

Salvin's albatross population size at the Snares Western Chain, 2014

POP2014-02

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Objectives:

- The population size of Salvin's albatross at the Snares Western Chain.
- To ground truth an aerial survey.
- To collect data on banded birds in order to estimate adult survival.



Salvin's albatross – *Thalassarche salvini*

- Endemic species – breeds mainly on Bounty Islands & Snares Western Chain
- Annual breeder
- At breeding colonies August-April
- During the breeding season foraging extends primarily west to Australia and due south to about 60°S
- After breeding, most of the population migrates to the Humboldt Current off Peru and Chile, although some spend that time off eastern Tasmania
- Recorded as bycatch in NZ trawl fisheries in relatively high numbers and identified as at potential risk from impacts of commercial fisheries

Background

- At the Snares Western Chain Salvin's albatrosses breed only on Toru and Rima Islets, plus one unnamed offshore stack.
- During 1977, 1984 and 1995 counts were made late in the egg stage or during the chick stage. These indicated a high mortality of eggs and chicks.
- In the three years 2008-2010 counts of incubating birds during Sep-Oct resulted in totals of 1100-1200 annually breeding pairs.



Methods – ground counts

- Each islet was searched systematically for the presence of Salvin's albatross nests containing an egg.
- Salvin's albatross nests were counted where an albatross (with or without a partner) was incubating an egg. In addition, counts were made of birds at empty nests and of broken/displaced eggs.
- After counting, each nest was marked with a spot of stocker marker
- To obtain an estimate of the number of nests missed or double counted, on completion of the count at least 100 albatross nests were checked and recorded as marked, unmarked or double marked.
- The % of nests missed or double counted was used to give an adjusted total for each islet.

Methods – ground-truthing of aerial survey

- In order to avoid disturbing birds during the aerial survey of Toru, ground-truthing was completed there immediately after the helicopter moved on to make the aerial survey of Rima.
- Counts were made of birds on nests with eggs, birds on empty nests, and loafing birds along 2-m wide transects.

Methods – recaptures of banded birds

- Each islet was systematically searched for the presence of birds banded during previous expeditions.
- Particular attention was paid to the study area established on Toru Islet, where 234 breeding birds were banded during 2008-2010.
- All banded birds recaptured were marked temporarily with stock marker so that they were not disturbed again during this trip.
- The status of all recaptured birds was recorded as breeding (on an egg) or not breeding (on an empty nest or loafing in the colony).

Results – ground counts



Snares Western Chain ground counts, 17 September 2014

	Ground count			Transect count		TOTAL
	Bird on nest + egg	Bird on empty nest	Broken eggs	Un-marked	Marked	Adjusted nest + egg total
Toru	804	52	74	1	115	811
Rima	301	37	14	0	100	301
Un-named islet	13	1	0	Not completed	Not completed	13
TOTAL	1118		88	1	215	1125

Snare Western Chain ground-truthing of aerial survey, 17 September 2014

Transect	Ground count		
	Bird on nest + egg	Bird on empty nest	Loafers
1	50	5	27
2	25	5	20
3	25	4	10
TOTAL	100	14	57



Band re-sighting, adult survival

Month/Year banded	Status at banding	Number banded	Number (% of total banded) recaptured
Jan 1986	Chick	71	8 (11.3)
Oct 1995	Breeding adult	123	10 (8.1)
Oct 2008	Breeding adult	71	22 (31.0)
Oct 2009	Breeding adult	40	14 (35.0)
Sep 2010	Breeding adult	20	13 (65.0)
Total		325	67 (20.6)

Model combined all birds – 0.951 survival (0.754-0.992)

Conclusions

- Total of 1,213 breeding pairs in September 2014
- 1,195 in October 2008 (or 1,229 if 'abandoned' clean eggs included)
- 1,116 in September-October 2009
- 171 birds counted as part of ground-truthing
 - 58.5% breeding
 - 8.2% on empty nests
 - 33.3% loafing
- Combined survival probability of birds banded as chicks in 1986 or as adults between 1995 and 2010 of 0.951 – high among annual albatross species

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