Data collection opportunities for assessing the use and effectiveness of seabird conservation measures

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Abstract
The role of seabird bycatch from tuna longline operations in driving several seabird species, particularly albatrosses, towards extinction is very well established. The lack of reliable data on at-sea activities from longline vessels is widely acknowledged as a severe shortcoming for assessing seabird bycatch rates and the impacts of tuna longline fishing on threatened seabird species. The WPEB has lamented the lack of data in this regard on numerous occasions. Therefore scientists should use multiple approaches to obtaining data. The IOTC's transshipment observer programme could, with very minor additional effort, provide a valuable additional data source on the nature and extent of the use of various measures mandated under Resolution 12/06 to prevent seabird bycatch. Such data (including digital images) that IOTC observers could be mandated to collect should be

1. subject to the IOTC's confidentiality rules
2. captured/curated by the IOTC Secretariat
3. made available to WPEB upon request for assessing seabird bycatch impacts and use of various measures
4. used for scientific purposes only, and should explicitly not be used for compliance monitoring

Introduction
The role of seabird bycatch from tuna longline operations in driving several seabird species, particularly albatrosses, towards extinction is very well established (Anderson et al. 2011, Croxall et al. 2012). Risk assessments, including those done for IOTC (e.g. Baker and Wanless 2010) have shown that longline fisheries under the IOTC remit pose a clear extinction threat to several seabird species. However, the lack of reliable data on at-sea activities from longline vessels is widely acknowledged as a severe shortcoming for assessing seabird bycatch rates and the impacts of tuna longline fishing on threatened seabird species (Angel et al. 2015). The WPEB has noted the lack of data in this regard on numerous occasions (IOTC 2010, 2011). This includes a lamentable lack of compliance by CPCs in either implementing or in reporting upon the Regional Observer Programme (Resolution 11/04), which is a key potential data source for assessing bycatch rates and the effectiveness of bycatch mitigation measures (Angel et al. 2015, IOTC 2015).

Opportunity
Resolution 14/06 establishes an observer programme to monitor at-sea transshipments of catches of IOTC species. This programme, in effect, provides independent observers access to a vast number of high seas tuna vessels from a wide range of CPCs. IOTC transshipment observers can access >30 vessels per month (B. Rose pers. comm. to RMW). The primary duties of the transshipment observers is to monitor the transshipping activities and to check on compliance with matters such as authorisations, vessel registrations, etc. This includes, from time-to-time, observers boarding the tuna fishing vessel and inspecting logbooks and the like, or having logbooks passed to the transshipment vessel for the observer to inspect.

Proposal

We propose that observers be mandated to collect, as part of their regular inspection duties during transshipment events, the following information, whenever practical and possible:

1. **Stern shots**: Photos of the stern of the vessel (also showing vessel name/identifying features) to ascertain the nature of any bird-scaring line poles (or 'Tori poles'), to estimate the attachment height above sea level and whether the pole is sufficiently robust to support a BSL with 100 m aerial extent during setting operations
2. **Night setting**: 10-15 photographs taken at random, of non-consecutive pages of logbooks from the past three months, to check for fishing effort S of 25S and whether or not gear was set at night
3. **Line weighting**: Photos of a subset of fishing gear (in baskets, coils or boxes) to check if vessels are using line weighting or not
4. **Bird scaring lines**: Where possible, photos of bird-scaring lines if any are present/visible

At a minimum, for each relevant transshipment event there should be a digital photograph taken of the stern of the vessel. We note that some longline vessels move from southern latitudes (where fishing requires that Res 12/06 is implemented) towards the tropics, but also note that some longliners may never operate south of 25°S. For example, there is little purpose in collecting stern shots of transshipment events in the northern Indian Ocean, where vessels are unlikely ever to have implemented Res 12/06. A pragmatic discussion is needed as to when observers should attempt to collect this information.

The agency responsible for managing the observer scheme should establish a simple data management protocol to allow digital images and other information to be stored in association with other relevant details of each vessel inspected. Recording this information in a 'Seabird Conservation Measure data' database will allow the WPEB to assess how many transshipment events occur. These data and metadata records should be transmitted to the IOTC secretariat and maintained under IOTC's existing confidentiality rules. Noting that a level of expertise is required to assess line weighting and bird scaring line features that might be present in photographs, we suggest that IOTC Secretariat consider how best to establish a mechanism to share the information with participants of the WPEB, or other seabird bycatch experts, intersessionally. The purpose is to have experts capture and analyse data appropriately and to prepare a report on which measures are used by the various fleets, to be presented annually to the WPEB, either by the expert(s) or by the Secretariat in association with the experts.

We believe such data would provide a useful complement to existing data-collecting processes (primarily the Regional Observer Programme for scientific observers). Data from scientific observers and logbooks, and responses to specific calls for data from IOTC, should remain the primary sources of information for assessing the use and effectiveness of various seabird bycatch mitigation measures.

References

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