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## **Communication Regarding Analysis and Data for the Seabird Bycatch Assessment Meeting, 25 February – 1 March 2019**

## This communication is to inform participants to the workshop regarding expected outcomes, intended activities to achieve the best outcomes, and a request for preparation of data prior to the meeting to individual participants.

## **OBJECTIVE** The main objective of the Kruger workshop is to agree on a range of estimates of seabird bycatch mortality caused by tuna longline fishing in the southern hemisphere, through careful review and comparison of various estimation methodologies at the meeting. The approaches will include analysis from individual participating experts, meta analysis, as well as analyses of publicly available data in ‘global’ models. Therefore this will be a working meeting.

## As part of the work programme, the workshop is seeking two options, for which data owners are requested to consider. One is to have the expert data consultants assist with individual analyses of individual fleet’s data in a standardised format, without sharing confidential data. The purpose of this is to improve comparisons between individual datasets, and to facilitate the inclusion of all estimates into a credible global bycatch estimate. The second option (separate or in addition to the first option) is to run a range of models with a comprehensive dataset assembled at the meeting. The joint analyses will only occur during the meeting (February 25 - March 1 2019) only for the purpose to review and agree on seabird bycatch mortality estimation. Any files with combined datasets will be destroyed at the end of the meeting and only results will be presented. What can be achieved with such joint analysis, benefits of this approach, preferred methods, how to include this in RFMO reporting, and related considerations would all be determined by the meeting participants.

## **REQUEST** We request all data owners to consider joining such activity, and if so, to obtain the necessary permissions and bring own data to the meeting. In the interest of saving time, all data owners that are interested in undertaking standardised analyses with their own data, or joining the joint analysis, are kindly requested to bring their observer data in the format described below. The below format is prepared along the broadly accepted level of granularity of data sharing but reflects the need of species-level bycatch information for some methods. Please be informed that the seabird distribution data will be available to the meeting subject to the similar caveats.

## The currently available estimates of seabird bycatch are all based on a certain standardization of observed seabird bycatch rates (generally collected by onboard observers) extrapolated to total effort. Major differences among different methodologies are how to interpret the relation between longline efforts and seabird bycatch mortality. While some (e.g. GAM, spatial analysis) intend to standardize the relation according to time and area of longline operation, others (e.g. SEFRA) consider bycatch as a result of overlaps of seabird occurrence and longline operation with a selectivity that is defined as a combination of bird-specific longline susceptibility and fishery-specific catchability. Needless to say, the seabird bycatch data collected by observers have not been broadly shared. As a result, all of the analysis and estimation results currently available are based on partially available information on the longline bycatch in the southern hemisphere.

## **Data formatting guidelines for estimating seabird bycatch in surface longline fisheries using a species-specific model.**

The assessment of seabird bycatch at the species level requires data on observed fishing effort, and observed captures of seabirds. This information is needed in 5-degree spatial resolution, at quarterly (three-monthly) time resolution, for all surface-longline fishing south of the equator. In order to easily include your data in the analysis, we will need the following information:

* For each 5-degree by 5-degree latitude-longitude cell (with the borders at latitudes and longitudes evenly divisible by 5);
* For each year (up to 2016, and covering the period when seabird captures, across all species, are considered to be reliably recorded);
* For each quarter (where Quarter 1 is January to March, Quarter 2 is April to June, Quarter 3 is July to September, and Quarter 4 is October to December);
* For each surface longline fishery that should be treated distinctly (for example, due to target species, or vessel size, this should group together effort that has similar characteristics from the point of view of potential seabird bycatch);
* The total number of hooks observed;
* The total number of seabirds observed caught;
* For each species or species-group code that you have in your data, a column giving the total number observed caught. Use FAO species codes where possible, or provide a description of the species codes that you have used, so that they can be analysed together with other datasets. ACAP have published a useful guide that includes the species codes[[1]](#footnote-0). Please include all seabirds reported caught.

## Example format

Provide the data as a CSV format file, e.g. 'nz\_captures.csv', with the following columns:

**latitude:** the latitude of the center of the cell, e.g. 162.5

**longitude:** the longitude of the center of the cell, e.g. -47.5

**year:** the calendar year, e.g. 2014

**quarter:** the quarter of the year, e.g. 2

**fishery:** A description of the fishery, e.g. ‘small vessel albacore’

**observed\_hooks:** The total number of hooks recorded by observers, e.g. 16500

**total\_seabirds**: The total number of seabirds captures observed in the area and time-period, e.g. 3

**DIM:** The number of black-browed albatross captures observed, e.g. 0

**ALZ:** The number of unidentified albatross captures observed, e.g. 2

**MAH:** The number of northern giant petrel captures observed, e.g. 1

(… add more columns for each species or species-group recorded by observers, these columns should add to `total\_seabirds`)

Please also provide a short description of the species codes used, and of the fisheries.

## Help

Contact Edward Abraham ([edward@dragonfly.co.nz](mailto:edward@dragonfly.co.nz)) for assistance with preparing the data; to check your data before the meeting; or if you have any questions about the analysis.

1. <https://www.ccamlr.org/en/system/files/ACAP_Bycatch_ID_Guide_A5_EN_WEB_August_1.pdf> [↑](#footnote-ref-0)