

A photograph of two white-capped albatrosses standing on a grassy, rocky cliffside. The birds are facing each other, with their heads tilted upwards and beaks slightly open, appearing to be in a social interaction. The background shows dense green grass and a glimpse of the dark ocean to the right.

**Aerial Survey of White-capped
albatross, Auckland Islands
Contract 4427.**

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Latitude 42 Environmental Consultants**

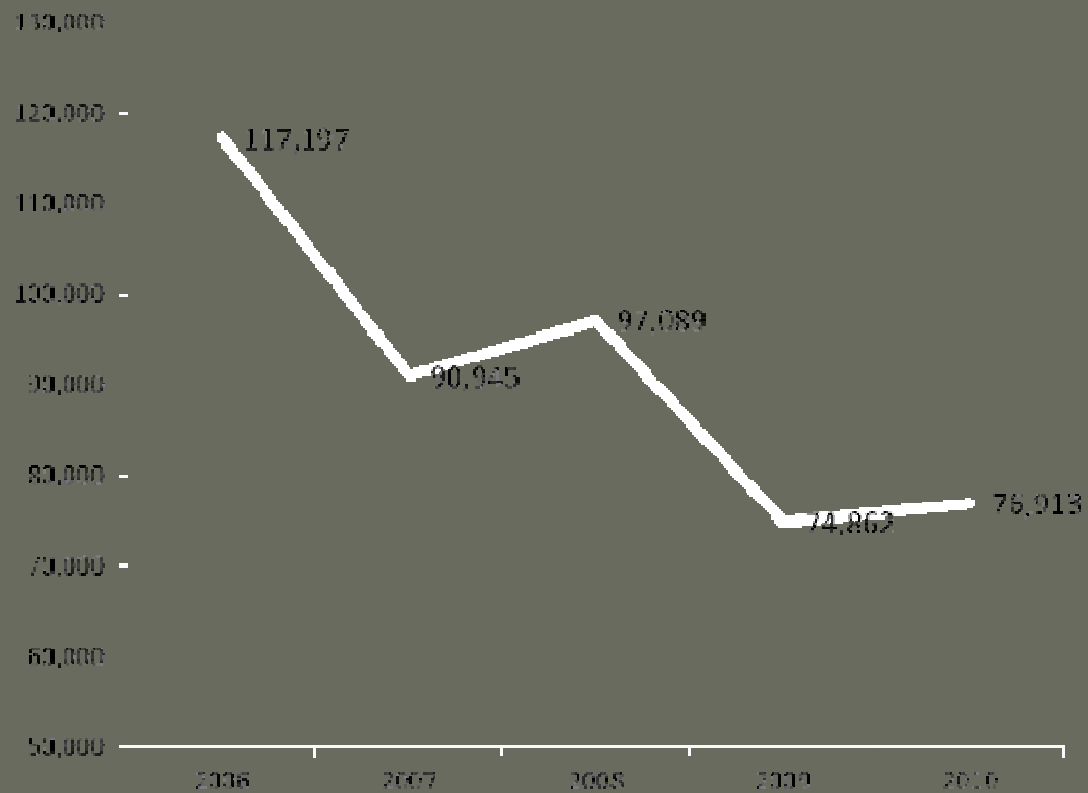
background

- endemic NZ species
- Auckland Islands
 - Disappointment Island (110 000 pairs)
 - SW Cape (3 000 pairs)
 - Adams Island (100 pairs)
- Antipodes Islands
 - Bollons Island (50-100 pairs)

background

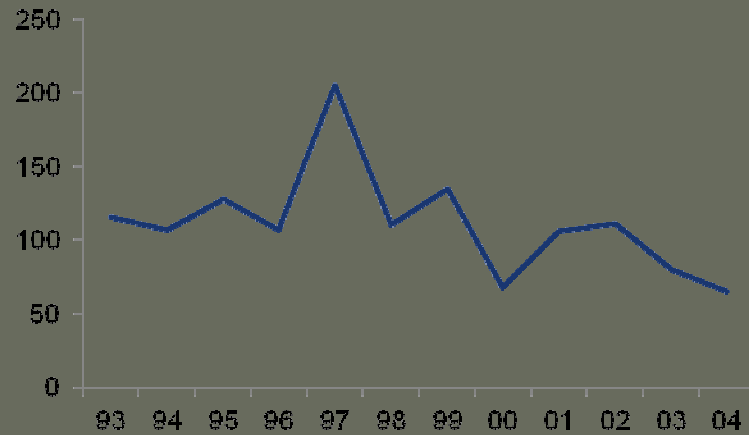
- in 2006 we commenced annual photographic counts of all white-capped albatross colonies in the Auckland Islands
- population estimates have been derived for 2006 – 2010
- all colonies photographed in 2011 but photos not yet analysed

WCA total counts



what does difference in counts mean?

Sooty - Possession Is.
Trend: moderate decline



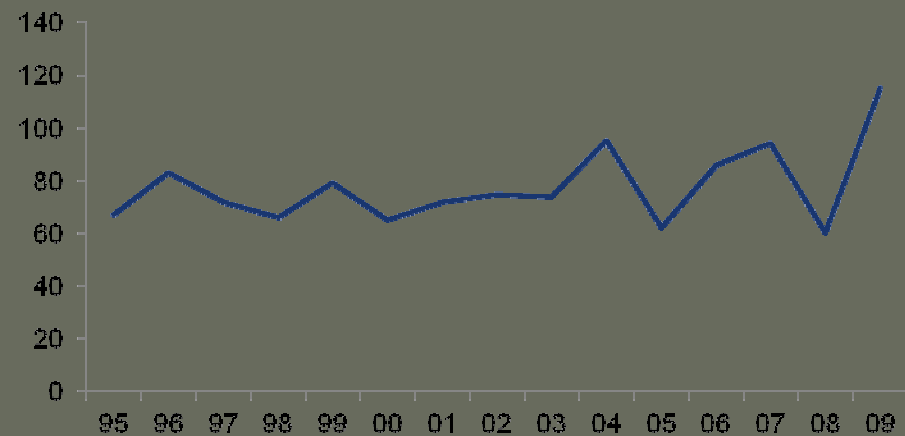
LMSA - Macquarie Is.
Trend: moderate increase



LMSA Possession Is.
Trend: increase



GHA - Macquarie Is.
Trend: moderate increase



Project Aims

- analyse photos collected in January 2012
- conduct another aerial survey of WCA in the Auckland Islands in January 2013
- determine population trend

methods

- Photo surveys of WCA colonies in Auckland Is
 - December 2006 – 2010 early incubation
 - January 2011 & 2012 late incubation
- digital Nikon cameras & lenses
- aerial platform Squirrel Helicopter

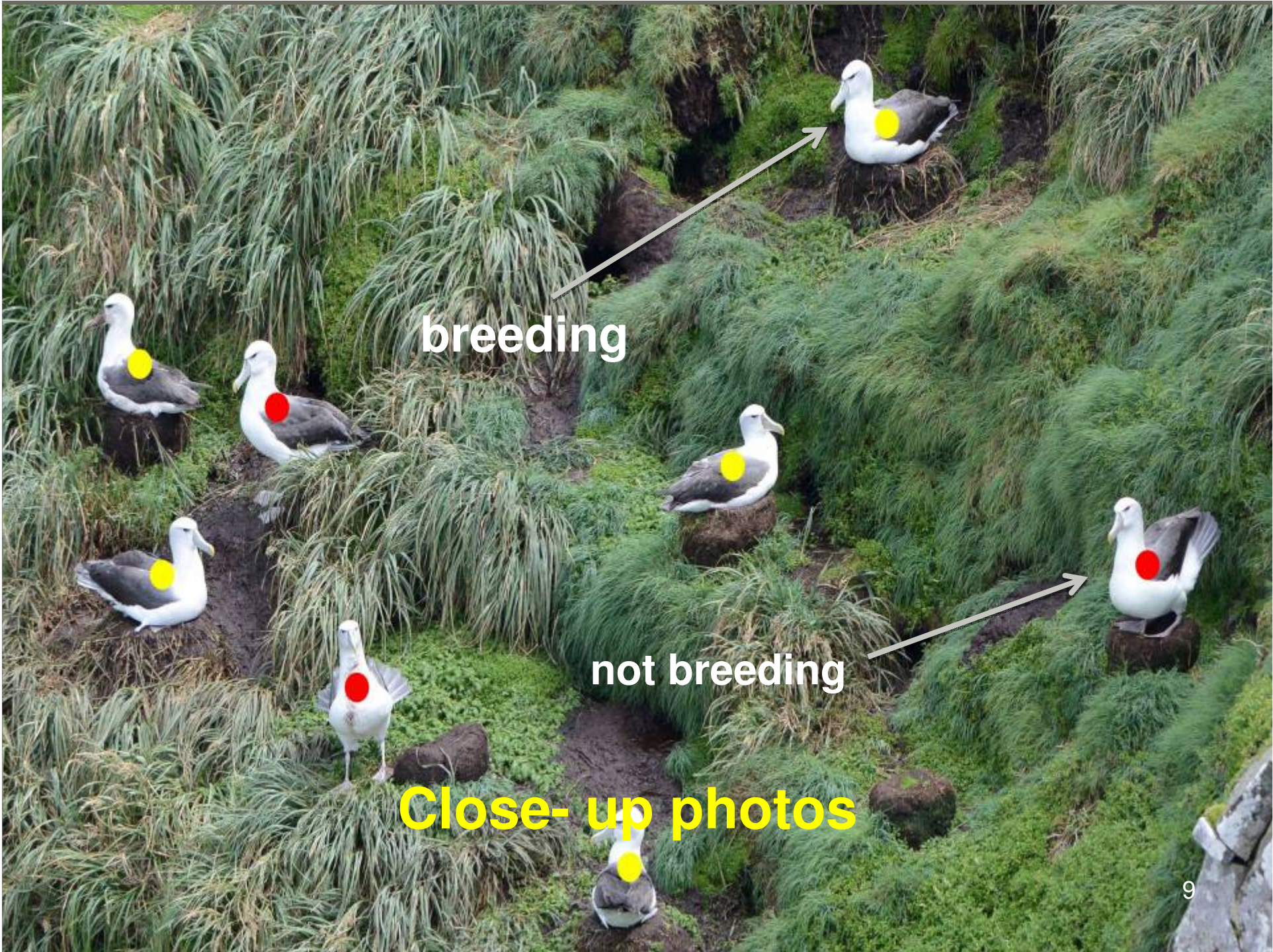


3 groups of photos

- overall scenic shots of the colony to assist later when building photomontages of the site
- series of overlapping photos of all areas with nesting birds (70 mm)
- close-up photos to examine proportion of empty nests & non-breeding birds (200 or 300 mm)



c. 3,000 photos taken each year,
year saved as fine jpeg files
No impact on birds detected



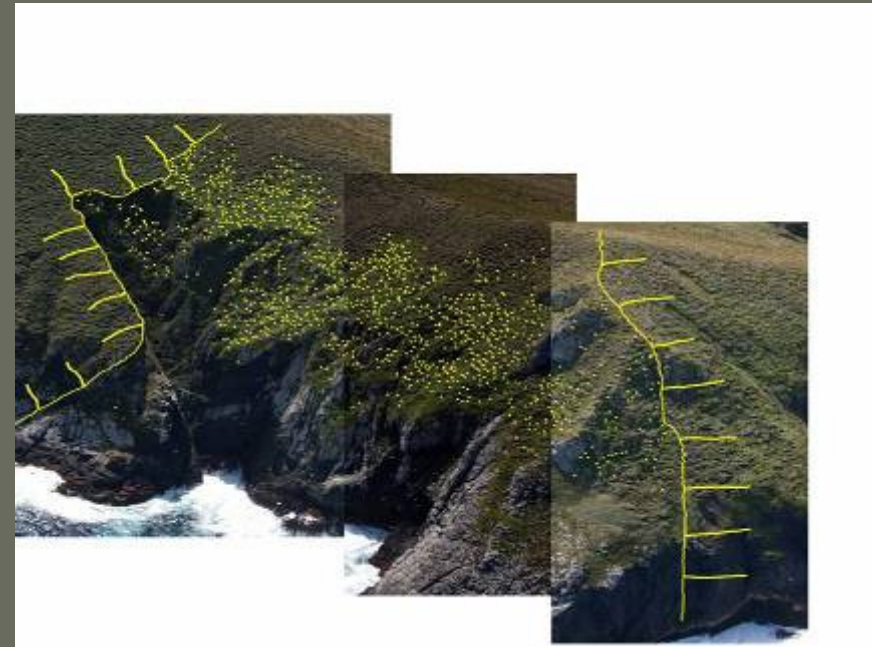
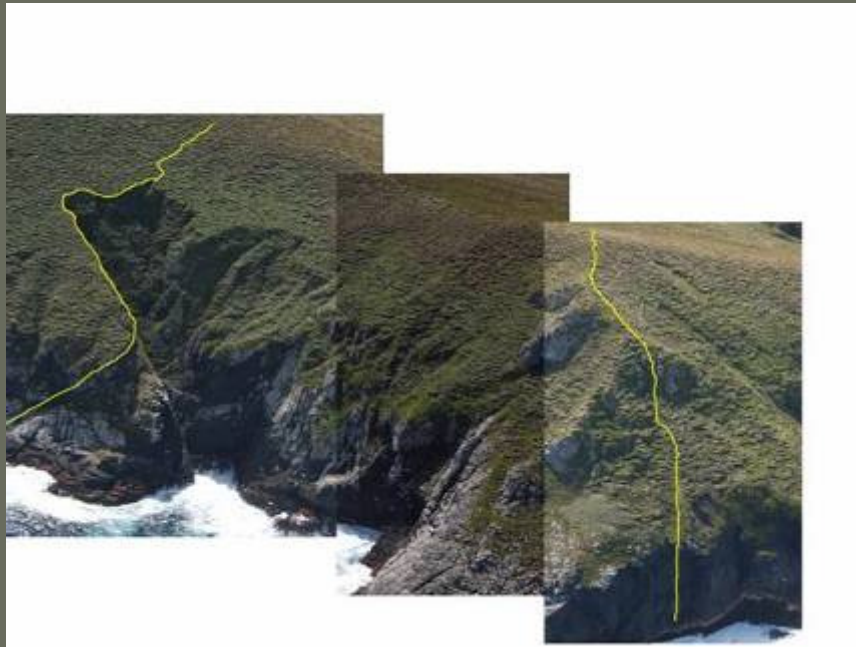
breeding

not breeding

Close-up photos

counting protocol

- photomontages constructed using Adobe Photoshop software
- paintbrush tool mark off counted birds



data assessment

- all birds on the ground counted.
- each single bird assumed to represent a an annual breeding pair.
Close up photos & ground truthing in previous years has indicated 94% of birds present were sitting on nests, confirming that most birds in colonies were breeding birds
- all images counted by one observer
- repeat counts of randomly selected montages by 2 other observers in previous years has confirmed no evidence of observer bias in counting

photographic data storage

- photographs will be submitted to
 - Ministry of Primary Industries
 - Department of Conservation
- photos will be provided in one directory
 - White-capped albatross 2013* with three sub-directories
 - *Original photos*
 - *Stitched images*
 - *Counted images*
- set of photographs also retained by Latitude 42

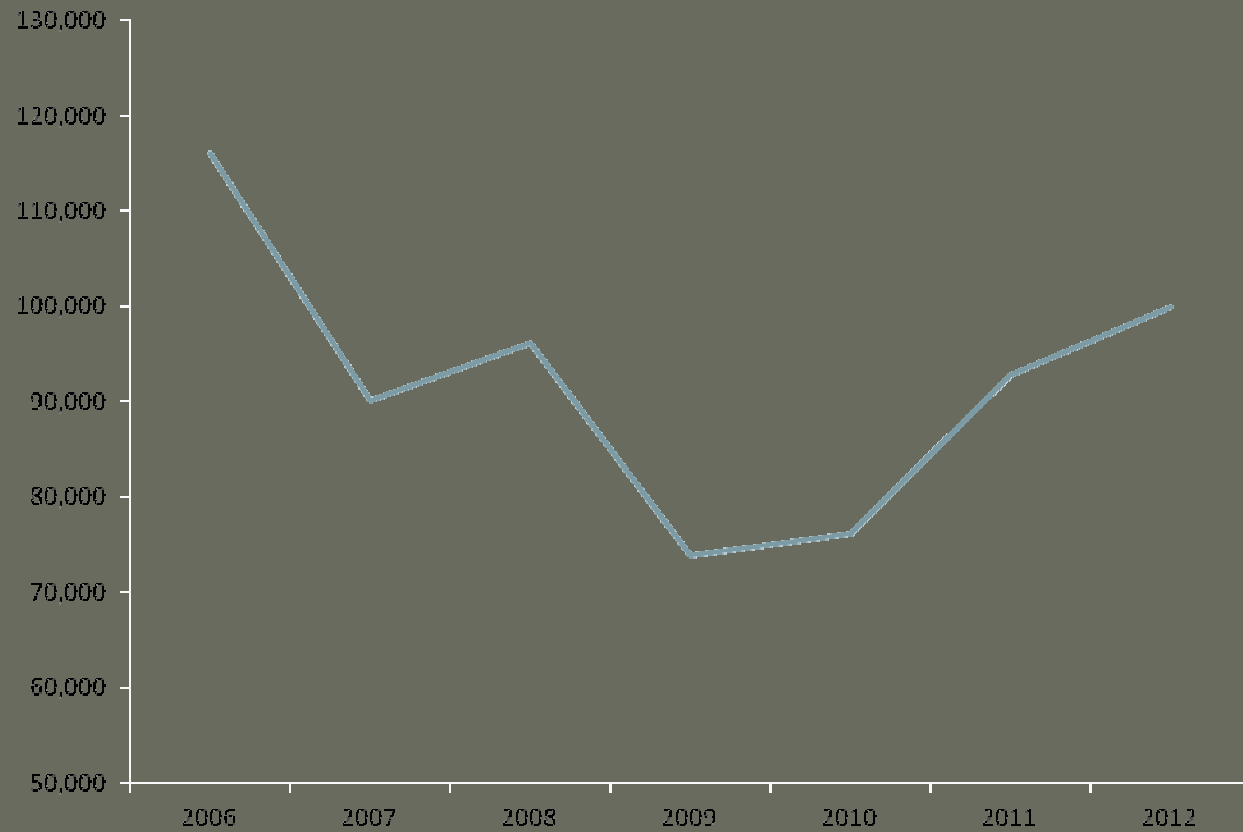
counts

Year	Adams	SW Cape	Disappoint	Total
2006		6,548	110,649	117,197
2007	79	4,786	86,080	90,945
2008	131	5,264	91,694	97,089
2009	132	4,161	70,569	74,862
2010	117	4,370	72,635	77,122
2011	178	5,8462	93,752	99,776
2012	215	6,571	110,778	117,564

close up counts

Year	On nest	Not on nest	Floater %
2006			?
2007	805	4	1%
2008	1 590	29	2%
2009	937	13	1%
2010	607	8	1%
2011	1 007	77	7%
2012	663	116	15%

WCA total counts



population trend

- Assessed using TRIM software
(TRends & Indices for Monitoring Data).
- Standard ACAP tool using log-linear regression models
- average growth rate of -2.19% per year
- moderate decline - significant decline, but not significantly more than 5% per year.

Pannekoek and van Strien, 1996