



Lineage – Scientific methodology

Breeding distribution of White-capped albatross

1. A “breeding colony” for New Zealand seabirds is defined as “any location where breeding has been reported and is considered by the expert compiling the species account to have occurred at that location at least until 1998”.
2. An “occasional breeding colony” for New Zealand seabirds is defined as “any location where breeding has been reported, but not necessarily continuously nor during consecutive breeding seasons, and is considered by the expert compiling the species account to have occurred at that location during the last 30 years”.
3. Literature sources were searched for breeding distribution information.
 - a. Scientific papers, published texts, unpublished reports and university theses available to the expert who prepared the distributional layers.
 - b. Aquatic Sciences and Fisheries Abstracts for 1960-2010.
 - c. *OSNZ News* and *Southern Bird* for 1977-2010.
4. Other sources.
 - a. Nil.
5. The mapping of the White-capped albatross breeding colony at Disappointment Island is based on a written description of its location in Robertson (1975) during 1972/73 and in Rebergen (1991) during 1984/85 and 1990/91, that of the breeding colony at main Auckland Island is based on a written description of its location by C.J.R. Robertson (cited in Gales 1998), year unspecified, that of the breeding colony at Adams Island is based on a written description of its location by K. Walker (cited in Gales 1998) during 1992/93, that of the breeding colony at Bollons Island is based on a written description of its location by Tennyson *et al.* (1998) during 1995, that of the occasional breeding colony at Bollons Island is based on a written description of its location by Clark (1996) during 1994 and that of the occasional breeding colony at the Forty Fours is based on a written description of its location by Robertson (1997) during 1991, 1993 and 1996. The colonies have not been surveyed for mapping purposes, and the mapping presented is based on the written descriptions of their locations.
6. Summary

- a. An expert scientist integrated information from the literature and expert opinion, and produced hand-drawn distributional zones on a template map. These maps were then digitised and imported into a GIS software package as layers. The areas of the zones were calculated, and the layers were linked to attribute and metadata files.
- b. The primary sources of breeding distribution data for White-capped albatross were papers published in refereed journals, published texts and unpublished reports.
- c. The white-capped albatross is an endemic species breeding at the Auckland Islands (Auckland, Disappointment and Adams), Antipodes Islands (Bollons Island), and occasionally within the Chatham Islands (Forty-Fours).
- d. The main breeding location is Disappointment Island, with an estimated 60,000 breeding pairs in 1972-73 (Robertson 1975), and 72,000-74,000 pairs from 1984-85 through to 1992-93 (Rebergen 1991, C.J.R. Robertson in Gales 1998), based on counts from the ground and air. Recently, Baker *et al.* (2010), using aerial photography, estimated a total breeding population at Disappointment Island of between 110,649 pairs in 2006-07 and 70,569 pairs in 2009-10. An estimated 3,000 pairs breed at South West Cape, Auckland Island (year unspecified; C.J.R. Robertson in Gales 1998), although Baker *et al.* (2010) estimated a total population of between 6,548 breeding pairs in 2006-07 and 4,161 pairs in 2009-10. Approximately 100 pairs were breeding at Adams Island in 1992-93 (K. Walker in Gales 1998), whereas Baker *et al.* (2010) noted 132 pairs in 2009-10. Tennyson *et al.* (1998) estimated 20 pairs breeding at Bollons Island in 1995, a single pair has nested occasionally at the Forty-Fours during the 1990s (Robertson *et al.* 1997), with perhaps up to three pairs at the Forty-Fours more recently (Fraser *et al.* 2010).
- e. Recent genetic research found little support for treating white-capped albatross and shy albatross as separate species, but that they should retain sub-specific status i.e. *Thalassarche cauta steadi* and *T. c. cauta*, respectively (Abbot & Double 2003a). Abbot & Double (2003b) argued that shy albatrosses were founded through range expansion by white-capped albatrosses.

7. References

The following sources provided useful information on the breeding distribution of this species. This is not an exhaustive list of all references to the species.

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