



Agreement on the Conservation of Albatrosses and Petrels

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Analysis of Remote Tracking Data

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1. INTRODUCTION

Solutions to seabird bycatch are greatly assisted by accurate knowledge of the distributions of albatrosses and petrels, which can be used to identify the areas and seasons in which there is high risk of seabird bycatch (BirdLife 2004).

ACAP has established a contract with the BirdLife Global Procellariiform Tracking Database to analyse the overlap between albatross and petrel distribution and pelagic longline fishing effort within the jurisdictions of the world's five tuna commissions (Commission for the Conservation of Southern Bluefin Tuna, CCSBT; Indian Ocean Tuna Commission, IOTC; Inter-American Tropical Tuna Commission, IATTC; International Commission for the Conservation of Atlantic Tunas, ICCAT; Western and Central Pacific Fisheries Commission, WCPFC).

Provisional papers on albatross and petrel distribution have already been submitted by BirdLife to all five tuna commissions between 2004-2006. These provisional papers provided a broad overview of overlap between albatross and petrel distribution and pelagic longline fishing effort. However, a more detailed analysis is needed, one which (a) attempts to assess seasonal variations in distribution and (b) fill data-gaps wherever possible if tracking data are lacking, particularly in relation to the distribution of less well-researched life-history stages (breeders during the nonbreeding season, sabbatical and failed breeders during the breeding season, juveniles and pre-breeders throughout the year).. The ACAP-sponsored papers will undertake this analysis.

This paper outlines submissions to the tuna commissions to date, and what will be undertaken by the ACAP papers. The methodology is given in brief here, but more detail is provided in Phillips et al, 2007.

2. PAPERS ALREADY SUBMITTED

Since 2004, BirdLife International has undertaken a substantial programme of work with the world's five tuna commissions to assist them in their work to reduce seabird bycatch in their fisheries. A vital element of this work has been the Global Procellariiform Database, which has been used to provide the five tuna commissions with data on the overlap between albatross and petrel distribution and pelagic longline tuna fisheries. This use of the database is undertaken at the discretion of the numerous data holders.

Papers submitted to ICCAT and IOTC were largely based on maps and analyses from the BirdLife 2004 report, *Tracking Ocean Wanderers*. Papers for CCSBT, IATTC and WCPFC have been more detailed, have included maps for each albatross and petrel species for which tracking data were available, and have overlapped the albatross and petrel distributions with longline fishing effort data from the tuna commission websites. The papers produced so far provide analyses for adult breeding birds during the breeding season, and (where data were available) for adult birds during

the non-breeding season. An example of the summary analysis that has been produced is shown in Fig 1. An example of a single species map that has been produced is shown in Fig 2.

The references for the papers submitted so far are:

- **ICCAT**
BirdLife International 2006. Distribution of albatrosses and petrels in the Atlantic Ocean and overlap with ICCAT longline fisheries. Col. Vol. Sci. Pap. ICCAT, 59(3): 1003-1013 (2006)
- **IOTC**
BirdLife International 2005. Distribution of albatrosses and petrels in the Southern Indian Ocean and the overlap with IOTC longline fisheries. Paper submitted to the First Session of the IOTC Working Party on Bycatch, Phuket, Thailand, 20 July, 2005. Document IOTC-2005-WPBy-05.
- **IATTC**
BirdLife International, 2006. Analysis of albatross and petrel distribution within the IATTC area: results from the Global Procellariiform Tracking Database. Paper prepared for the Seventh meeting of the IATTC Working Group to Review Stock Assessments, La Jolla, California, 15-19 May 2006. Document SAR-7-05b
- **WCPFC**
BirdLife International, 2005. Distribution of albatrosses and petrels in the Western & Central Pacific & overlap with WCPFC longline fisheries. Paper submitted to the 1st Meeting of the Scientific Committee of the Western and Central Pacific Fisheries Commission, Noumea, New Caledonia, 8–19 August 2005. Document EB IP-1.
BirdLife International, 2006. Distribution of albatrosses and petrels in the WCPFC Convention Area and overlap with WCPFC longline fishing effort. Paper submitted to Second session of the WCPFC Scientific Committee, 7–18 August 2006, Manila, Philippines.
- **CCSBT**
BirdLife International, 2006. Analysis of albatross and petrel distribution within the CCSBT area: results from the Global Procellariiform Tracking Database. Paper submitted to the Sixth Meeting of the CCSBT Ecologically Related Species Working Group, 20-23 February 2006, Kaohsiung, Taiwan. Document CCSBT-ERS/0602/Info06.

3. ACAP PAPERS

The papers already submitted give a valuable first view for the tuna commissions of the areas in which there is risk of seabird bycatch. However:

- New data have recently been/will soon be added to the database, filling existing data gaps.
- In the papers produced so far, few data have been available for birds during the non-breeding season, and no data have been available for the distribution of juvenile/pre-breeding birds or for the substantial number of adult birds that do not breed ('sabbatical' birds) or that fail early in a given year. The analyses so far have not attempted to give a summary of overall albatross and petrel distribution that takes into account these life-history stages.
- Only very limited attempt has been made so far to assess the temporal as well as spatial overlap between albatross and petrel distribution with longline fishing effort.

The papers to be produced under contract with ACAP will provide this more detailed analysis, as far as data will allow. In particular, these papers will attempt to assess seasonal variations in distribution and to fill data-gaps, particularly in relation to non-breeders, failed breeders and sabbatical birds, and juveniles/pre-breeders.

The remote tracking data contributed to the database are processed using standardised methods agreed among the data-holders (BirdLife 2004). A potential strategy for addressing data gaps has

been outlined in the methodology devised for the ICCAT seabird assessment (Phillips et al, 2007). Key proposals to fill data gaps are as follows:

- For species where data are available for birds of known status, make assumptions about the likely distribution of other groups based on differences observed in other studies e.g. introduce a buffer zone around the range of active breeders and assume that corresponds to the distribution of failed/sabbatical birds; assume the distribution of juveniles/pre-breeders is broadly the same as that of wintering adults or, for species where this is unlikely to be the case, assume a range based on ringing recoveries and at-sea observations etc.
- For species/populations that have never been tracked, use range maps in the first instance. When these are species of high concern in relation to the impact of bycatch, consider data that can be used to refine this range map (e.g. at-sea data, or habitat modelling, or use of data on foraging trip durations to estimate feeding ranges based on typical flight speeds).

The likely schedule for production of these papers will be as follows: IOTC (June 2007), WCPFC (July 2007), ICCAT (August 2007), IATTC (March 2008), CCSBT (April 2008).

For more information please contact Dr Cleo Small, BirdLife Global Seabird Programme (cleo.small@rspb.org.uk).

References

BirdLife International. 2004. *Tracking Ocean Wanderers: the global distribution of albatrosses and petrels. Results from the Global Procellariiform Tracking Workshop, 1-5 September 2003, Gordon's Bay, South Africa*. BirdLife International, Cambridge, UK: 100 pp.

Phillips, RA, Tuck, G, Small, CJ. 2007. Assessment of the impact of ICCAT fisheries on seabirds: proposed methodology and framework for discussion. Paper submitted to the first meeting of the ICCAT Sub-Committee on Ecosystems and Bycatch, Madrid, 19-23 February 2007. Document SCRS/2007/030.