

Toroa / White-capped albatross Disappointment Island



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White-capped albatrosses

- 95% on Disappointment Island
- Remaining 5% mostly Adams and Auckland Islands



Image: Nasa



- **White-capped albatrosses** (Abraham and Thompson 2015)

- Est. 8,008 caught in NZ 2002 – 2014
 - trawl (6,693)
 - surface longline (955)
 - bottom longline (360)
- Est. 405 caught in NZ 2014 – 2015
 - trawl (281)
 - surface longline (100)
 - bottom longline (24)
- Est. 497 caught in NZ 2015 – 2016
 - trawl (330)
 - surface longline (143)
 - bottom longline (24)



White-capped albatrosses

- Most common albatross in South African tuna fisheries
 - 7,000 – 11,000 killed 1998 – 2000 (Ryan et al. 2002)
- South African trawl fisheries
 - estimated 7,000 annually (Watkins et al. 2008)
- Unknown extent in high seas fisheries



Long-term aim:

Estimate demographic parameters

L2 risk assessment: adult survival

Previously five-year study at SW Cape

Limitations

Small colony

122 banded breeding birds

Few resighting visits

Difficult site, with pigs



Image: Nasa



Objectives at Disappointment Island

- Banded breeding population
- Resightings
- Ground truthing for aerial counts



Visits

- 2015: January 1 - 11
- 2016: January 8 - 12
- 2017: February 13 - 16
- 2018: January 16 - 19



Image: Nasa

Logistics

- 2-4 people
- Camped





Bands deployed

- 2015: 150
- 2016: 83
- 2017: 160
- 2018: 128

Banded population 521 birds



Study impact

- Nervous species
- Steep terrain
- Windy
- Delicate island



Recaptures

- Resighting rates

21% (of 150) in 2016 (3 days on island)

24% (of 233) in 2017 (2.5 days)

33% (of 393) in 2018 (2.5 days)

26% average



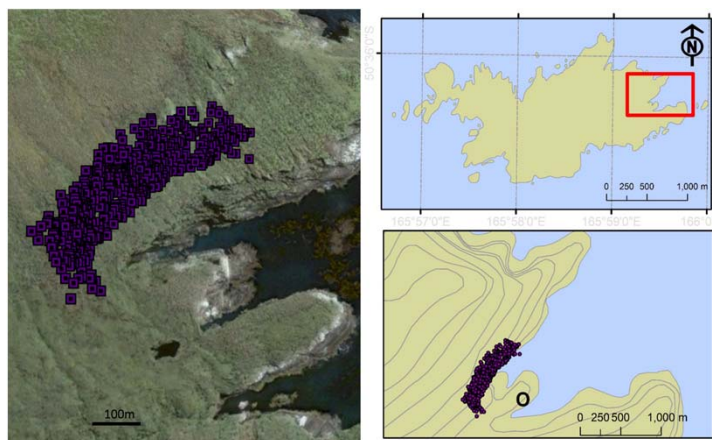
Simulation modelling (Roberts et al. 2015)

- Survival rate of 0.95
- Banded population of 150 individuals
- Range of survival estimates wide with 5 years resighting
- Became more precise with 10 years of resighting data
- Survival estimates from 600 individuals most precise and only 5 years of resighting effort



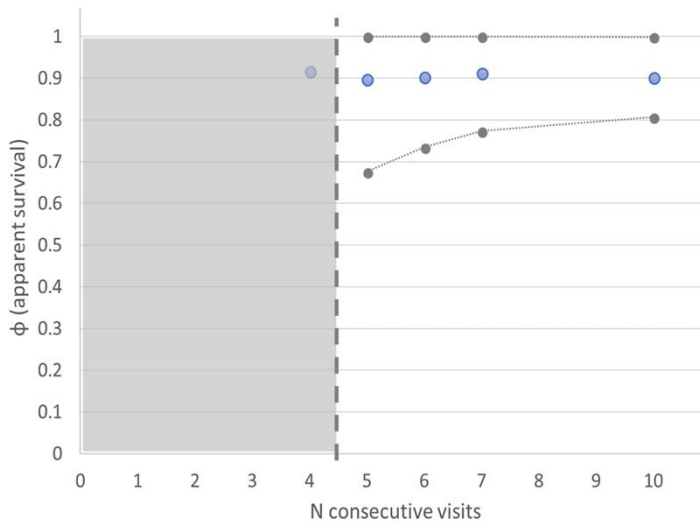
2015 – 2018

- Robust marked population established (521)

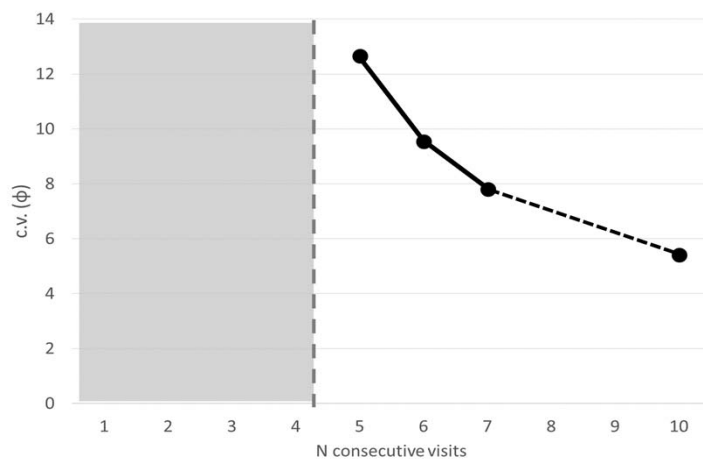


Exploratory modelling of capture histories 2015–2018

- adult survival ϕ is around 0.92 (95% CI: 0.77–0.97)
- resight probability p estimated as 0.32 (0.26–0.39).



Apparent survival estimates with a further 1, 2, 3, or 6 consecutive resighting years from present (year 4), bounded by lower and upper 95% confidence intervals. Capture history number increases by 130 in each interval; $n=20$ simulation samples per interval.



The c.v. of apparent survival estimates with an additional 1, 2, 3, or 6 further consecutive resighting years.
 Capture history number increases by 130 in each interval; n=20 simulation samples per interval.



2015 – 2018

- Robust marked population established
- Visits short, but encouraging resighting rates (21 – 33%)
- Short duration of visits did not allow changeover mates
- Primary focus to date banding and ground-truthing (not resighting)
- Biennial (-ish) breeder



Recommendations

- Focus on recaptures during site visits
- Increase the banded population
- Plan for more than 3 days on the island
- Banding visits ideally during the brood guard stage (February)
 - (1) minimise or eliminate causing breeding failures
 - (2) coincide with high change-over period
 - (3) take pressure off Gibsons programme



Recommendations

- Resighting visits ideally during the incubation stage (January)
- Transport opportunities with AI eradication?



Ground truthing aerial counts: Incubating vs apparently incubating

2015 and 2016:

- Average incubating 64% (21 transects, 10:00 -15:00, 1469 nests)
- Range 57 - 89%
- Salvins albatross (Western Chain 2014) 58.5% were incubating
- 14 (8.2 %) were on empty nests, and 57 (33.3 %) were loafing (Table 4-2).



Incubating vs apparently incubating

- Need ground calibration for breeding population estimates



Acknowledgements

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