Gibson's albatross research, Auckland Islands 2015-16: proposed scope

This research forms part of the CSP Annual Plan 2015/16 project POP2015-03, Objective 1.

The overall project objective is to collect information on key aspects of the biology of selected at-risk seabird species in order to reduce uncertainty or bias in estimates of risk from commercial fishing.

The specific objectives for this research are to:

- estimate the population size of Gibson's albatross (POP2015-03 Objective 1A); and
- collect data to estimate adult survival and other demographic parameters at Adams Island (POP2015-03 Objective 1A).

Proposed scope of Objective 1A:

Gibson's albatross are essentially endemic to the Auckland Islands, and breed primarily on Adams Island, with small numbers breeding on Disappointment Island and Auckland Island. The last full census of breeding pairs at Adams Island was conducted in 1997 (Walker & Elliott 1999), with monitoring since that time focussed on study plots comprising approx 12% of the population. Research under this objective will focus on estimating the total population size on Adams Island.

Adams Island is a relatively large subantarctic island (approx. 20 km long), with rough terrain. The previous census counts at Adams Island were made on foot (Walker& Elliott 1999). Since that time, aerial survey methods have been used to successfully estimate population size of several other albatross populations (see Baker et al 2015).

Baker et al (2015) and Walker & Elliott (2015) review census techniques that could be used to estimate the Gibson's albatross population size on Adams Island, including assessment of trial aerial transects conducted at Adams Island in January 2015. Building on recommendations from these assessments, the scope of work proposed for 2015/16 will be:

- an extended ground count, of at least the wider Astrolabe Basin, following methods consistent with previous ground censuses; and
- partial aerial survey using vertically mounted cameras over an area partially overlapping the ground counted area to allow ground truthing and comparison with ground survey methods.

While the results from these activities will not provide an island wide estimate, they will provide a census of a larger area to test whether population trends described in the key study areas are indeed representative of other areas, and will test an aerial method that may be suitable for wider application in future years to assist in obtaining an island wide census if prioritised for future research.

Proposed scope of Objective 1B:

This research will continue the mark-recapture study on Adams Island to collect information on key demographic parameters. This will follow established methods (Walker & Elliot 1999, 2005). The research will comprise data collection and reporting of data collected, but will exclude any detailed analysis of the data to estimate demographic rates. The data will be made available in a format suitable for updated analysis using techniques such as those reported by Francis et al (2015).

Outputs - a report describing research undertaken to estimate the population size for the Auckland Islands; a report describing the mark-recapture research completed; data collected.

Previous CSP population projects on Gibson's albatross include POP2014-02, POP2013-03, POP2012-07, POP2004-02 and BRD2001-01.

References

Baker, G.B., Jensz, K., Hamilton, S. 2015. Assessment of aerial census techniques to robustly estimate the total population size of Gibson's albatross on Adams Island. Research report by Latitude 42 for Department of Conservation, Wellington. 10p.

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