Agreement on the Conservation of Albatrosses and Petrels

Third Meeting of the Population and Conservation Status Working Group

La Serena, Chile, 5 – 6 May 2016

ACAP Priority Population Assessment – Indian yellow nosed albatross at Amsterdam Island (Indian Ocean)

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SUMMARY

Five breeding populations of ACAP species were identified at AC6 as priority populations for conservation management because they represented sizeable proportions (>10%) of the global total and were in rapid decline (>3% a year), and for which a major underlying cause was incidental mortality in fisheries. Recent counts of Indian yellow-nosed albatrosses at Amsterdam Island indicate a steep decline over the 30-year period from 1984/85 to 2013/14. This population hold more than 50% of the global total for the species. Amsterdam Island Indian yellow nosed albatrosses are affected by diseases, and recent studies confirm that avian cholera is the major reason for the massive early death of chicks that causes the reduction in recruitment and decline of the population. In addition, significant numbers of adults and young Indian yellow-nosed albatrosses are killed long line fisheries in oceanic waters in the central Indian Ocean during the breeding season, and off Australian waters where the Amsterdam population is wintering. As such, Indian yellow-nosed albatrosses from Amsterdam meet the criteria that suggests it is a suitable candidate to be considered as an ACAP priority population for conservation management.

RECOMMENDATION

That the PaCSWG requests the Advisory Committee to:

1. Include the Indian yellow-nosed albatrosses on Amsterdam Island as an ACAP priority population for conservation management.

Evaluación de las poblaciones prioritarias del ACAP – Albatros de pico amarillo del Índico en la isla Ámsterdam (océano Índico)

RESUMEN

Durante la CA6, cinco poblaciones reproductoras de las especies amparadas por el ACAP fueron identificadas como poblaciones prioritarias en materia de ordenación para su conservación porque representaban proporciones considerables (>10 %) de la población mundial total y registraban una rápida disminución (>3 % por año), cuya causa principal era la mortalidad incidental en pesquerías. Los conteos recientes del albatros de pico amarillo del Índico en la isla Ámsterdam dan cuenta de una pronunciada disminución a lo largo de tres décadas, entre 1984/85 y 2013/14. Esta población representa más del 50 % de la población mundial total de esta especie. Los albatros de pico amarillo del Índico presentes en la isla Ámsterdam se ven afectados por enfermedades, y estudios recientes confirman que el cólera aviar es la principal causa de mortalidad masiva de pichones que conlleva una reducción en el reclutamiento y una disminución de la población. Además, hay cantidades considerables de ejemplares adultos y jóvenes de albatros de pico amarillo que mueren en las pesquerías de palangre en aguas oceánicas en la región central del océano Índico, durante la temporada reproductiva, y en las aguas frente a las costas de Australia donde inverna la población de la isla Ámsterdam. En tal sentido, los albatros de pico amarillo del Índico provenientes de la isla Ámsterdam cumplen con los criterios por los cuales se podría considerar que constituyen una población prioritaria del ACAP en materia de ordenación para su conservación.

RECOMENDACION

Que el GdTPEC solicite al Comité Asesor lo siguiente:

1. Incluir al albatros de pico amarillo del Índico presentes en la isla Ámsterdam como población prioritaria del ACAP en materia de ordenación para su conservación.

1. BACKGROUND

Five breeding populations of ACAP species were identified at AC6 as priority populations for conservation management, to which particular attention should be paid; these were Wandering *Diomedea exulans* and Black-Browed *Thalassarche melanophris* albatrosses at South Georgia (Islas Georgia del Sur)[1], Tristan Albatross *D. dabbenena* at Gough Island, and Sooty Albatross *Phoebetria fusca* at Crozet and Prince Edward Islands. These five populations were selected because they represented sizeable proportions (>10%) of the global total, were in rapid decline (>3% a year), and for which a major underlying cause was incidental mortality in fisheries, requiring concerted international action. Several other breeding populations of ACAP species were identified at AC8 that might meet these criteria because they had been declining at >3% per year over a 20-year period, including Indian yellow-nosed Albatrosses at Amsterdam Island. Indian yellow-nosed albatrosses breed on the Prince-Edwards, Crozet, Kerguelen and Amsterdam-Saint Paul islands, but the strong-hold of the population nest on Amsterdam Island, The species is listed as Endangered, mainly because of the decline of the major population at Amsterdam.

2. TRENDS IN POPULATION SIZE

On Amsterdam, decline has started as early as the early 1980s (Fig. 1). Indian yellow-nosed Albatrosses from Amsterdam are known since 1995 to be exposed to avian cholera (*Pasteurella multocida*) and erysipelas bacteria (*Erysipelothrix rhusiopathiae*) that was killing mainly chicks after hatching (Weimerskirch 2004). Demographic studies indicate that the diseases are probably the main factor inducing the population decline, and that fisheries may also be involved, since the population overlaps strongly with long-line fisheries during and outside the breeding season (Rolland et al. 2009).

Recent studies suggest that the decline is accelerating during recent years. In particular, breeding success which was first low mainly in some lower colonies is now low in all colonies, especially the largest that are not visited by human. Low reproductive success in the largest colonies is very worrying, since the rate of decline of the population may further increase in the future with poor recruitment.

[1] "A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Islas Malvinas), South Georgia and the South Sandwich Islands (Islas Georgias del Sur y Islas Sandwich del Sur) and the surrounding maritime areas".

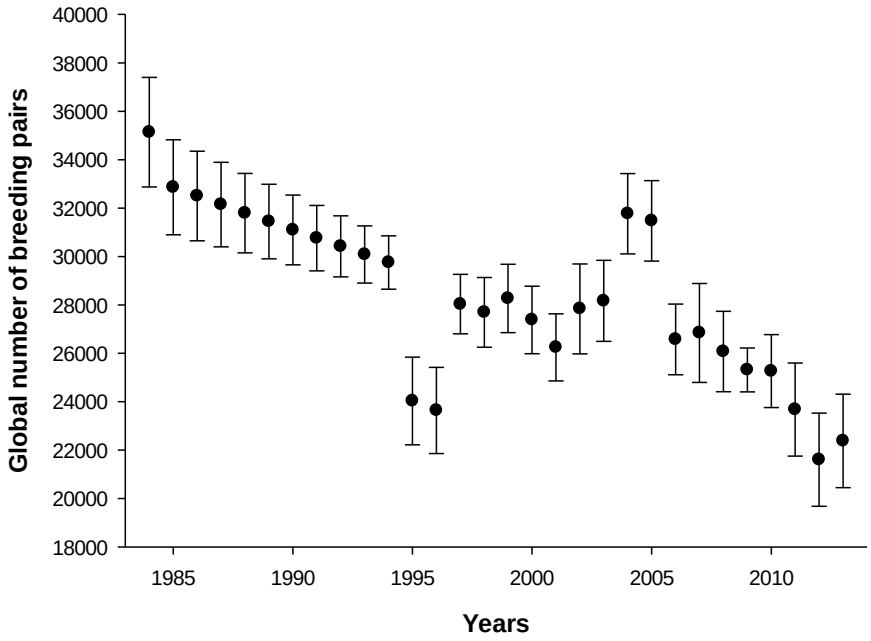

Fig. 1: Variation of the total number of breeding pairs of Indian yellow-nosed Albatross on Amsterdam Island from 1984 to 2013 estimated from counts in 'Fernand', 'Entrecasteaux', and 'Del Cano' blocks. Error bars indicate ± SE.

Since the discovery of the diseases killing especially chicks (Weimerskirch 2004), observation on colonies indicated that indeed breeding failure occurred mainly and massively just after hatching. Chicks died rapidly, with symptoms corresponding to death from avian cholera, and autopsies and tissues analysis confirm now that the death of chicks results from avian cholera (Jaeger et al. in prep). Serotyping and genotyping of the avian cholera isolated from albatrosses occurring at Amsterdam suggest that the Amsterdam avian cholera is phylogenetically very close from forms isolated in poultries in Europe, indicating that it may have been introduced on the island from the poultry occurring on the island station, and secondarily introduced to the albatross colony through skuas or humans (Weimerskirch 2004, Jaeger et al. in prep). Tests of vaccination are on going and give mixed but encouraging results.

3. Distribution at sea

During the breeding season Indian yellow-nosed albatrosses from Amsterdam forage mainly to the west of Amsterdam up to 3000km, remaining in subtropical waters, north and within the sub-tropical complex frontal zone (Fig. 2)(Pinaud et al 2005a and b). They are thus in overlap with long-line fisheries for tuna and there are regular recoveries of adult birds in Japanese and Taiwanese fisheries operating in the area.

Outside the breeding season Amsterdam yellow-nosed migrate to the shelf, shelf break waters and offshore waters off southern Australia (Fig. 2). Again in these waters strong overlap between long-line fisheries and yellow-nosed albatrosses occurs, with significant numbers of birds from this species being caught in the fisheries (Gales et al. 1998).

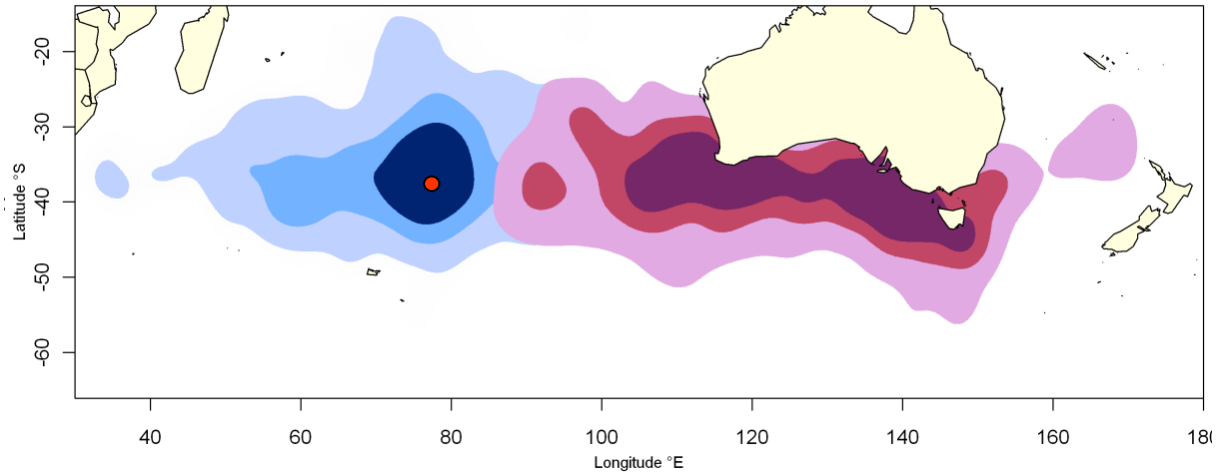

Fig 2 – Kernel densities (50, 75 et 95%) of Amsterdam Indian yellow-nosed albatrosses during the breeding season (light to dark blue) et outside the breeding season (pink to red)

4. Conclusions

Indian yellow-nosed Albatross of Amsterdam Island experienced difficult conditions over the past 30 years, and during recent years, the situation is worsening. Indeed the largest part of the Indian yellow-nosed albatross population is now severely declining since the mid 2000', and breeding success of both species is extremely low.

If the decrease in number of breeding pairs is significant, the most worrying factor is the very low and still decreasing reproductive success observed on most parts of the island, in both species.

We detected a significant negative effect of human-visitation of the global success of visited colonies, the colonies visited having lower breeding success, for similar altitude and habitats, than colonies not visited. This could suggest that the disease could be spread by human presence at these colonies. Alternatively, even if the introduction of the pathogens was not caused by human presence, the frequentation may amplify the decrease in global success. However, since most visited colonies were also at low altitude we cannot exclude that the effect of the visitation status on global success was partly confounded with an altitude effect.

In view of these observations, and using a precautionary principle, strict bio security rules have been implemented since 2010 for the access to the Amsterdam albatross colony, and since 2013 for yellow-nosed and sooty albatross colonies. However, these rules may not be sufficient, since the disease is likely to occur in the large Fernand colony where human have never been able to access. One vector for the disease is likely to be subantarctic skuas *Catharacta antarctica lonnbergi.* They are foraging in all albatross colonies and make connections between infected yellow-nosed Albatross' colonies and the upland plateau of the island, where Amsterdam Albatrosses breed. Skuas are mostly scavengers and very opportunistic. Results show that most skuas are carrying avian cholera (Jaeger et al. in prep).

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