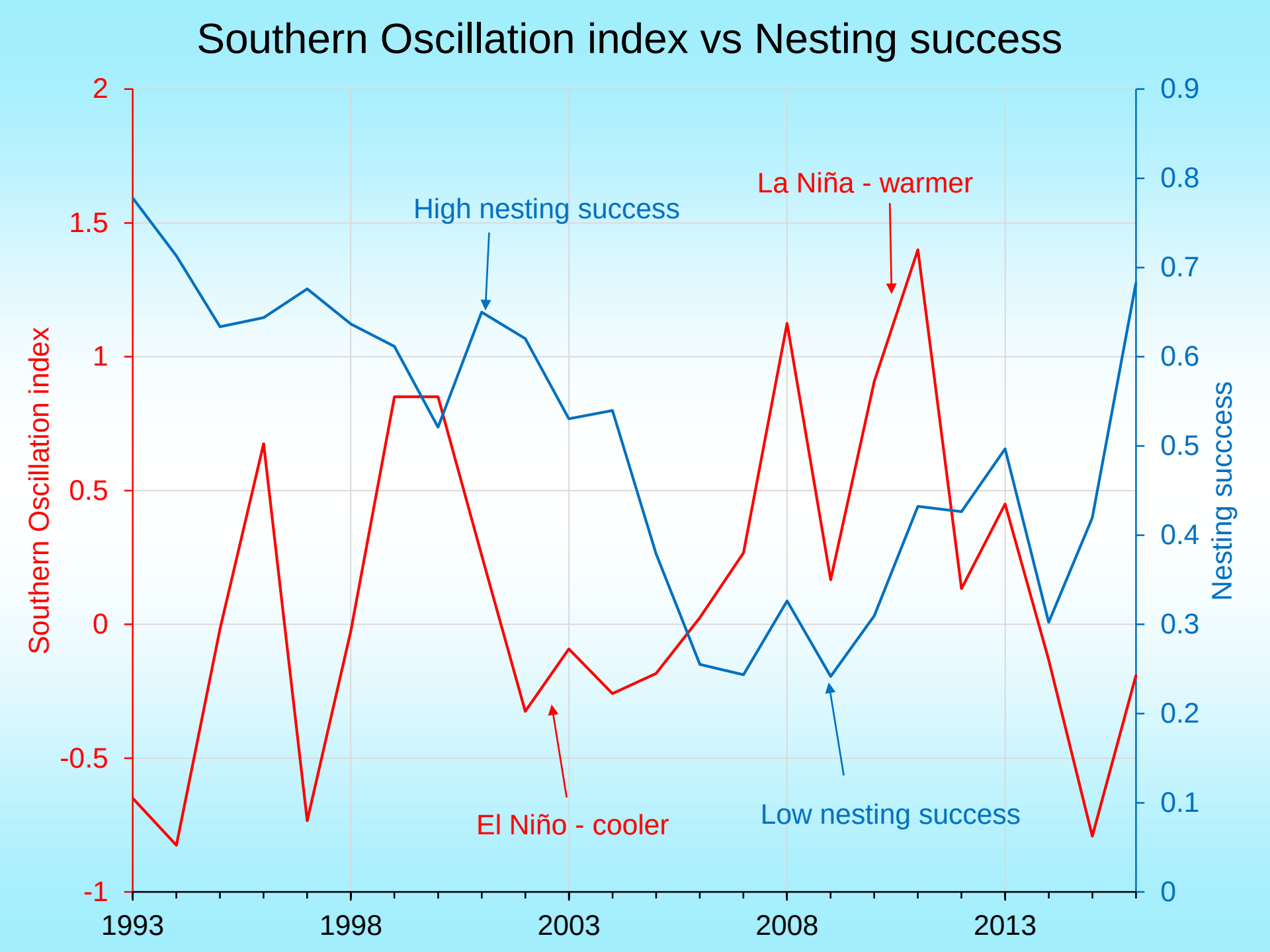

Proportion of females breeding
Proportion of females breeding
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1995
2000
2005
2010
2015

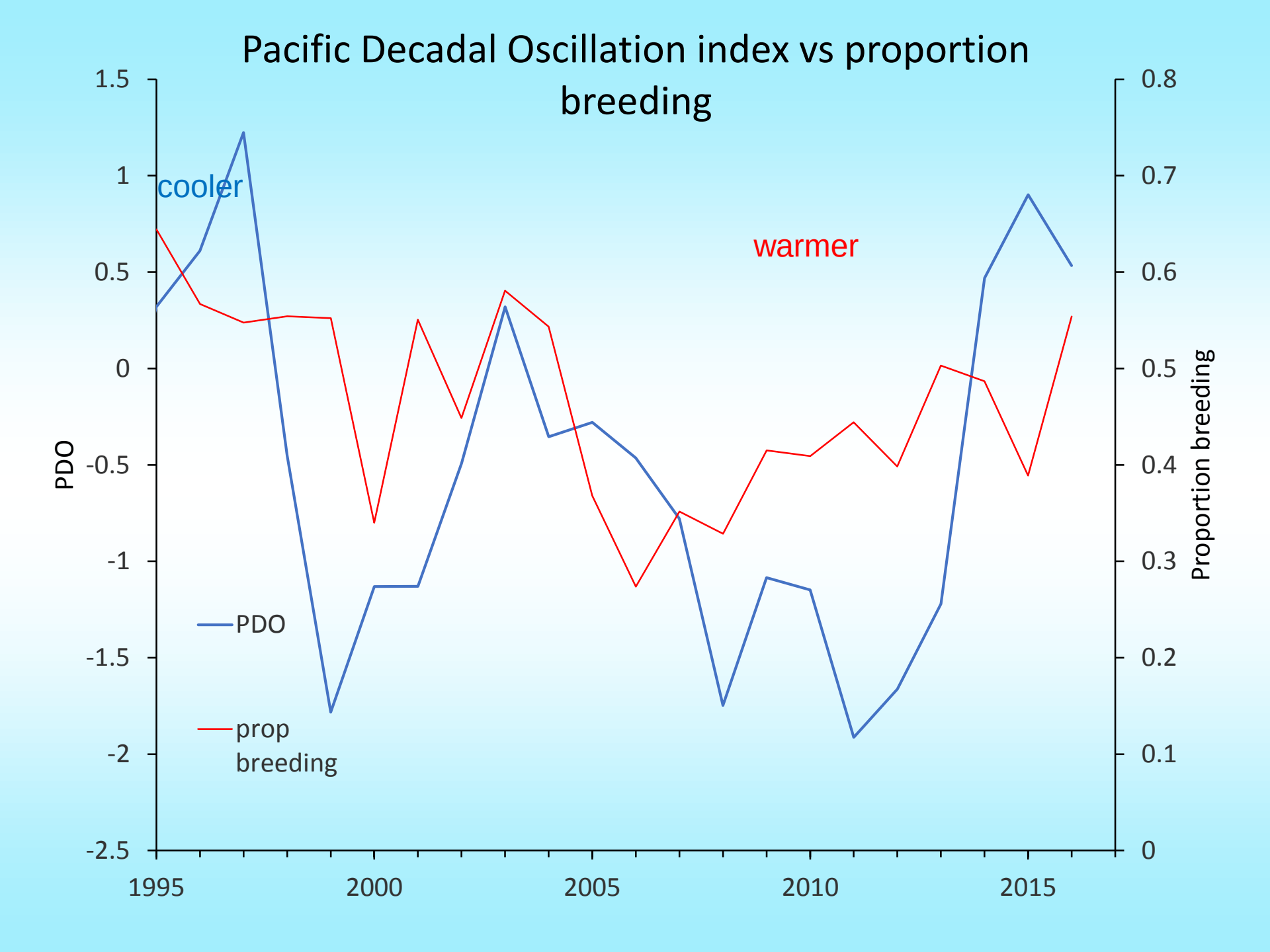
Adult survival



Nesting success and productivity

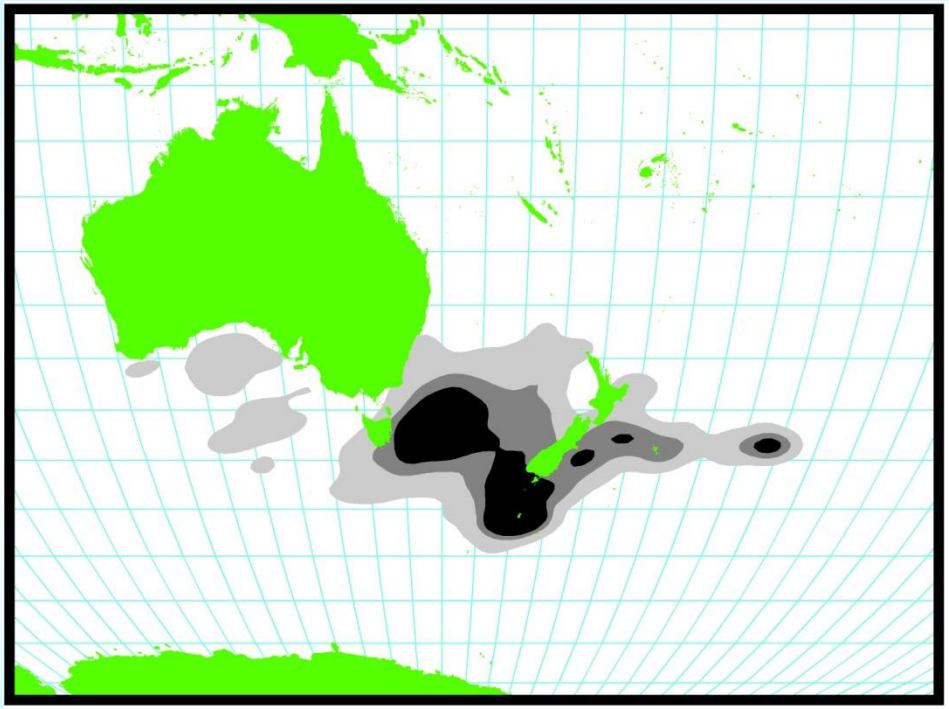


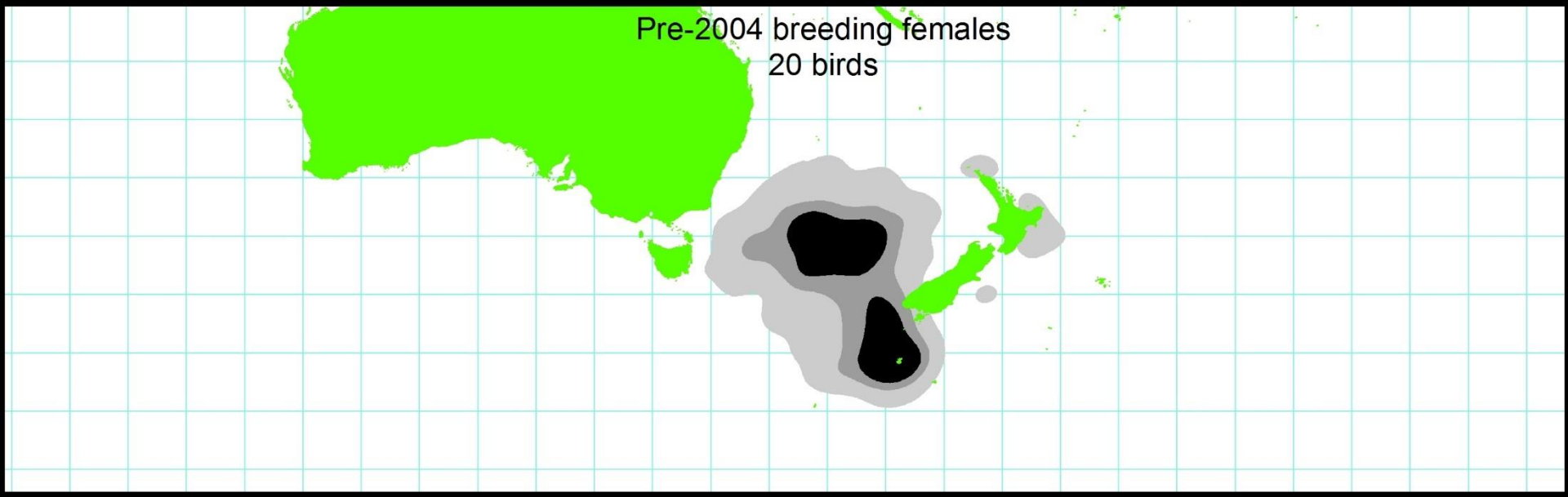

Southern Oscillation index vs Nesting success
Southern Oscillation index
Nesting success
2
1.5
1
0.5
0
-0.5
-1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1993
1998
2003
2008
2013
High nesting success
La Niña - warmer
El Niño - cooler
Low nesting success

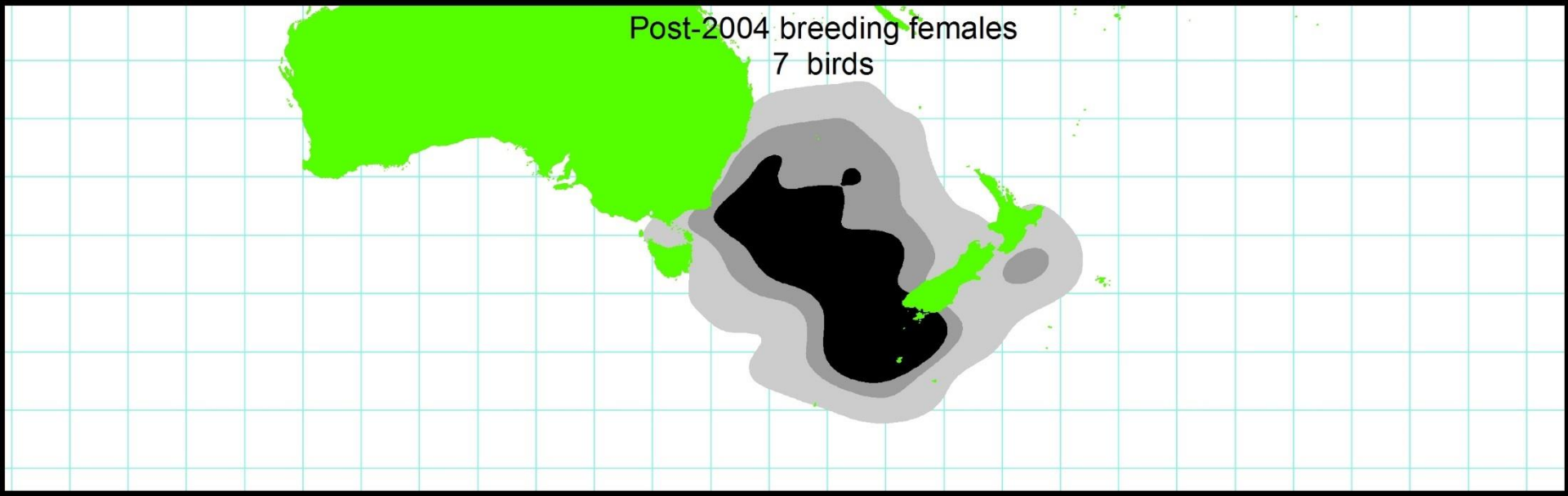

Pacific Decadal Oscillation index vs proportion breeding
cooler
warmer
PDO
prop breeding
PDO
Proportion breeding
1.5
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1995
2000
2005
2010
2015

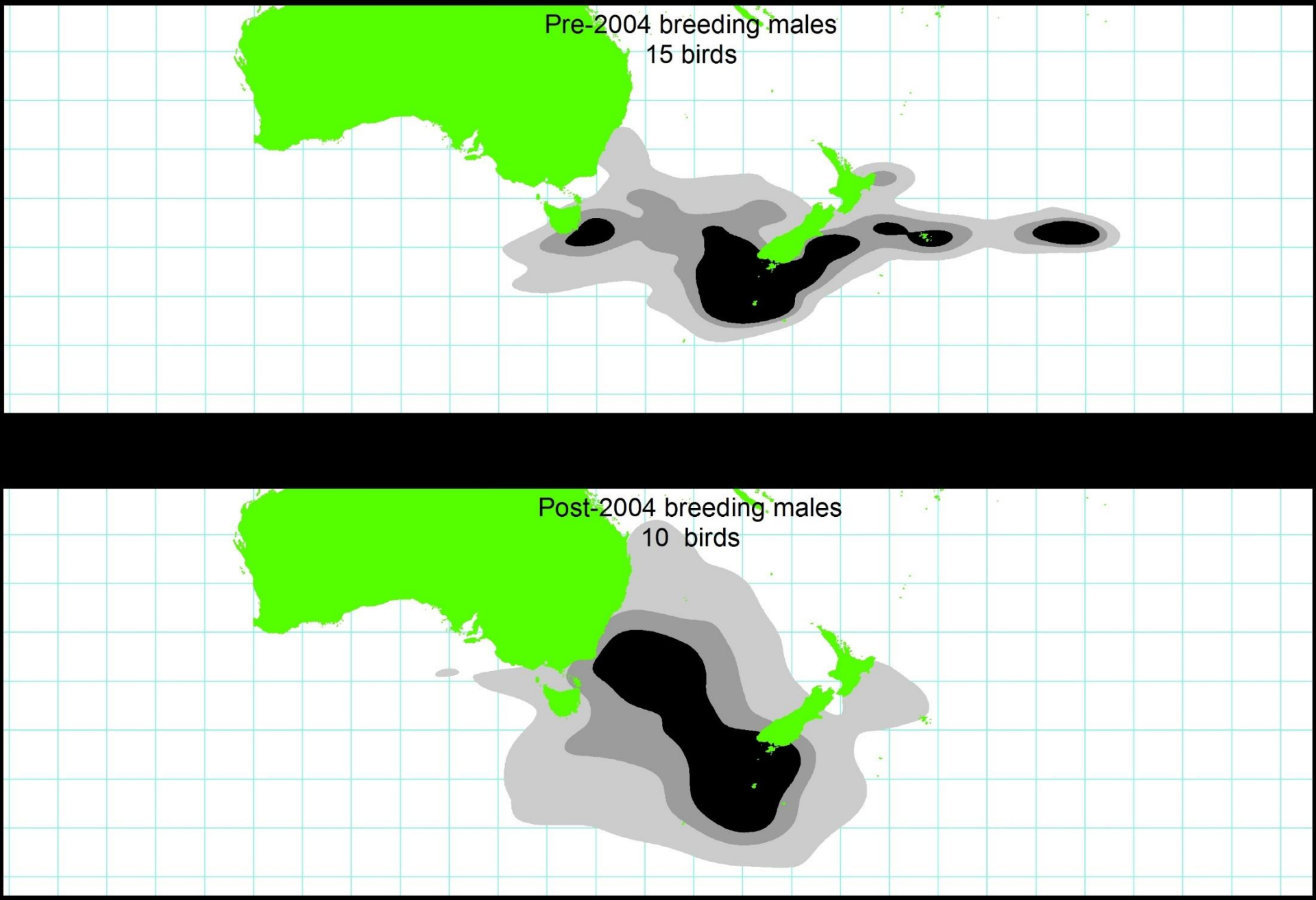

Geolocator dataloggers

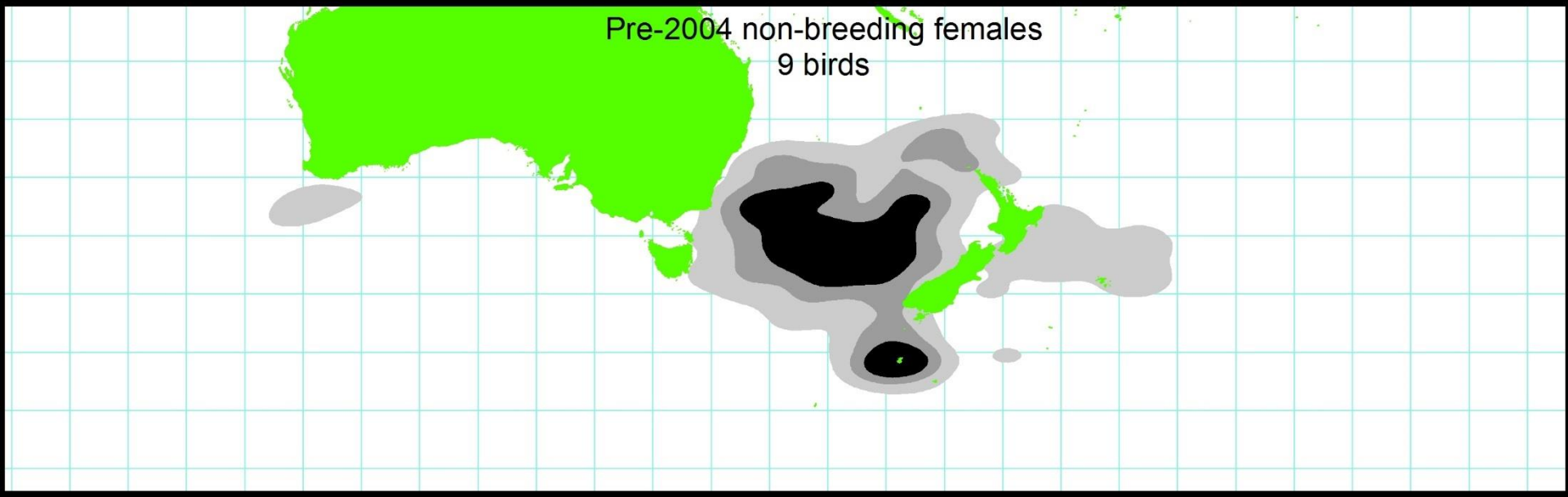
Before 2005
23 Males

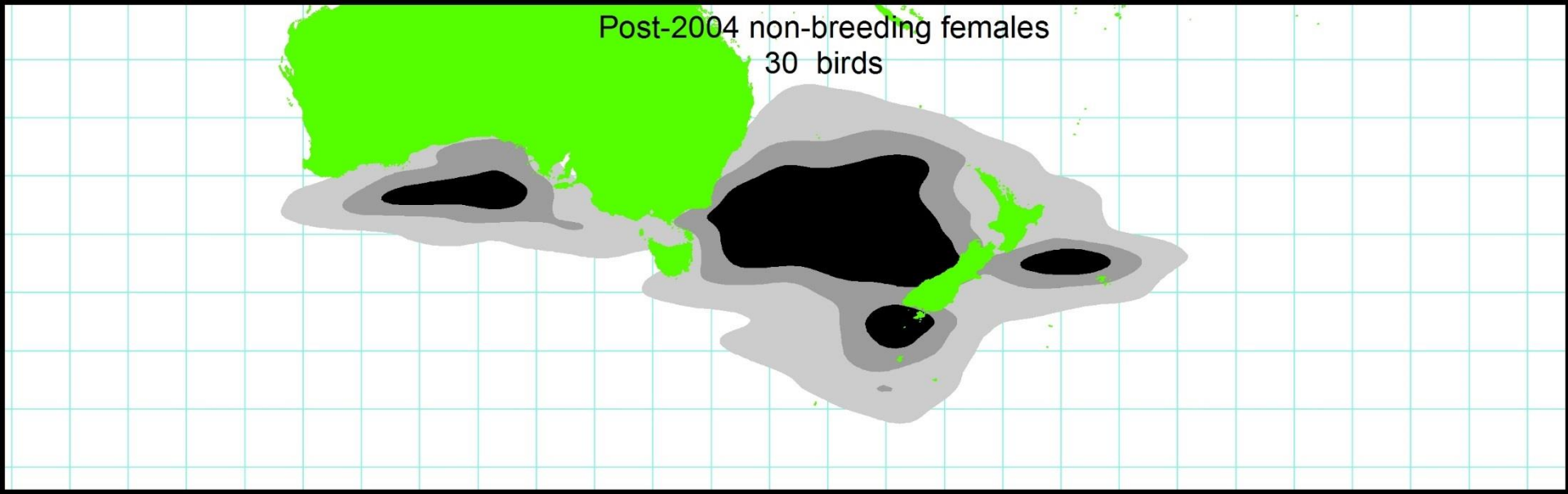


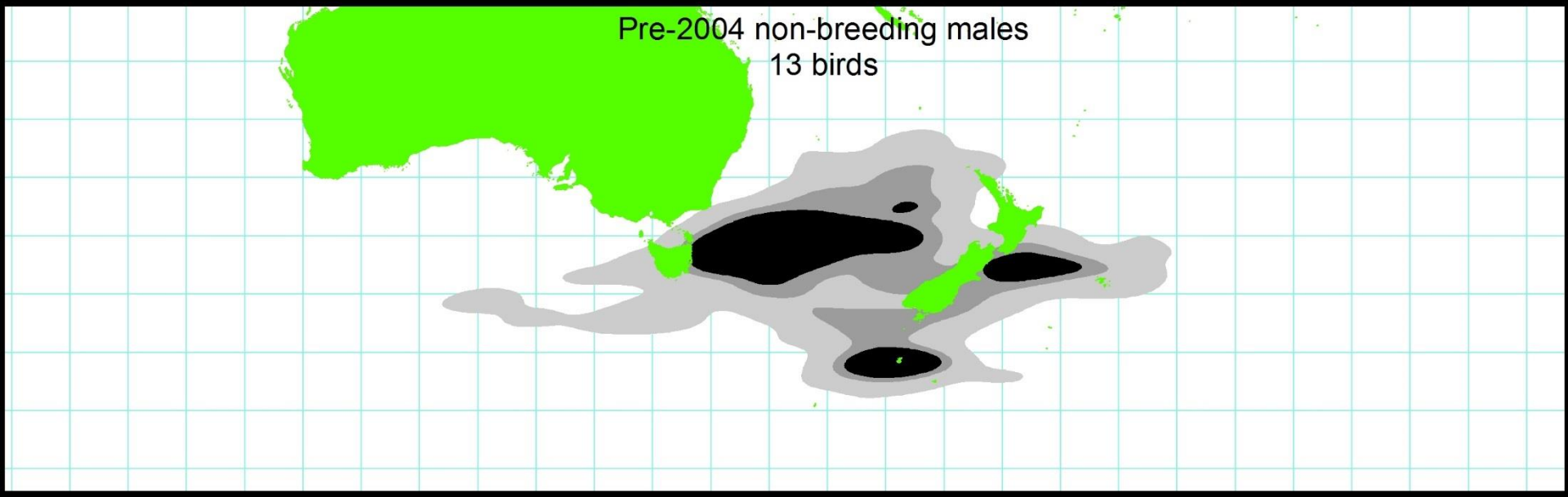

Pre-2004 breeding females
20 birds

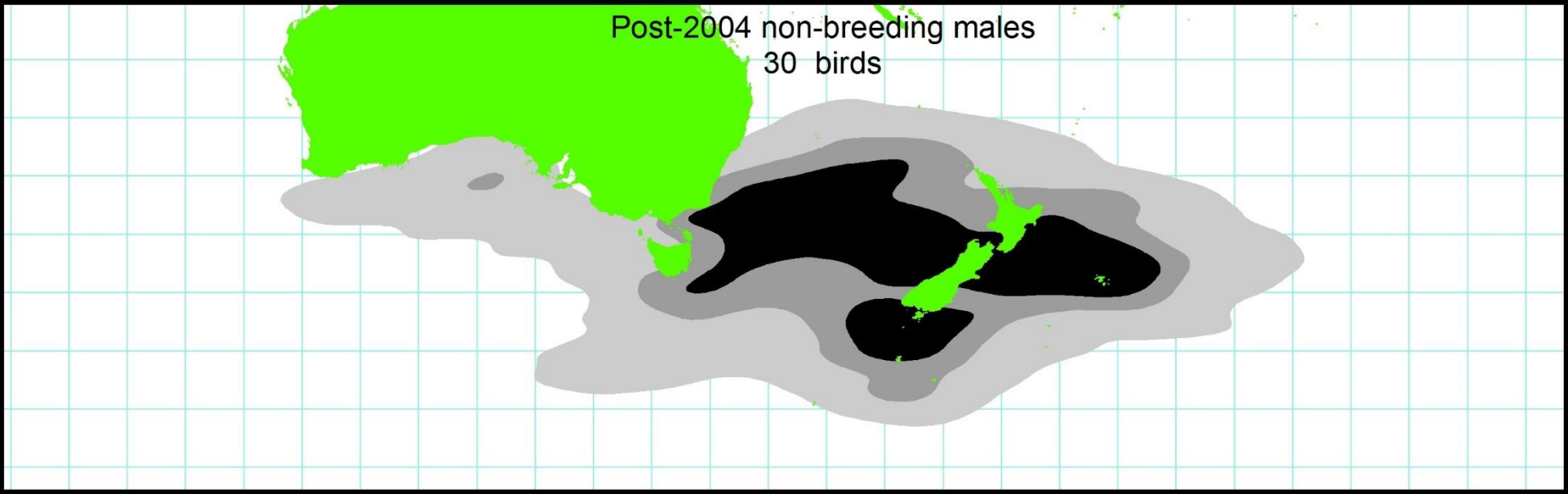

Post-2004 breeding females
7 birds


Pre-2004 breeding males
15 birds
Post-2004 breeding males
10 birds


Pre-2004 non-breeding females
9 birds


Post-2004 non-breeding females
30 birds


Pre-2004 non-breeding males
13 birds


Post-2004 non-breeding males
30 birds

- Lower survival
- Lower productivity
- Foraging more widely
- Things are starting to look up.