

The logo for NABIS (New Zealand Biodiversity Information System) features the word "NABIS" in a bold, blue, sans-serif font. To the right of the text is a stylized map of New Zealand with a magnifying glass over it, symbolizing search and discovery.

To view this as a map and many more go to:

www.nabis.govt.nz
web mapping tool

Type the map name into: *Search for a map layer or place*

Lineage – Scientific methodology

Annual distribution of Bounty Island shag lineage

1. Literature sources were searched for 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 - a. Scientific papers, published texts, unpublished reports and university theses available to the expert who prepared the distributional layers.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 1960-2009.
 - c. *OSNZ News* and *Southern Bird* for 1977–2009.
2. Other sources.
 - a. NZSAS (New Zealand Seabirds at Sea) database maintained by Natural Environment, Museum of New Zealand Te Papa Tongarewa, Wellington. Also, a database of daily seabird sightings off Kaikoura January 1999-December 2007 (www.oceanwings.co.nz).
3. 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 - b. The primary sources of distribution data for Bounty Island shag were the NZSAS database, published texts and unpublished reports.
 - c. A distribution “hotspot” for New Zealand seabirds is defined as “an area of increased abundance of a species, as considered by the expert compiling the species account”. Typical examples of hotspots include areas around breeding locations during the breeding season, regardless of the absolute size of the breeding colony, and areas that are consistently and repeatedly favoured as feeding locations.

- d. The Bounty Island shag is endemic to New Zealand, with breeding pairs and all known sightings restricted to the Bounty Islands. A distribution hotspot is centred on this island group.
- e. Bounty Island shags are restricted to coastal waters around the Bounty Islands throughout the year. The distribution of the birds around the islands is not known, but they probably do not usually range far (Marchant & Higgins 1990). The identification of two birds reported from the Antipodes Islands in November 1950 (Warham & Bell 1979) was not established sufficiently to ascribe them to this species (Robertson & van Tets 1982). A record of a Bounty Island shag from the Snares Islands (O'Donnell & West 2001) was rejected as referring to Auckland Island shag *Leucocarbo colensoi* (Miskelly *et al.* 2001).

4. References

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

Jenkins, J. (1981). Birds seen at sea around New Zealand during the 1978 BAAS Expedition. *Australasian Seabird Group Newsletter 16*: 3-16.

Marchant, S.; Higgins, P.J. (1990). Handbook of Australian, New Zealand and Antarctic birds. Volume 1, Part A. Oxford University Press, Melbourne. 735p.

Miskelly, C.M.; Sagar, P.M.; Tennyson, A.J.D.; Scofield, R.P. (2001). Correction: *Leucocarbo* shag at the Snares Islands. *Notornis 48*: 185.

O'Donnell, C.F.J.; West, J.A. (2001). Classified summarised notes, South Island and outlying islands, 1 July 1996 – 30 June 1997. *Notornis 48*: 81-89.

Robertson, C.; Jenkins, J. (1981). Birds seen at sea in southern New Zealand waters, February-June 1981. *Australasian Seabird Group Newsletter 16*: 17-27.

Robertson, C.J.R.; van Tets, G.F. (1982). The status of birds at the Bounty Islands. *Notornis 29*: 311-336.

Taylor, G.A. (2000). Action plan for seabird conservation in New Zealand. Part A: threatened seabirds. Threatened species occasional publication No. 16, Department of Conservation, Wellington. 233p.

Warham, J.; Bell, B.D. (1979). The birds of the Antipodes Island, New Zealand. *Notornis 26*: 121-169.