Atlantic Yellow-nosed Albatross
Thalassarche chlororhynchos

Albatros Pico Amarillo y Negro / Albatros pico fino
Albatros à nez jaune

CRITICALLY ENDANGERED | **ENDANGERED** | VULNERABLE | NEAR THREATENED | LEAST CONCERN | NOT LISTED

Sometimes referred to as
Western Yellow-nosed Albatross
Yellow-nosed Albatross
Molly

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TAXONOMY

Order Procellariiformes
Family Diomedeidae
Genus *Thalassarche*
Species *T. chlororhynchos*

The generic classification of the Diomedeidae family was revised in the 1990s, based on cytochrome-*b* gene sequences, which resulted in the smaller albatrosses (sometimes also known as black-backed albatrosses or mollymawks) being split from the Wandering/Royal albatross clade (genus: *Diomedea*) [1]. The genus *Thalassarche* was resurrected for all Southern Ocean mollymawks, and this taxonomy has gained widespread acceptance [2]. The Atlantic Yellow-nosed Albatross *Thalassarche chlororhynchos* (Gmelin, 1789) was long considered the nominate form of a two-species complex, together with the Indian Yellow-nosed Albatross *T. [c] carteri*. The species-pair was split, based on non-overlapping breeding ranges and consistent plumage and other morphological differences [3]. *Thalassarche chlororhynchos* is now generally considered a monotypic species, including by ACAP [4].

CONSERVATION LISTINGS AND PLANS

International

- Agreement on the Conservation of Albatrosses and Petrels – Annex 1 [4]
- 2008 IUCN Red List of Threatened Species – Endangered (Since 2003) [5]
- Convention on Migratory Species - Listed Species (Appendix II) [6]

Australia

- Recovery Plan for Albatrosses and Petrels (2001) [7]
- Threat Abatement Plan 2006 for the incidental catch (or bycatch) of seabirds during oceanic longline fishing operations [8]
- **South Australia:** *National Parks and Wildlife Act 1972* – Endangered (as *Diomedea chlorrhynchos chlororhynchos*) [9]
- **Western Australia:** *Wildlife conservation Act 1950 - Wildlife Conservation (Specially Protected Fauna) Notice 2008 (2)* – Fauna that is rare or is likely to become extinct [10]
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Brazil

- National Species List of Brazilian Fauna Threatened with Extinction (Lista Nacional das Espécies da Fauna Brasileira Ameaçadas de Extinção) [11]
  - Vulnerable
- National Plan of Action for the Conservation of Albatrosses and Petrels (NPOA-Seabirds Brazil) [12]

South Africa

- *Sea Birds and Seals Protection Act, 1973 (Act No. 46 of 1973) (SBSPA)* [13]
- *Marine Living Resources Act (Act No. 18 of 1996):* Policy on the Management of Seals, Seabirds and Shorebirds: 2007 [14]
- National Plan of Action (NPOA) for Reducing the Incidental Catch of Seabirds in Longline Fisheries 2008 [15]

Tristan da Cunha, UK Overseas Territories

- *The Conservation of Native Organisms and Natural Habitats (Tristan da Cunha) Ordinance 2006* [16]

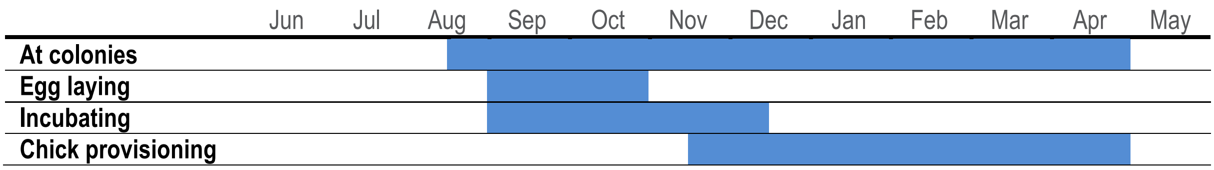
Uruguay

- National Plan of Action for Reducing the Incidental Catch of Seabirds in Uruguayan Fisheries (PAN - Aves Marinas Uruguay) 2007 [17]

BREEDING BIOLOGY

Thalassarche chlororhynchos is an annually breeding species. Birds arrive in the colonies in late-August or September and are present until fledging (March-April) (Table 1) [18]. Egg-laying commences in September, with hatching peaking in late-November and early-December and the chicks fledge in April [18]. The phenology is slightly delayed at Gough Island, possibly reflecting its more southerly latitude. Young birds return to breeding colonies from 5 years of age, and mean recruitment age at Gough Island was 9.7±1.5 years (range 6-13) [19]. Experienced breeders attempt to breed two out of every three years, and 95% Confidence Intervals for success ranged from 62-72% and 62-76% for Gough and Tristan da Cunha, respectively [19].

Table 1. *Breeding cycle of* T. chlororhynchos.



BREEDING STATES

Table 2. *Distribution of the global* T. chlororhynchos *population among Parties to the Agreement.*

	United Kingdom
Breeding pairs	100%

BREEDING SITES

Thalassarche chlororhynchos is endemic to the Tristan da Cunha group (Figure 1, Table 2), breeding on all four major islands (Tristan, Gough, Nightingale and Inaccessible), as well as the satellite islands of Middle and Stoltenhoff (Table 3). Because there are essentially no data for Middle and Stoltenhoff islands except for one population estimate, these are not considered in detail in this account and unless specified, are implicitly treated as part of Nightingale Island. Estimating the total breeding population is difficult because of the different times (in decades) at which different colonies have been counted, especially the largest colony on Tristan (Table 3) [20]. This problem is exacerbated by the small proportion of the total population that is counted at the largest colonies (Tristan da Cunha and Gough), increasing the uncertainty around each estimate. Indeed, the range of the Tristan estimate is much greater than the sum of all other colonies. Global population is estimated to be 50,000-80,000 individuals [21], but the methodology behind this estimate is unclear.

Table 3. Monitoring methods and estimates of the population size (annual breeding pairs) of T. chlororhynchos *for each breeding site. Table based on P. G. Ryan, Percy FitzPatrick Institute, unpublished data (Nightingale Island) and published references as indicated.*

Breeding site location	Jurisdiction	Years monitored	Monitoring method	Monitoring accuracy	Annual breeding pairs (last census)
Tristan da Cunha 37° 10'S, 012° 17'W	United Kingdom	1984-1992, sporadically thereafter	F	Low	16,000-30,000 (1974) [22]
Inaccessible Island 37° 19'S, 012° 44'W	United Kingdom	1983	F	Low	1,100 (1983) [23]
Nightingale Island 37° 26'S, 012° 29'W	United Kingdom	1950s, 1974, 2004, 2007	F	Low	4,000 (2007)
Middle Island		1974	F	Low	100-200 (1974) [22]
Stoltenhof Island		1974	F	Low	500 (1974) [22]
Gough Island 40° 21'S, 009° 53'W	United Kingdom	1982-2008	F	Low	5,300 (2001) [24]

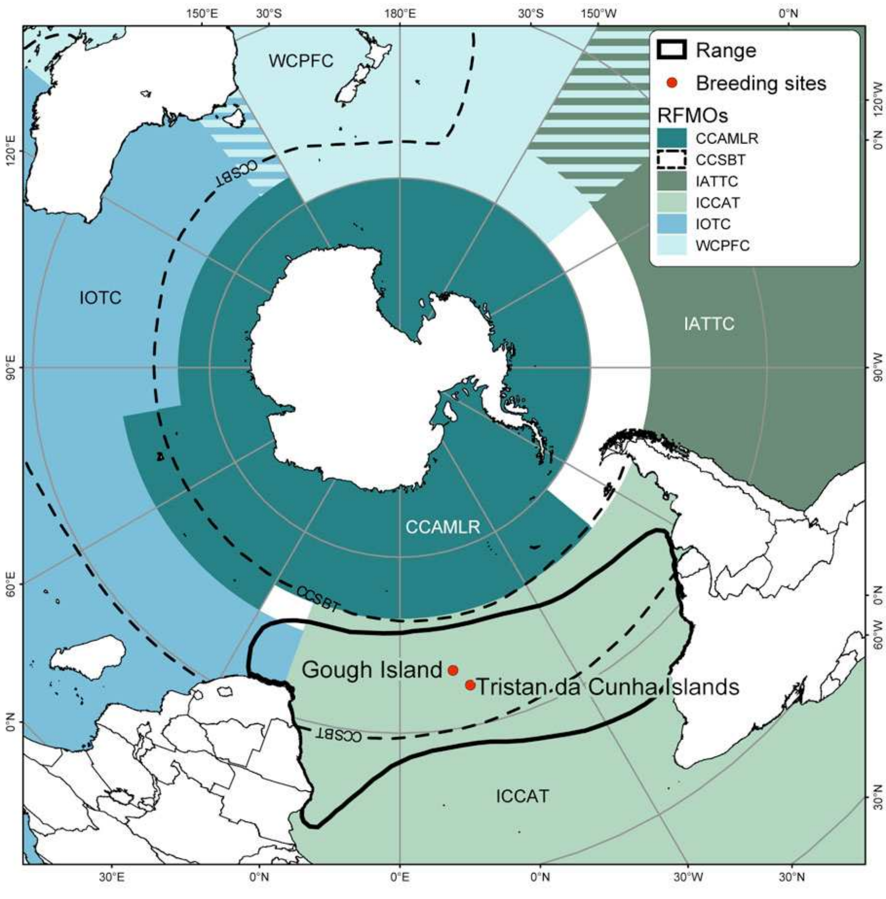


Figure 1. *Location of the two breeding sites and approximate range of* T. chlororhynchos with *the boundaries of selected Regional Fisheries Management Organisations (RFMOs) also shown. Range is based on at-sea observations.*

CCAMLR – Commission for the Conservation of Antarctic Marine Living Resources
CCSBT - Convention for the Conservation of Southern Bluefin Tuna
IATTC - Inter-American Tropical Tuna Commission
ICCAT - International Commission for the Conservation of Atlantic Tunas
IOTC - Indian Ocean Tuna Commission
WCPFC - Western and Central Pacific Fisheries Commission

CONSERVATION LISTINGS AND PLANS FOR THE BREEDING SITES

International

Gough Island, Inaccessible Island

- UNESCO Natural World Heritage Site – the Gough Island reserve was extended to include Inaccessible Island in 2004 [25, 26]
- Ramsar Convention List of Wetlands of International Importance (inscribed 2009) [27]

Tristan da Cunha, UK Overseas Territories

Gough Island, Inaccessible Island

- Nature Reserve - *The Conservation of Native Organisms and Natural Habitats (Tristan da Cunha) Ordinance 2006* [16]
- Gough Island Management Plan [28]
- Inaccessible Island Management Plan [29]

POPULATION TRENDS

Trends cannot be calculated for all populations using linear regressions because of the infrequency of counts and the low proportion of the population that has been counted. Also, some colonies have only received single, fairly crude estimates. There was a suggested decrease between 1989/90 and 1999 at Inaccessible Island, although the observers noted that 1999 was possibly a poor breeding year [30]. A portion of the colony at Nightingale Island increased from 1000 pairs in 1999 to 1200 pairs in 2004 [31]. A recent, more thorough census in 2007 suggested the total island population was 4000 pairs (PG Ryan pers comm). The study colony on Gough Island, the best studied of all breeding sites, has shown a significant decrease from 1986-2001, at an annual rate of 2.3% (Table 4), and a decrease at Tristan da Cunha was similar, but non-significant [19]. Population models based on data up to 2001 predict a population decrease of 1–3% a year at Gough Island and 5-7% p.a. at Tristan da Cunha [19] . Of concern is the increasing proportion of new recruits in the study colony at Gough, which suggests that the observed (and modelled) decrease is real and results from low adult survival [19]. However, numbers of pairs in the study colony began to recover in the 1990s and are now back to their original size; a detailed assessment of survival and recruitment is currently underway (P.G. Ryan, pers. comm.). Although adult survival rates of *T. chlororhynchos* (Table 5) are lower compared to most other *Thalassarche* species, breeding success and juvenile survival are within the observed range for congeners [19].

Table 4. *Summary of population trend data for* T. chlororhynchos *at all breeding sites. Table based on Cuthbert* et al. *2003* [19]*, Ryan and Moloney 2000* [30] *and Ryan 2005* [31]*.*

Breeding site	Current monitoring	Trend years	% average change per year	Trend	% of population for which trend calculated
Tristan da Cunha	Yes	1982-1999	-	Decreasing	<1%
Inaccessible Island	No	1989/90, 1999	-	Decreasing	?
Nightingale Island	No	1972-1974, 1999, 2007	-	Decreasing	?
Gough Island	Yes	1986-2001	-2.3 [19]	Decreasing	*c.*1%

Table 5. *Demographic data for* T. chlororhynchos *at all breeding sites. Table based on Cuthbert* et al. *2003* [19] *and PG Ryan unpubl data.*

Breeding site	Mean breeding success (±SD; Years)	Mean juvenile survival (±SD; Years)	Mean adult survival (±SD; Years)
Tristan da Cunha	69% (±3%; 1984-1991)	No data	84% (±2%; 1984-1991)
Inaccessible Island	No data	No data	No data
Nightingale Island	No data	No data	No data
Gough Island	64% (±3%; 1982-2007)	31% (±8%; 1982-1988)	92% (±1%); 1982-2001)

BREEDING SITES: THREATS

There are currently no known, confirmed threats to *T. chlororhynchos* at any breeding sites. All native organisms on the Tristan group are protected by the Tristan Conservation Ordinance of 2006 [16].

Table 6. *Summary of known threats causing population level changes at the breeding sites of* T. chlororhynchos.

Breeding site	Human disturbance	Human take	Natural disaster	Parasite or Pathogen	Habitat loss or degradation	Predation (alien species)	Contamination
Tristan da Cunha	No [a]	No [a]	No	No	No	No [b]	No
Inaccessible Island	No	No	No	No	No	No [b]	No
Nightingale Island	No	No	No	No	No	No [b]	No
Gough Island	No	No	No	No [c]	No	No [b]	No

[a] Harvesting of chicks and adults by islanders is no longer permitted and the practice appears to have discontinued, although some poaching of eggs and chicks on Tristan may still occur [32].

[b] Tristan da Cunha has black rats *Rattus rattus* and house mice *Mus musculus*, and Gough Island has house mice, both known predators of seabird chicks, including at these two islands [33, 34]. There is, however, no evidence that *T. chlororhynchos* chicks are vulnerable to these introduced mammals. The other breeding sites are free of introduced mammals; Inaccessible Island no longer has feral pigs *Sus scrofa*, which would likely have impacted adults, chicks and eggs [29].

[c] Episodic die-offs of large chicks at Gough Island and other anecdotal data are suggestive of disease, but to date investigations have been inconclusive (R. Wanless, unpublished). There is no evidence of adults being affected, unlike for *T. carteri* at Amsterdam Island [35].

FORAGING ECOLOGY AND DIET

Thalassarche chlororhynchos feeds by surface-seizing and occasionally diving [36]. It also feeds in association with marine mammals or gamefish that bring baitfish to the surface [37, 38]. *Thalassarche chlororhynchos* is strongly attracted to fishing vessels and studies from shelf waters show scavenged food can comprise a large proportion of stomach contents [37, 39]. When not scavenging from fishing vessels its diet is dominated by pelagic fish species [37, 39]. A dietary study of beach-cast birds from Brazil (n=5) and birds caught and drowned on longline vessels off Brazil (n=21) showed fish were the dominant prey type from the former group, and cephalopods and fish were equally important in the latter [40]. The presence of demersal fish species and cephalopod species used in longline fishing, in the diets of longline-caught birds suggested that they were feeding heavily on fishery discards, which sometimes include baited hooks [40].

MARINE DISTRIBUTION

Current information on distribution is based mostly on at-sea observations and recoveries from longline fishing operations. *Thalassarche chlororhynchos* is essentially confined to the South Atlantic Ocean, predominantly between 25-50°S, but, particularly for birds in their first year, extending north into coastal waters off Namibia and Angola [41] (Figure 2). It is present in coastal Atlantic waters year-round [32], and in southern Africa it is more common in winter [37]. There are a few records of birds seen off Australasia and a single bird collected on Middle Sister Island (Chathams) [42] [43]. GLS tracking devices deployed from Gough Island showed non-breeders concentrating in pelagic waters west of the breeding islands as well as travelling farther north in coastal waters off Angola than breeding birds (Figure 3).

Thalassarche chlororhynchos overlaps with five Regional Fisheries Management Organisations (Figure 1; Table 7), but principally the CCSBT, ICCAT and SEAFO (South East Atlantic Fishery Organisation). SEAFO is principally responsible for trawl and artisanal fisheries where albatross mortalities are not well documented, and also manages some pelagic species like the Patagonian toothfish *Dissostichus eleginoides*. United Kingdom, South Africa, Angola, Namibia, Brazil, Uruguay and Argentina are the main Range States for *T. chlororhynchos.*

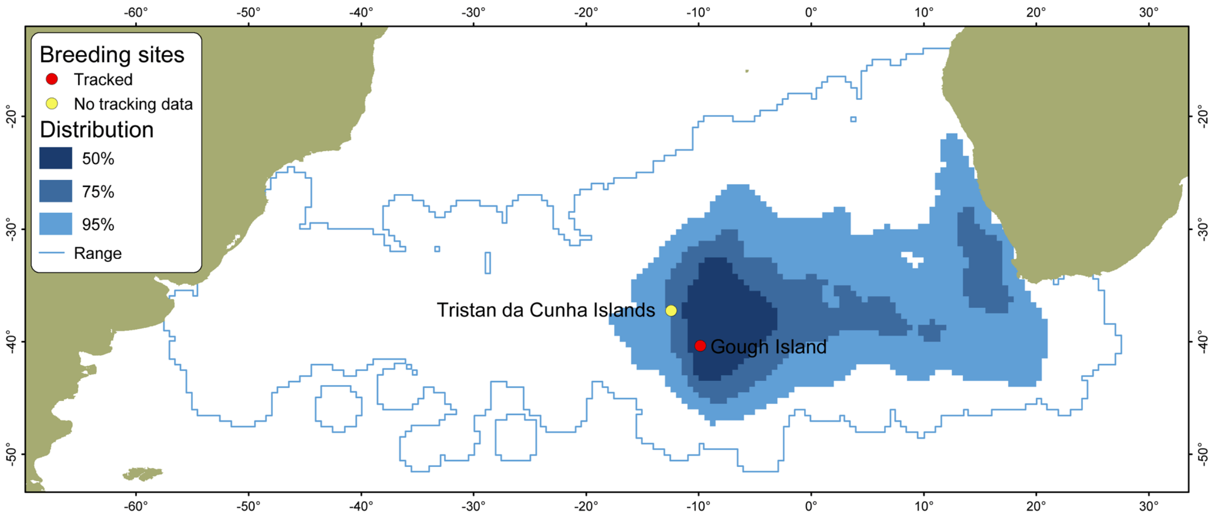


Figure 2. Satellite-tracking data of breeding adult T. chlororhynchos *from Gough Island (Number of tracks = 74). Map based on data contributed to the BirdLife Global Procellariiform Tracking Database [44].*

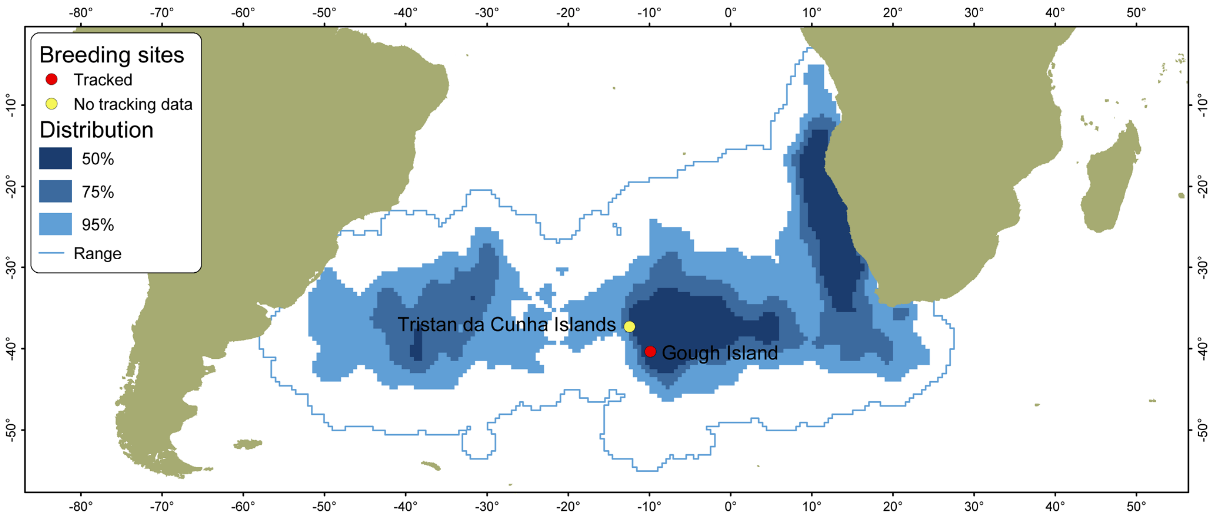


Figure 3. Satellite-tracking data of non-breeding adult T. chlororhynchos *from Gough Island (Number of tracks = 39). Map based on data contributed to the BirdLife Global Procellariiform Tracking Database [44].*

Table 7. *Summary of the known ACAP Range States, non-ACAP Exclusive Economic Zones and Regional Fisheries Management Organisations that overlap with the marine distribution of* T. chlororhynchos. *NOTE: Full extent of foraging range for non-breeding individuals is unknown. Records of "Yellow-nosed Albatrosses" occur in several other areas but have not been attributed specifically.*

	Breeding and feeding range	**Foraging range only**	**Few records - outside core foraging range**
Known ACAP Range States	United Kingdom	Argentina Brazil South Africa Uruguay	-
Non-ACAP Exclusive Economic Zones	-	Angola Namibia	-
Regional Fisheries Management Organisations [1]	CCSBT ICCAT SEAFO	IOTC	CCAMLR

[1] see Figure 1 and text for list of acronyms

MARINE THREATS

Thalassarche chlororhynchos is very vulnerable to being caught on longlines and may drown through interactions with trawl warps, principally in waters where its range overlaps with Brazilian and southern African fisheries [12, 39, 45, 46, 47, 48]. *Thalassarche chlororhynchos* was estimated to be captured at a rate of 0.011 birds per 1000 hooks between 2001 and 2007 in the domestic pelagic longline fisheries targeting swordfish, tunas and sharks in Brazil's EEZ and adjacent international waters between 22 to 38°S and 26 to 53°W [49]. *Thalassarche chlororhynchos* is also thought to be one of the most frequently killed species in pelagic longlining and trawling operations in Namibian waters where assessments of seabird bycatch are just emerging [50, 51]. Fisheries-related mortality is considered to be the main cause of the observed and modelled decreases at all study colonies [19]. This is supported by a significant temporal correlation between survival of adult Tristan birds and longline fishing effort in the south Atlantic Ocean [19]. Plastic ingestion occurs, but its effects are unknown [40].

KEY GAPS IN SPECIES ASSESSMENT

The key conservation concern for *T. chlororhynchos* derives from fatal interactions with fisheries. Better compliance with regulations and mitigation measures, and more comprehensive data collection, especially with respect to illegal, unregulated and unreported fishing, would improve our understanding of the extent of this threat. More accurate census data from Tristan da Cunha would greatly improve confidence around the population estimate [21]. The juvenile survival estimates are limited and current adult survival rates are lacking.

Photo © R. Wanless & A. Angel

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RECOMMENDED CITATION

Agreement on the Conservation of Albatrosses and Petrels. 2009. ACAP Species assessment: Atlantic Yellow-nosed Albatross *Thalassarche chlororhynchos.* Downloaded from http://www.acap.aq on 1 September 2009.

GLOSSARY AND NOTES

(i) **Years**.
The "split-year" system is used. Any count (whether breeding pairs or fledglings) made in the austral summer (e.g. of 1993/94) is reported as the second half of this split year (i.e. 1994).

The only species which present potential problems in this respect are *Diomedea* albatrosses, which lay in December-January, but whose fledglings do not depart until the following October-December. In order to keep records of each breeding season together, breeding counts from e.g. December 1993-January 1994 and productivity counts (of chicks/fledglings) of October-December 1994 are reported as 1994.

If a range of years is presented, it should be assumed that the monitoring was continuous during that time. If the years of monitoring are discontinuous, the actual years in which monitoring occurred are indicated.

(ii) Methods Rating Matrix (based on NZ rating system)

METHOD
A Counts of nesting adults (Errors here are detection errors (the probability of not detecting a bird despite its being present during a survey), the "nest-failure error" (the probability of not counting a nesting bird because the nest had failed prior to the survey, or had not laid at the time of the survey) and sampling error).
B Counts of chicks (Errors here are detection error, sampling and nest-failure error. The latter is probably harder to estimate later in the breeding season than during the incubation period, due to the tendency for egg- and chick-failures to show high interannual variability compared with breeding frequency within a species).
C Counts of nest sites (Errors here are detection error, sampling error and "occupancy error" (probability of counting a site or burrow as active despite it's not being used for nesting by birds during the season).
D Aerial-photo (Errors here are detection errors, nest-failure error, occupancy error and sampling error (error associated with counting sites from photographs), and "visual obstruction bias" - the obstruction of nest sites from view, always underestimating numbers).
E Ship- or ground- based photo (Errors here are detection error, nest-failure error, occupancy error, sampling error and "visual obstruction bias" (the obstruction of nest sites from view from low-angle photos, always underestimating numbers)
F Unknown
G Count of eggs in subsample population
H Count of chicks in subsample population and extrapolation (chicks x breeding success - no count of eggs)

RELIABILITY
1 Census with errors estimated
2 Distance-sampling of representative portions of colonies/sites with errors estimated
3 Survey of quadrats or transects of representative portions of colonies/sites with errors estimated
4 Survey of quadrats or transects without representative sampling but with errors estimated
5 Survey of quadrats or transects without representative sampling nor errors estimated
6 Unknown

(iii) Population Survey Accuracy
High Within 10% of stated figure;
Medium Within 50% of stated figure;
Low Within 100% of stated figure (eg coarsely assessed via area of occupancy and assumed density)
Unknown

(iv) Population Trend
Where calculated, trend analyses were run in TRIM software using the linear trend model with stepwise selection of change points (missing values removed) with serial correlation taken into account but not overdispersion.

(v) Productivity (Breeding Success)
Defined as proportion of eggs that survive to chicks at/near time of fledging unless indicated otherwise

(vi) Juvenile Survival
defined as:
1 Survival to first return/resight;
2 Survival to x age (x specified), or
3 Survival to recruitment into breeding population
4 Other
5 Unknown

(vii) Threats
A combination of scope (proportion of population) and severity (intensity) provide a level or magnitude of threat. Both scope and severity assess not only current threat impacts but also the anticipated threat impacts over the next decade or so, assuming the continuation of current conditions and trends.

		Scope (% population affected)			
		Very High (71-100%)	High (31-70%)	Medium (11-30%)	Low (1-10%)
Severity (likely % reduction of affected population within ten years)	Very High (71-100%)	**Very High**	**High**	**Medium**	**Low**
	High (31-70%)	**High**	**High**	**Medium**	**Low**
	Medium (11-30%)	**Medium**	**Medium**	**Medium**	**Low**
	Low (1-10%)	**Low**	**Low**	**Low**	**Low**

(viii) Maps
The satellite-tracking maps shown were created from platform terminal transmitter (PTT) and global-positioning system (GPS) loggers. The tracks were sampled at hourly intervals and then used to produce kernel density distributions, which have been simplified in the maps to show the 50%, 75% and 95% utilisation distributions (i.e. where the birds spend x% of their time). The full range (i.e. 100% utilisation distribution) is also shown. Note that the smoothing parameter used to create the kernel grids was 1 degree, so the full range will show the area within 1 degree of a track. In some cases the PTTs were duty-cycled: if the off cycle was more than 24 hours it was not assumed that the bird flew in a straight line between successive on cycles, resulting in isolated 'blobs' on the distribution maps. It is important to realise that these maps can only show where tracked birds were, and blank areas on the maps do not necessarily indicate an absence of the particular species.