

AGREEMENT FOR THE CONSERVATION OF SOUTHERN HEMISPHERE ALBATROSSES

THE CONSERVATION STATUS OF ALBATROSSES

INFORMATION PAPER

June 2000

Purpose

The purpose of this paper is to review and assess the key issues related to the conservation of albatrosses, including:

- conservation status; and
- threats to albatrosses.

Background

In May 1997 the Conference of Parties (COP) to the CMS adopted an Australian proposal that the eleven species of albatross found in southern hemisphere waters be listed on the Appendices to the Convention. Amsterdam albatross were listed on Appendix I and the other species on Appendix II. The same COP adopted a nomination by the Netherlands that the two northern hemisphere species also be listed on Appendix II. Prior to this only the short-tailed albatross was listed (on Appendix I).

A recent review of the taxonomy of albatrosses has split the 11 listed Southern Hemisphere species into 21 species (Nunn *et al.*, 1996, Robertson and Nunn, 1997, see Table 1). This taxonomic revision is widely accepted by albatross researchers. It is likely that the CMS will automatically revise their Appendices to accord with this taxonomic review.

The listing of southern hemisphere albatross species on the Appendices of CMS carries with it an encouragement for Range States to develop an Agreement for the conservation of these species.

The November 1999 COP to the CMS recommended that all range states actively participate in the development and successful conclusion of an agreement for the conservation of southern hemisphere albatrosses. The COP also accepted Australia's offer to initiate further discussions with all range states in 2000.

Conservation status of southern hemisphere albatrosses and threats

The status of albatross populations is increasingly a focus of attention for seabird biologists, conservation groups, fisheries scientists and managers, fishing practitioners and industry representatives. This is primarily due to realisation of the high number of birds being killed during commercial fishing operations, resulting in the decrease of many albatross populations.

Gales (1997) reviewed the conservation status of all the world's albatrosses within the framework of recent taxonomic changes. This paper:

- presented estimates of size of breeding populations at all known breeding localities of each of the 24 albatross species;
- assessed population trends where sufficient data was available; and
- reviewed the threats currently facing each species.

For two-thirds of the world's 150 albatross populations, their status (i.e. population trends) remain unknown, despite increased efforts in population monitoring. However, for those that are known, almost half are decreasing. Gales' paper is used extensively here to summarise the situation for southern hemisphere albatrosses.

Status assessments focus at the level of taxonomically defined units, usually at the species level. The extent of the recent taxonomic revision of albatrosses, and the fact that this may still undergo further development, makes it important also to review the status of albatrosses at the island population level. Consideration at the population level improves understanding of the status of albatrosses and the threats they face, and is of particular importance in relation to management and conservation issues.

Table 2 summarises the documented threats which currently affect southern hemisphere albatrosses. The best available evidence indicates that demersal and pelagic longline fishing is the most serious threat facing albatrosses today. Most albatross species are known to be killed on longline hooks, including rare and endangered species. Other threats include human predation and disturbance, plastic ingestion, habitat disturbance, oil and chemical pollutants in the marine environment, and disease.

Species profiles

1. Wandering Albatross *Diomedea exulans*

Previous name Wandering Albatross *Diomedea exulans exulans*

Breeding Distribution

South Georgia (Isla Georgia del Sur); Crozet and Kerguelen Islands; Marion and Prince Edward Islands; Macquarie Island.

Breeding frequency and season

Biennial breeder (when successful). Most eggs laid between December and February, the eggs are incubated for ca. 11 weeks, chicks hatch in March-April and fledge 40 weeks later between November and February.

Population Size

Annual breeding population estimated at 8 500 pairs, representing about 28 000 mature individuals, perhaps 55 000 birds in total. Reliability of survey data for this species is generally good, with time series population data for at least five island sites. Most Wandering Albatrosses breed in the South African sector, with the Marion Island and Prince Edward Island populations accounting for 36% of the global population.

Status

The status of eight populations is known, and of these three are thought to be increasing, four are decreasing and one is stable. The tiny Macquarie Island population is currently stable after previous declines, currently with 10 pairs breeding annually.

The rates of population decrease vary according to population and the time frame over which changes are assessed. The Ile de la Possession (Crozet Islands) population has decreased by over 50% over the last two decades, compared to the 28% population decrease documented for the Bird Island (South Georgia (Isla Georgia del Sur)) population since the early 1960s. The rate

of decrease of the Crozet population has changed from -7% pa (1970-76), to -1.4% pa (1977-85) and has recently started to recover at 4% pa (1986-95). The Bird Island population, however, continues to decrease.

Threats

The major factor affecting this species is mortality associated with commercial fishing operations, particularly longlining, a view supported by assessments at the 1995 Albatross Conference and by Birdlife International. Whilst other fishing operations also impact on the species (eg: trawling and dropline fishing), the extent of mortality is much less than that associated with longline fishing.

Longline fishing does not affect Wandering Albatrosses equally across their range because different populations have different foraging distributions, and this affects the extent of overlap with fisheries. The South Georgia (Isla Georgia del Sur) population may be most at risk from longline fishing operations throughout the southern sectors of the Atlantic, Indian and Pacific Oceans, whereas the Crozet population is more vulnerable to fishing operations within the Indian Ocean and Australian region. The vulnerability of Wandering Albatrosses to longline fishing may also differ within populations as a result of specific migration patterns during the breeding season and by birds of different sex, age and breeding status (and so influence extent of exposure to longline fishing).

The status of populations is dependent upon the spatial and temporal distribution of longline fishing effort. The recent signs of recovery, evidenced by increases in both adult and juvenile survival rates of the Crozet Island Wandering Albatross population, have been ascribed to the shift in longline fishing effort away from the birds foraging grounds.

2. TRISTAN ALBATROSS *Diomedea dabbenena*

Previous name Wandering Albatross *Diomedea exulans dabbenena*

Breeding Distribution

Inaccessible Island (Tristan da Cunha group) and Gough Island.

Breeding frequency and season

Biennial breeder (when successful). No published studies of breeding ecology, presumed most eggs laid between December and February and chicks fledge the following November to February.

Population Size

The total breeding population is estimated at fewer than 2 000 pairs. This suggests about 1 000 pairs breeding in any one year and perhaps 6 000 - 7 000 birds in the total global population. This species is virtually restricted to Gough Island with only two to three pairs breeding each year on Inaccessible Island in the Tristan da Cunha group. The reliability of survey data for the population on Gough Island is poor, the only available data being a rough estimate in the 1980s.

Status

As there are no time series data for the population on Gough Island, the status of this population is unknown. Given the trends of other albatross populations in the Indian Ocean it

is likely that this population also has decreased since the 1980s. The population on Inaccessible Island was much larger in the past but the current population of 2-3 pairs appears to be stable. Historically, Tristan Albatrosses also bred on the main island of the Tristan Group but were extirpated by humans at the turn of the Century.

Threats

Human persecution of Tristan Albatrosses at the breeding sites has been largely (if not totally) eliminated. Whilst small plastic particles have been collected from regurgitates of Tristan Albatrosses on Gough Island, the most likely threat to this population comes from longline fishing. Band returns confirm that Tristan Albatrosses from Gough Island are killed on longline hooks, and the foraging distribution of this species, which encompasses the South Atlantic Ocean and coastal regions of Southern Africa, place the species in contact with numerous longline fleets. Knowledge of the population status of this species and extent of fishing-related mortalities is urgently required.

3. ANTIPODEAN ALBATROSS *Diomedea antipodensis*

Previous name Wandering Albatross *Diomedea exulans antipodensis*

Breeding Distribution

Antipodes Island and Campbell Island.

Breeding frequency and season

Biennial breeder (when successful). Egg laying starts in January (Antipodes Island) and February (Campbell Island) and chicks fledge between January and March the following year.

Population Size

The annual breeding population is estimated at 5 150 pairs, indicating a global population of 17 000 adults, or 33 000 individuals. The species is essentially restricted to Antipodes Island, although about six pairs also breed on Campbell Island each year.

Status

Endemic to New Zealand. The current estimates of population size are reliable. A lack of comparable data prior to 1994, however, precludes any assessment of the status of the Antipodes Island population. Occasional surveys of the Campbell Island population of Antipodean Albatrosses since the 1960s suggests that this population has been stable at low numbers for at least three decades.

Threats

The only factor which has been identified as a threat to Antipodean Albatrosses is longline fishing. This species has been confirmed as being killed on longlines targeting tuna in New Zealand waters. Outside the breeding season, this species is known to migrate from New Zealand eastwards to Chile and the Patagonian shelf before returning to New Zealand sea mounts and the Tasman. The flights over the southern Pacific Ocean and Tasman Sea would put it in contact with oceanic longline fleets. The prolonged periods spent off the coast of Chile, an area where longline fishing effort is increasing, also presents a threat to individuals of this species.

4. GIBSON'S ALBATROSS *Diomedea gibsoni*

Previous name Wandering Albatross *Diomedea exulans gibsoni*

Breeding Distribution

Auckland Island.

Breeding frequency and season

Biennial breeder (when successful). Most eggs laid between December and January and chicks fledge the following year between January and February.

Population Size

The annual breeding population of Gibson's Albatrosses is estimated at about 6 200 pairs breeding each year, perhaps 10 000 pairs in total, or 40 000 individuals. This species is restricted to breeding on three islands within the New Zealand sub-antarctic Auckland Island group: Adams Island (5 800 pairs; 95% population), Disappointment Island (250 pairs; 4% population) and Auckland Island (65 pairs; 1% population).

Status

Endemic to New Zealand. The Gibson's Albatross population on Adams Island was estimated as 13 000 pairs in the 1970s but inconsistent survey techniques preclude valid comparisons with more recent information. This population has been studied annually since 1991 so knowledge of recent population trends should soon be forthcoming.

Threats

On Auckland Island the effects of introduced pests (cats and pigs) have the potential to limit the breeding success of Gibson's Albatrosses. The only other threat identified for the species is longline fishing. Gibson's Albatrosses were a significant bycatch species in the tuna longline fishery operating in New Zealand waters between 1988 and 1992 (Murray *et al.* 1993). This species is also killed on longline hooks deployed to catch tuna in the Australian region (Gales, Brothers and Reid unpublished data).

Satellite tracking studies have shown that Gibson's Albatrosses traverse areas over the Tasman sea and eastwards into the Pacific Ocean during the breeding season. Foraging areas used by males and females were mutually exclusive, with female birds frequenting the Tasman Sea in the vicinity of 40° S, whilst the males dispersed westwards at lower latitudes or, alternatively, travelled northeast towards the mid-Pacific Ocean (Elliot *et al.* 1995). These differences, and the sex-specific adult survival rates (males being higher than females; Walker and Elliot 1995) may not be coincidental. The continuing studies of this species should clarify the role of longline fishing in the population and conservation status of Gibson's Albatrosses.

5. NORTHERN ROYAL ALBATROSS *Diomedea sanfordi*

Previous name Northern Royal Albatross *Diomedea epomophora sanfordi*

Breeding Distribution

Chatham Islands, (Big and Little Sister, and the Forty Fours), South Island (Taiaroa Head) of New Zealand.

Breeding frequency and season

Biennial breeder (when successful). The full breeding cycle usually extends from November to September. Egg period lasts 79 days and nestling period about 240 days.

Population Size

The annual breeding population is estimated at about 5 200 pairs, equivalent to a total breeding population of 8 500 pairs, and perhaps 34 000 individuals in total. The Chatham Islands population accounts for > 99% of the population, with < 20 pairs breeding at Taiaroa Head each year. This small population includes five Southern Royal x Northern Royal Albatross hybrids, mixed pairs also occur at Enderby Island.

Status

Endemic to New Zealand. The population of Northern Royal Albatrosses at the Chatham Islands is decreasing and this trend is expected to continue (see below). The population at Taiaroa Head, established in 1920, is slowly increasing being assisted by intensive human surveillance and management.

Threats

In the past, harvesting by humans has affected the Northern Royal Albatrosses on the Chatham Islands and though now illegal, small-scale harvesting of chicks is still thought to occur. The current population decrease of this population however is thought to be mainly a result of nesting habitat degradation following severe storms in the 1980s. The effects of climatic changes and perturbations, which result in changes to the nesting habitat either through drying out or storm damage, are likely to have a significant effect on the status of this species for many years to come. The mainland colony of Northern Royal Albatrosses at Taiaroa Head (Dunedin, New Zealand) has increased, assisted by control of predators and human interference, and despite the incidence of flystrike which is responsible for some mortality of hatchlings.

Fishing operations also affect Northern Royal Albatrosses. These birds are caught on longlines in the waters off southern Australia, and their extensive oceanic distribution exposes them to interactions with an array of longline operations. Fishing-related mortality at sea, whilst perhaps not the primary threat to this species, serves to hasten the decrease of the population.

6. SOUTHERN ROYAL ALBATROSS *Diomedea epomophora*

Previous name Southern Royal Albatross *Diomedea epomophora epomophora*

Breeding Distribution

Campbell Island, Enderby Island, Adams Island and Auckland Island.

Breeding frequency and season

Biennial breeder (when successful). Most eggs laid in November-December, chicks hatch in February-March and fledge after eight months in October-November.

Population Size

The annual breeding population is estimated as about 7 870 pairs, equivalent to a total breeding population of ca. 13 000 pairs, and perhaps 50 000 individuals in total. There are four

breeding sites but >99% of birds breed at Campbell Island, while the remaining three populations have fewer than 55 pairs breeding annually.

Status

The status of Southern Royal albatrosses at Campbell Island is thought to be increasing but interpretation of counts is difficult due to inconsistent census efforts. The breeding population appears to have increased (at least until the 1980s), recovering from the effects of human predation during the sealing era, and the effects of burning and grazing during the farming era (until 1931). Fluctuations in the numbers of annual breeding population (23% between 1995 and 1996) make recent trends difficult to interpret. The relict population at Enderby Island is currently increasing, following recolonisation in 1940 after extirpation in the 1860s.

Threats

The impacts associated with the sealing and farming periods on Campbell Island ceased in the 1930s. At sea, trawling operations are known to have killed Southern Royal Albatrosses, but this appears to have been mitigated on vessels where the use of netsonde monitor cables were abolished. Today, longlining represents the major threat to Southern Royal Albatrosses. Southern Royal Albatrosses are known to have been caught on longlines in the South Atlantic Ocean, the Indian Ocean and in the Australian Fishing Zone (AFZ). All banded Southern Royal Albatrosses caught in the AFZ are from Campbell Island. The circumpolar dispersal of this species allows for extensive overlap with longline operations, and the nature and magnitude of the bycatch for most of these fleets remaining to be quantified.

7. AMSTERDAM ALBATROSS *Diomedea amsterdamensis*

Previous name Amsterdam Albatross *Diomedea amsterdamensis*

Breeding Distribution

Amsterdam Island (southern Indian Ocean).

Breeding frequency and season

Biennial breeder (when successful). Most eggs laid in February-March, chicks hatch in May and fledge in January-February of the following year.

Population Size

Total breeding population estimated at 20 pairs (ca. 13 eggs laid each year), perhaps 90 birds in total. One breeding site.

Status

Endemic to Amsterdam Island, an external territory of France. Classified as *Critically Endangered* (Collar *et al.* 1994).

Threats

Subfossil records show that population was historically much larger, restriction of current population being caused by fire and habitat degradation by cattle, and probably by deaths associated with fishing. The impact of cattle is now restricted by exclusion fences, but predation by cats and rats remains a potential threat. The current population trend mirrors that of other Wandering Albatross populations in the Indian Ocean, and may have been

similarly depleted by deaths on longline hooks set in proximity to the island during the 1970s and 1980s. Whilst these local fishing activities have contracted, there are concerns regarding overlap between these birds and longliners operating in subtropical-tropical waters. Amsterdam Albatrosses were recorded as bycatch on longliners operating south of Tasmania in 1992. For this *Critically Endangered* species, any increase in mortality rates above natural levels would likely be catastrophic.

8. WAVED ALBATROSS *Phoebastria irrorata*

Previous name Waved Albatross *Diomedea irrorata*

Breeding Distribution

Espanola Island (Galapagos Is.) and La Plata Island.

Breeding frequency and season

Annual breeding. Most eggs laid in May (April-June), chicks hatch in July and fledge in December.

Population Size

Breeding population estimated at c. 15 590 pairs, perhaps 70 000 - 80 000 birds in total. Two breeding sites, with >99.9% (n=15 580) eggs laid on Isla Espanola (Galapagos Islands), and only ca. 10 eggs laid each year on La Plata Island (Ecuador).

Status

Endemic to Ecuador. Considered *Near Threatened* (Collar *et al.* 1994). Only two surveys have been conducted at Isla Espanola between 1970 (at least 12 000 pairs) and 1994 (two estimates from same survey: 15 581 pairs by Anderson 1995 and "approximately 17 000 pairs" by Douglas 1995); hence the population status cannot yet be confirmed. The status of the La Plata Island population is also unknown. Restriction of breeding range to only two sites greatly enhances the potential significance of any threat.

Threats

Mass abandonment of colonies and loss of eggs through egg rolling contribute to breeding failures (egg rolling behaviour occurs when no nesting material is available and is thought to result from thermal stress). The introduction of goats in the past may have had an indirect impact due to vegetation destruction and thermal exposure of the nest sites. Goats have since been removed from Isla Espanola but persist on La Plata Island. Flooding may also occasionally cause nest failure.

It is not known if Waved Albatrosses have been caught on longline hooks as there have been no observations aboard fishing vessels in areas frequented by the birds. From satellite tracking studies it is clear that there is overlap between longline activities and the foraging areas of the birds but observations suggest that Waved Albatrosses do not readily follow boats. Waved Albatrosses are, however, known to be scavengers of squid and the potential exists of a learned response by the birds to taking squid baited hooks should longline fisheries become more concentrated in the vicinity of the breeding grounds. Both legal and illegal longline fishing efforts for tuna and other pelagic fish have increased in the waters surrounding the Galapagos Islands.

Examination of the presence of interactions with fishing practices in the foraging range of these birds remains a high priority. There are still no available data regarding seabird bycatch from the Peruvian region, although Greenpeace International have received reports of seabird bycatch in the area.

9. BLACK-BROWED ALBATROSS *Thalassarche melanophrys*

Previous name Black-browed Albatross *Diomedea melanophrys*

Breeding Distribution

Falkland Islands (Islas Malvinas); South Georgia (Isla Georgia del Sur); Cape Horn; Crozet Islands, Kerguelen Islands; Heard and McDonald Islands, Macquarie Island, Bishop and Clerk Islands; Antipodes Islands, Campbell Island, and Snares Island.

Breeding Frequency and Season

Annual breeding. Timing of breeding varies with location, but generally the breeding season extends from September to April.

Population Size

The most abundant of the southern albatross species. Current population is approximately 682 000 breeding pairs, perhaps three million birds in total. This species is most numerous at the Falkland Islands (Islas Malvinas) (80% of global populations), particularly at Steeple Jason Island where about 250 000 pairs breed annually. The smallest Black-browed Albatross populations occur on the Australian and New Zealand sub-antarctic islands.

Status

Black-browed Albatrosses are the most widely distributed of all albatross species and their population status varies with respect to location of colony. The status of many of the smaller populations is not known, although current studies in both the Australian and New Zealand sectors should partially redress this situation. Whilst some colonies have shown signs of increases, low rates of adult survival and juvenile recruitment at the two most intensively studied populations (Bird Island and Kerguelen Island) are causing the populations to decline.

Threats

The complex picture of the status of the various Black-browed Albatross populations is most likely a consequence of the differing degree of interactions between this species and various fishing operations. During the breeding season, Black-browed Albatrosses forage in continental shelf waters and birds from different colonies within island breeding sites may frequent different regions of these shelf waters. The use of different foraging grounds by the different populations may explain disparate trends in status between colonies; birds from some colonies being afforded short-term gains by commuting to waters used by trawlers (and scavenge from discards), and birds from other colonies foraging in areas heavily fished by longliners.

Given the distribution of fishing effort in relation to the colonies of this species, and the local nature of the birds foraging during the breeding season, Black-browed Albatrosses may face the greatest threats from fisheries of any albatross species. Outside of the breeding season these birds travel to more distant shelf waters, and so interactions with fisheries depend on the

concentration of fishing in each area. For example, the developing Hake longline fishery off the South African coast will most likely affect Black-browed Albatrosses from South Georgia (Isla Georgia del Sur), whereas Black-browed Albatrosses from the Falkland Islands (Islas Malvinas) most likely interact with longline operations off the Patagonian shelf.

Longline fishing off Australia by Japanese and Australian fleets is known to kill Black-browed Albatrosses from Kerguelen and Macquarie Islands. Black-browed Albatrosses are one of the commonest species in the seabird bycatch off Australia, but band returns from Black-browed Albatrosses killed on longlines off Australia are restricted to birds from Kerguelen Island (annual breeding population of ca. 3000 pairs whose status is decreasing) and Macquarie Island (annual breeding population 38 pairs, with an unknown status).

Longlining thus constitutes the primary threat to Black-browed Albatrosses, with Australasian longlining representing the major threat to Indian Ocean and Australian populations. Longlining off Africa threatens the South Georgia (Isla Georgia del Sur) population and longlining off South America threatens the Falkland (Malvinas) and Chilean populations.

10. CAMPBELL ALBATROSS *Thalassarche impavida*

Previous name Black-browed Albatross *Diomedea melanophrys impavida*
(or New Zealand Black-browed Albatross)

Breeding Distribution

Campbell Island.

Breeding Frequency and Season

Annual breeding. Adults return to colonies in August, laying eggs in September-October. Successful breeders and chicks depart colonies in April-May.

Population Size

The 26 000 pairs are restricted to Campbell Island.

Status

Endemic to New Zealand. Photographic evidence suggests decreases in the population between the 1960s and 1980s, one colony decreasing by 33% (Moore 1995). Current status during the 1990s not yet determined.

Threats

In the past human predation and sheep have affected the Campbell Albatross population. These threats no longer exist and predation of eggs and chicks by skuas (*Catharacta lonnbergi*) and Northern Giant Petrels (*Macronectes halli*) are the only identified threats to the species on land.

At sea, Campbell Albatrosses are mainly confined to the waters off southern Australia and New Zealand and the western Pacific Ocean. High capture rates of Campbell Albatrosses have been recorded from longliners operating off New Zealand and southern Australia. Bycatch of this species in New Zealand constitutes mainly new juveniles, but adults in breeding condition are also caught during summer off the Tasmanian coast. Of all returns recovered from banded albatrosses killed on longliners off Australia between 1987 and 1994, 13% were from Campbell

Albatrosses. This evidence confirms that Australasian longlining is the major threat facing Campbell Albatrosses.

11. BULLER'S ALBATROSS *Thalassarche bulleri*

Previous name Buller's Albatross *Diomedea bulleri bulleri*
(or Southern Buller's Albatross)

Breeding Distribution

Snares and Solander Islands (Solander Island and Little Solander Island).

Breeding Frequency and Season

The breeding biology of this species is poorly known. They are typically annual breeders, the adults returning to the colonies in December. Eggs are laid in January-February, their chicks hatch in March-April and fledge from late August to late October.

Population Size

The breeding population estimated at about 11 000 pairs, perhaps 50 000 to 55 000 birds in total. Most of these birds are from the Snares Islands population (77% of the population), with the remainder from Solander and Little Solander islands.

Status

Endemic to New Zealand. Considered *Near Threatened* by Collar *et al.* (1994). Given the paucity of reliable survey data for this species, determination of population status is not possible at present. Current research should soon clarify the current status of this species.

Threats

The only identified threat facing Buller's Albatrosses is mortality associated with fishing activities. Many Buller's Albatrosses are known to have been killed by colliding with netsonde monitor cables on trawlers, but this source of mortality has been mitigated with the prohibition of this apparatus, at least in New Zealand waters. Buller's Albatrosses are also known to be hooked on longlines in waters off Australia and New Zealand. The autumn/winter breeding characteristic of Buller's Albatrosses focuses the risk from longlining as it is during the winter months that fishing effort is concentrated within the foraging range of breeding adults.

The current research into the demographic status and oceanic distribution of Buller's Albatrosses will assist understanding of impacts associated with longline fishing on this species.

12. PACIFIC ALBATROSS *Thalassarche nov. sp.*

Previous name Buller's Albatross *Diomedea bulleri platei*
(or Northern Buller's Albatross)

Breeding Distribution

Three Kings and Chatham Islands (Big and Little Sister Islands, and the Forty Fours).

Breeding Frequency and Season

Annual breeding. Pacific Albatrosses lay eggs in November, hatch in January and chicks fledge in June.

Population Size

The breeding population is estimated at about 18 000 pairs, perhaps 80 000 - 90 000 birds. The population size estimates for the two large populations (Big Sister Island and the Forty Fours, with >95% of global population) are crude, assessed on the basis of area. The size of the Three Kings population (believed to be < 1% of the total population) is also poorly known. Reliable population size data exists only for the Little Sister Island population (estimated at < 4% of population). C

Status

Endemic to New Zealand. An evaluation of the status of this species is not possible given the lack of reliable population data.

Threats

Consistent with the lack of population data for this species, there is also little information regarding threats to the species. Distribution at sea is also poorly known as a result of confusion with Buller's Albatrosses. Despite this uncertainty, it has been suggested that the species is highly migratory during the non-breeding season, ranging eastward across the southern Pacific Ocean to the western South American coast. During the breeding season the birds are known to forage in the area of the Challenger Rise, coincident with longline operations. To date there are no reports of deaths of these birds on longlines. However, in the areas prospected by these birds, both during the breeding and non-breeding season, longline operations proceed largely in the absence of any observer coverage.

13. SHY ALBATROSS *Thalassarche cauta*

Previous name Shy Albatross *Diomedea cauta cauta*

Breeding Distribution

Albatross Island, Mewstone and Pedra Branca.

Breeding Frequency and Season

Annual breeding. Most eggs are laid in September, hatch in December and chicks fledge in April. Adults attend colonies in winter between breeding seasons.

Population Size

The breeding population is estimated at about 12 200 breeding pairs, approximately 55 000 - 60 000 individuals.

Status

Endemic to Australia. The population estimates for this species are of moderate accuracy only, except for the Albatross Island colony in Bass Strait. This colony is showing signs of a slow recovery following the devastation executed by feather and egg collectors at the turn of the last Century. The current population level on Albatross Island (5 000 pairs) constitutes about 25% of the estimated original island population size having increased from only 300 pairs (1.5% of

initial population) in 1909. The trends of the Mewstone and Pedra Branca populations (estimated at 59% of the species population) are unknown.

Threats

A viral disease is known to reduce productivity rates during some years for the Albatross Island colony. There is however no evidence of this disease elsewhere in the species' range.

The major threat facing Shy Albatrosses is incidental mortality associated with fishing operations. In the Australian region, Shy Albatrosses constitute over 10% of the seabird bycatch on Japanese tuna longlines and most of these were adult birds. Based on assessments of foraging ranges as determined from satellite tracking and fishing effort, it is likely that these birds are from the southern Tasmanian populations, whose status is unclear. Shy Albatrosses are also killed on longlines set by the Australian domestic fishing fleet. The spatial and temporal concentration of tuna fishing effort to the south and east coasts of Tasmania, and the recent increase in the Australian domestic longline fishery, is consequently of major concern with respect to this species. The three populations are differentially vulnerable as a result of their differences in foraging zones: the southern populations being vulnerable throughout their annual cycle. Band recoveries reveal that juveniles of the southern Tasmanian population migrate to waters off southern Africa and so are also placed at risk from longline fisheries in this region.

Recent proposals to increase the commercial squid (*Nototodarus gouldi*) fishery in Bass Strait, within the foraging ranges of the Albatross Island population, may also pose a threat. Direct competition for common prey may affect the birds if squid quotas increase with no regard to the food requirements of the albatrosses.

14. WHITE-CAPPED ALBATROSS *Thalassarche steadi*

Previous name Shy Albatross *Diomedea cauta steadi*
(or White-capped Albatross)

Breeding Distribution

Disappointment Island, Adams Island, Auckland Island (Auckland Island group) and Bollons Island (Antipodes Island group).

Breeding Frequency and Season

Poorly known as there have been no detailed studies. Egg laying starts in mid-November, hatching in February and young fledging in mid-August. Likely to breed annually. No data available on breeding success, survival or recruitment for this species.

Population Size

The breeding population is estimated at ca. 75 000 breeding pairs, approximately 350 000 – 375 000 individuals.

Status

Endemic to New Zealand. As there are no accurate estimates of population size for the species, there can be no reliable assessments of status or trends.

Threats

On Auckland Island habitat destruction by feral pigs has led to some reduction in nesting area, at least in the past.

At sea, the major threat facing White-capped Albatrosses is incidental mortality associated with fishing operations. In New Zealand waters White-capped Albatrosses constituted 85% of the bycatch associated with squid trawlers. This level of bycatch was not sustainable and has since been reduced by the prohibition on the use of netsonde monitor cables in New Zealand waters. White-capped Albatrosses are also known to be killed on bluefin tuna longlines in New Zealand waters, but due to difficulty in distinguishing this species from Shy Albatrosses, assessment of extent and magnitude of bycatch in other areas is problematical. This confusion also impedes our understanding of the distribution of this species at sea.

Knowledge of the status of this species, and their distribution at sea is urgently required.

15. SALVIN'S ALBATROSS *Thalassarche salvini*

Previous name Shy Albatross *Diomedea cauta salvini*
(or Salvin's Albatross)

Breeding Distribution

Snares and Bounty Islands; Penguin Island (Crozet Islands).

Breeding Frequency and Season

No detailed studies; assumed to be an annual breeder. Eggs hatch at Bounty Islands in mid-November, so laying presumed to occur in early October. Chicks fledge in late March to early April.

Population Size

The breeding population is estimated at ca. 76 500 breeding pairs, approximately 350 000 – 380 000 individuals. New Zealand populations account for >99% of the global population, < 5 pairs nesting on Penguin I. (Crozet Group) in the Indian Ocean each year.

Status

Knowledge of the New Zealand populations is poor, the estimate of the major population on the Bounty Islands being derived from extent of breeding area. Given the lack of repeated counts for any of the populations of this species, the status and population trend of the species remains unknown.

Threats

There is no information regarding the threats faced by this species, either on land or at sea. The extensive marine distribution of this species (extending north to 5° S in the Humboldt Current, and also in the Indian Ocean and off the coasts of Australia and South Africa, would place the species potentially at risk from both tropical and temperate longline operations. On the Pacific coast of South America, Salvin's Albatrosses concentrate over the continental slope region, their distribution coinciding with that of the developing longline fishery. It is likely that this fishery will impact on Salvin's Albatrosses.

16. CHATHAM ALBATROSS *Thalassarche eremita*

Previous name Shy Albatross *Diomedea cauta eremita*
(or Chatham Island Albatross)

Breeding Distribution

The Pyramid (Chatham Islands).

Breeding Frequency and Season

There have been no detailed studies of the breeding biology of this species. It is presumed to breed annually. Eggs are laid in August and September, and chicks are presumed to fledge in April. Two Campbell Albatrosses are regularly seen amongst Shy Albatrosses on Albatross Island (Bass Strait, Tasmania) but there have been no observed attempts at breeding.

Population Size

There have never been any ground counts of this species. Based on aerial photographs taken in 1972, the breeding population is estimated to be ca. 4 000 pairs, (perhaps 18 000 to 20 000 individuals).

Status

Endemic to New Zealand. The accuracy of the single population estimate is low. The status of this species is therefore unknown.

Threats

A significant threat to this species on land is a reduction of the quality of nesting habitat as a result of storm damage and climatic change. These birds tend to be solitary at sea and their movement patterns are not clear. They are rarely seen in coastal regions. During the non-breeding (winter) season, they disperse towards the west coast of South America where they mostly frequent pelagic waters. In 1995 a banded juvenile Chatham Albatross was reported to have been killed on a longline targeting swordfish off Chile. Chatham Albatrosses also occur off the coast of Tasmania where they are known to interact with longline fishing operations.

17. ATLANTIC YELLOW-NOSED ALBATROSS *Thalassarche chlororhynchos*

Previous name Yellow-nosed Albatross *Diomedea c. chlororhynchos*

Breeding Distribution

Tristan da Cunha group and Gough Island.

Breeding Frequency and Season

Likely to be annual breeder. Most eggs laid in September-October, hatch in November-December and chicks fledge in April-May.

Population Size

The breeding population is estimated at ca. 36 800 pairs, corresponding to approximately 165 000 - 185 000 individuals in total. Populations size estimates are crude as no population has ever been reliably surveyed.

Status

The absence of any reliable information on population size precludes any assessment of population trends and status for the six populations. Unpublished information indicates that the Gough Island population has shown a significant decrease since the 1980s.

Threats

Since the recent cessation of harvesting by humans on Nightingale Island (Tristan da Cunha group), interactions with commercial fishing operations are the most serious threats faced by Atlantic Yellow-nosed Albatrosses. Little is known about the oceanic distribution of this species and confusion with Indian Yellow-nosed Albatrosses precludes quantitative assessment of bycatch rates in most areas. Yellow-nosed Albatrosses constituted a significant proportion of the seabird bycatch observed on tuna longlines off Brazil, and it is likely that these birds were Atlantic Yellow-nosed Albatrosses. Further information on the status of the populations and the extent of bycatch of this species is urgently required.

18. INDIAN YELLOW-NOSED ALBATROSS *Thalassarche carteri*

Previous name Yellow-nosed Albatross *Diomedea chlororhynchos bassi*

Breeding Distribution

Prince Edward Islands, Kerguelen Islands, Crozet Island, Amsterdam and St. Paul Islands.

Breeding Frequency and Season

Annual breeding. Most eggs laid in September-October, hatch in November-December and chicks fledge in March-April.

Population Size

The annual breeding population is estimated at ca. 36 500 pairs, corresponding to approximately 160 000 - 180 000 individuals in total. Population size estimates are generally poor for this species across its range, the only exception being the Amsterdam Island population which represents approximately 70% of the estimated global population.

Status

The absence of reliable time series population data preclude any status assessment for all but the Amsterdam Island population. This population has decreased by over one third since the early 1980s and is decreasing at 7% annually as a result of increased mortality of both adults and immatures.

Threats

It appears that interactions with commercial fishing operations are the most serious threat faced by Indian Yellow-nosed Albatrosses. Previously this conclusion was largely inferential (Gales 1993), but the recently observed population decreases and the documented bycatch of these birds on tuna longlines confirms the connection. Although the Atlantic and Indian Ocean species were not distinguished, Yellow-nosed Albatrosses constituted 14% of the seabird bycatch observed on tuna longlines off Brazil, similar to the 13% that both species comprised in the bycatch in the Australian region. In the Australian sample, adults were primarily caught during winter whereas immatures were more often caught in the summer fishing season. The only other significant source of mortality identified for this species is a viral disease which in some years causes elevated chick mortality in some colonies.

19. GREY-HEADED ALBATROSS *Diomedea chrysostoma*

Previous name Grey-headed Albatross *Diomedea chrysostoma*

Breeding Distribution

South Georgia (Isla Georgia del Sur); Diego Ramirez and Islands Ildefonso; Kerguelen and Crozet Islands; Marion and Prince Edward Islands; Campbell Island; Macquarie Island.

Breeding Frequency and Season

Biennial breeder (when successful). Most eggs laid in October, hatch in December-January and chicks fledge in April-May.

Population Size

The breeding population estimated at ca. 92 300 pairs each year (see Appendix 1D), corresponding to approximately 250 000 mature individuals, or 600 000 individuals in total. The population estimates for this species are reasonably reliable, with the notable exception of the two colonies within the French territories and the Chilean populations.

Status

Currently considered *Near Threatened* by Collar *et al.* (1994). The status of the populations varies with breeding location. At South Georgia (Isla Georgia del Sur) over the last two decades, the Bird Island population has decreased at an annual rate of 1.4 - 1.8%, mainly as a result of decreases in immature survival rate (from 35% to 5% recruitment) and reduced adult survival (from 95% to 93%).

The population decrease of ca. 20% documented for Bird Island is alarming, particularly as the South Georgia (Isla Georgia del Sur) population represents nearly two thirds (59%) of the world's population. Decreases of 79-85% since the 1940s have been observed for Campbell Island albatross colonies in which Grey-headed Albatrosses predominate. The only population increase recorded for the species is a recent one (since 1992) for the Marion Island population (7% of global population) which had previously decreased at 0.7% p.a. since the 1970s.

Threats

Grey-headed Albatrosses are vulnerable to deaths associated with fishing practices, particularly longlining. Of the longline fisheries, it is the pelagic rather than the shelf-slope fisheries which probably pose the greatest threat to this species.

The decrease in the Grey-headed Albatross population at Bird Island is most probably attributable to deaths of immatures on longlines. This is consistent with the predominance of immatures in the Grey-headed Albatross component of the seabird bycatch from Japanese tuna longlines operating off Australia and New Zealand.

Grey-headed Albatrosses are also hooked on longlines set in Kerguelen waters. The impacts of this mortality however is not known as the populations of this species in the French territories of Crozet and Kerguelen are not routinely monitored.

Of potential, rather than realised threat, is the development of commercial squid fisheries in the Southern Ocean. As Grey-headed Albatrosses direct their foraging efforts at the squid *Martialia hyadesi*, which is a target of increasing commercial fishing interests, expansion of the

squid fishery should consider the requirements of these albatrosses so that the species is not subject to further adverse effects.

20. SOOTY ALBATROSS *Phoebastria fusca*

Previous name Sooty Albatross *Phoebastria fusca*

Breeding Distribution

Tristan da Cunha Islands and Gough Island; Prince Edward Island and Marion Island; Kerguelen, Crozet, Amsterdam and St. Paul Islands.

Breeding Frequency and Season

Biennial breeder (when successful). Most eggs laid in October, hatch in December and chicks fledge in May.

Population Size

The annual breeding population is estimated at ca. 15 655 pairs, approximately 100 000 individuals in total. Six breeding assemblages exist, the major sites being Gough Island and the Tristan da Cunha group in the southern Atlantic Ocean. Of the 15 island sites, detailed monitoring only occurs at the small Possession I. (Crozet Is., Indian Ocean) population (which represents about 2% of the estimated global population).

Status

Considered *Near Threatened* by Collar *et al.* (1994). The status of Sooty Albatrosses is known only for Possession I. population. The population decrease documented for this species is the most extensive of the six albatross species studied within the French external territories of Crozet or Kerguelen. The population is currently decreasing at a rate of 3% p.a., previous rates of decrease were as high as 6.9% p.a. (between 1979-86). These rates translate to a total decrease in the population of 58% since 1980. Decreasing survival rates of both adults and immatures are responsible for the observed population trends.

The status of the remaining 14 populations (comprising approximately 98% of the estimated global population) is unknown.

Threats

The adult mortality rates of Sooty Albatrosses on Possession I. (Crozet group, Indian Ocean) are significantly related to the longline fishing effort that occurs in the oceanic sectors prospected by them. Adult and immature Sooty Albatrosses are known to be killed on Japanese longlines set both inside and beyond the Australian Fishing Zone. Information detailing the composition of seabird bycatch within the foraging area of this oceanic species (e.g. high seas, especially Indian Ocean) exists but is currently confidential to fisheries managers. From the limited information which is available, however, it is clear that Sooty Albatrosses are caught in proportionately significantly higher numbers on the high seas than in Exclusive Economic Zone (EEZ) fisheries, reflecting the oceanic habit of this species. Without information to the contrary, and in the absence of identification of other anthropogenic factor affecting Sooty Albatrosses, the logical conclusion is that longline fishing is responsible for the observed population decreases and is the most serious threat facing this species.

21. LIGHT-MANTLED ALBATROSS *Phoebetria palpebrata*

Previous name Light-mantled Sooty Albatross *Phoebetria palpebrata*

Breeding Distribution

South Georgia (Isla Georgia del Sur); Prince Edward and Marion Islands; Kerguelen and Crozet Islands; Heard Island and Macquarie Island; Auckland, Campbell and Antipodes Islands.

Breeding Frequency and Season

Biennial breeder (when successful). Most eggs laid in October-November, hatch in December-January and chicks fledge in May-June.

Population Size

The breeding population is estimated at ca. 21 600 pairs each year, approximately 140 000 individuals in total, from the nine breeding sites distributed between southern Pacific, Atlantic and Indian Oceans. Accurate population estimates are available only for the Possession Island and Macquarie Island populations, each of which constitutes about 5% of the estimated global population.

Status

Information on population trends and status is restricted to the small population on Possession Island. This population has decreased by 13% since 1980, but the demographic parameters influencing this change are not yet clear. Indirect evidence of the decrease of this species is evident in the decreased abundance of Light-mantled Albatrosses in their summer feeding grounds since 1980.

Threats

Gales (1993) concluded that it was most likely that mortality associated with fishing activities constituted the major threat to Light-mantled Albatrosses. Since then, confirmation of the capture of Light-mantled Albatrosses on longline hooks set in the Australian Fishing Zone has been obtained. Satellite tracking studies indicate that interactions with longliners may be limited during the breeding season as a result of the southern distribution of the foraging grounds; however during the non-breeding periods, the birds move northwards and mix with pelagic fishing fleets. The proficiency of the diving behaviour of *Phoebetria* albatrosses enhances their vulnerability to capture on longlines. Given this information and in the absence of other factors responsible for the decreases in the Light-mantled Albatross populations, interactions with longlining remains the most compelling factor responsible for their population decreases.

Attachments

Table 1: Number, status and size of southern hemisphere albatross populations

Table 2: Summary of documented threats which currently affect southern hemisphere albatrosses.

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Table 1. Number, status and size of southern hemisphere albatross populations (shading indicates those taxa for which less than or equal to 50% of the global population is decreasing or of unknown status.). Information from Gales (1997) and Gales (1993).

Old taxonomy	New taxonomy	Estimated No. of annual breeding pairs	No. of populations	Status of population			
				Increasing	Stable	Decreasing	Unknown
Wandering Albatross <i>Diomedea exulans exulans</i>	Wandering Albatross <i>Diomedea exulans</i>	8 448	9	43%	<1%	47%	10%
	Tristan Albatross	1 003	2	3	1	4	1
	<i>Diomedea dabbenena</i>				<1%		>99%
	Antipodean Albatross	5 154	2		1		1
	<i>Diomedea antipodensis</i>				<1%		>99%
	Gibson's Albatross	6 077	2		1	1	
	<i>Diomedea gibsoni</i>		3				100%
							3
Amsterdam Albatross <i>Diomedea amsterdamensis</i>	Amsterdam Albatross <i>Diomedea amsterdamensis</i>	13	1	100%			
Northern Royal Albatross <i>Diomedea epomophora sanfordi</i>	Northern Royal Albatross <i>Diomedea sanfordi</i>	5 218	2	<1%		>99%	
						1	
Southern Royal Albatross <i>Diomedea epomophora epomophora</i>	Southern Royal Albatross <i>Diomedea epomophora</i>	7 872	4	99%	<1%		<1%
				2	1		1
Waved Albatross <i>Diomedea irrorata</i>	Waved Albatross <i>Phoebastria irrorata</i>	15 591	2				100%
							2
Black-browed Albatross <i>Diomedea melanophrys melanophrys</i>	Black-browed Albatross <i>Thalassarche melanophrys</i>	682 316	24	43%	<1%	2%	55%
				6	1	2	16
	Campbell Albatross	26 000	1			100%	
	<i>Thalassarche impavida</i>					1	
Buller's Albatross <i>Diomedea bulleri bulleri</i>	Buller's Albatross <i>Thalassarche bulleri</i>	10 960	3				100%
							3
	Pacific Albatross	18 170	4				100%
	<i>Thalassarche nov. sp.</i>						4
Shy Albatross <i>Diomedea cauta cauta</i>	Shy Albatross <i>Thalassarche cauta</i>	12 200	3	41%			59%
				1			2
	White-capped Albatross	75 175	4				100%
	<i>Thalassarche steadi</i>						4
	Salvin's Albatross	76 654	3				100%
	<i>Thalassarche salvini</i>						3
	Chatham Albatross	4 000	1				100%
	<i>Thalassarche eremita</i>						1
Yellow-nosed Albatross <i>Diomedea chlororhynchos chlororhynchos</i>	Atlantic Yellow-nosed Albatross <i>Thalassarche chlororhynchos</i>	36 750	6				100%
							6
	Indian Yellow-nosed Albatross	36 492	6			69%	31%
	<i>Thalassarche carteri</i>					1	5
Grey-headed Albatross <i>Diomedea chrysostoma</i>	Grey-headed Albatross <i>Thalassarche chrysostoma</i>	92 275	10	7%		14%	79%
				1		2	7
Light-mantled Sooty Albatross <i>Phoebastria palpebrata</i>	Light-mantled Albatross <i>Phoebastria palpebrata</i>	21 567	14			5%	95%
						1	13
Sooty Albatross <i>Phoebastria fusca</i>	Sooty Albatross <i>Phoebastria fusca</i>	15 655	15			2%	98%
						1	14

Table 2. Summary of documented threats which currently affect southern hemisphere albatrosses. (Information from Gales (1997) and Gales (1993).

	Documented fisheries-related mortality			Other documented threats				
	Longlining Other	Trawling	Other	Plastic Avian ingestion pox	Human predation/ disturbance	Other alien predators	Fire/floods volcanoes habitat disturbance	Oil/ chemicals
Wandering Albatross	x	x	x	x				
Tristan Albatross	x			x				
Antipodean Albatross	x							
Gibson's Albatross	x					x		
Northern Royal Albatross	x			x	x	x	x	
Southern Royal Albatross	x	x		x				
Amsterdam Albatross	x					?		
Waved Albatross	?				?	?	x	
Black-browed Albatross	x	x	x					x
Campbell Albatross	x							
Buller's Albatross	x	x						
Pacific Albatross	?			x	?		x	
Shy Albatross	x	x	x					x
White-capped Albatross	x	x				x		
Salvin's Albatross	?							
Chatham Albatross	x				x		x	
Atlantic Yellow-nosed Albatross	x			x				
Indian Yellow-nosed Albatross	x					x	x	x
Grey-headed Albatross	x	x		x		x		x
Sooty Albatross	x			x		x	x	
Light-mantled Albatross	x							