

# INTER-AMERICAN TROPICAL TUNA COMMISSION

## TECHNICAL MEETING ON SEABIRDS

DEL MAR, CALIFORNIA (USA)  
11 MAY 2009

### REPORT OF THE TECHNICAL MEETING ON SEABIRDS

#### 1. WELCOME, INTRODUCTIONS, MEETING ARRANGEMENTS

Guillermo Compean, Director of the IATTC, welcomed the participants to the meeting and the participants introduced themselves. The discussions from this meeting will be the basis for staff recommendations to the IATTC. Because the IATTC's purview is limited, the staff will be focusing on recommendations for fisheries on tunas and tuna-like fishes within the Convention Area. However, once the Antigua Convention comes into force, the purview of the IATTC may expand to include wider ecosystem concerns.

#### 2. CONSIDERATION OF AGENDA

There was no suggestion to change the provisional agenda.

#### 3. REVIEW OF GEOGRAPHICAL DISTRIBUTIONS OF SEABIRDS IN THE EPO:

##### a. Sightings by IATTC and national program observers

Martin Hall presented sightings data from observers aboard tuna purse-seine vessels ([IATTC background document](#)). The data showed that there were relatively few sightings of albatrosses relative to the sightings of other seabirds, and that these sightings were off the Galapagos and the mainland, and off Baja California. He stressed the need to improve observer training in seabird species identifications, and noted that Bird Life International (BLI) had offered assistance in providing a key similar to those in use for observer identifications of sea turtles and sharks. Representatives from the Agreement for the Conservation of Albatrosses and Petrels (ACAP) and the US National Marine Fisheries Service (NMFS) also offered their assistance. The participants suggested that there are needs for standardized data collection protocols and observer data from industrial longline vessels. It was also pointed out that, in addition to the albatrosses, Parkinson's petrels are also important due to their fishery interactions and endangered status.

##### b. Additional information introduced by the participants

Lisa Ballance pointed out that fishery-independent data are available from surveys conducted aboard NMFS research vessels in the EPO as has been presented previously ([SAR8-12d](#)). She noted that albatrosses typically prefer high-productivity areas, and that much of the area covered by these surveys is not highly productive.

Marco Favero presented a document showing the overlaps in albatross and petrel distributions with longline effort ([SAR9-11b](#)). He stressed the close cooperation between ACAP and BLI and expressed willingness for additional cooperation with the IATTC.

Orea Anderson presented an update of BLI distribution information obtained from tracking data ([BLI seabird distribution document](#)). In particular, new data was available for the black-footed albatross. All of the waved albatross distribution is contained within the Convention Area, and there is 34% overlap with the distribution of the black-footed albatross, 5% overlap with the distribution of the Laysan albatross and 1% overlap with some other species. These distributions also overlap with the distribution of longline effort. It was suggested that it is necessary to look at longer time periods (greater than 5 years) because these are long-lived species, and oceanographic conditions are quite variable, particularly

due to El Niño events.

#### **4. INFORMATION AVAILABLE ON SEABIRD-FISHERIES INTERACTIONS**

##### **a. Purse-seine fisheries**

Martin Hall stated that Class-6 tuna purse seiners have 100% coverage, but there is less coverage on smaller tuna seiners. There is no evidence of seabird bycatch in this fishery ([IATTC background document](#)).

##### **b. Longline fisheries**

Martin Hall showed that there had been longline effort from the 1970s to the 1990s in the coastal areas of the EPO where albatrosses breed, but effort close to shore has declined since then. He stressed the need for standardization of effort data and presented current IATTC forms for collecting data on fishing gear (longline and nets). He requested suggestions for standardizing the recording of data needed to estimate seabird bycatch.

Kim Rivera reviewed the Hawaii-based longline tuna fleet, updating a previously-presented paper ([SAR7-05c](#)). There has been a shift of effort of the tuna fleet into swordfish areas to the north. She described some studies on Laysan albatrosses, including food habit research that confirms that their diets include fishing bait, and tagging.

##### **c. Other commercial fisheries**

Other commercial fisheries were mentioned, but none are currently under the IATTC's purview.

##### **d. Artisanal fisheries**

Martin Hall stated that there are several thousand artisanal longliners, including surface longliners that target tuna, billfish, and sharks, as well as other longliners that fish for species that do not come under the purview of the IATTC's mandate. No bycatch of waved albatross has been recorded by observers aboard artisanal boats in Ecuador and Peru ([IATTC background document](#)). He suggested this may be due to the side setting, low freeboard, and nighttime setting of these vessels, and that the height that the bait leaves the water is a variable of interest. It was suggested that it would be important to record from these vessels the sinking rate of the bait and fishing depths. He noted that the programs are working to replace polypropylene lines with monofilament lines to increase sinking rates in order to reduce sea turtle bycatch. It was also suggested that, since winches are just beginning to be used in some vessels, these vessels be encouraged to mount them on the side rather than the stern. There are direct takes of albatrosses by pole and line fishing gear, and anecdotal accounts from fishermen indicate there is seabird bycatch by longliners.

Also discussed were observer programs monitoring artisanal longline fisheries for mahi-mahi and bottomfish off Ecuador and Peru and the shark fishery off Mexico. These fisheries, however, do not fall under the IATTC's purview.

#### **5. INFORMATION AVAILABLE ON TRENDS IN ABUNDANCE, OR OTHER INDICES FOR THE SEABIRD POPULATIONS OF INTEREST**

Maura Naughton presented recent information on Laysan, black-footed, and short-tailed albatrosses. These three species were just added to Annex I by ACAP. For the Laysan albatross, there are about 630,000 breeding pairs found in 16 breeding sites, mostly in Hawaii. There are four sites off Mexico that have been colonized since the 1980s with a total of 400 breeding pairs: Isla Guadalupe (for which tracking data are available), Rocas Alijos, Isla Clarion, and Isla San Benedicto. For the black-footed albatross, there are 64,000 breeding pairs at 12 sites, mainly in Hawaii. A few birds have been intermittently found breeding on Isla Guadalupe and San Benedicto. Both of these species have stable or increasing trends, although they appear to be decreasing on Laysan Island. For the short-tailed albatross,

the population is small, with only 2,350 on Torishima Island, but the population is showing an increase.

Maura Naughton also described other conservation measures on the islands themselves, including predator control, invasive plant control, lead abatement, translocation to new sites and shifting some breeding sites away from hazardous areas.

Marco Favero presented information on the waved albatross ([ACAP waved albatross document](#)). He noted that the ACAP has prepared a Plan of Action for the species. There is a decreasing trend in adult survival (ranging from 86% in El Niño years to 93% non-El Niño years) and a likely declining trend in population size. There are problems on the main breeding sites on Isla Española (a few also nest on La Plata) with mosquitoes and invasive vegetation, and direct catches off Peru. Longline and trawl fleets are known to catch seabirds, but this has not necessarily been confirmed for waved albatrosses. Evidence was presented that waved albatross sometimes do scavenge around boats although it is thought that this generally rare. Favero suggested that a small amount of mortality (a few tens of birds per year) can have a deleterious effect on the population and eventually lead to extinction. There are needs for a total population size (only a limited number of breeding sites have been surveyed), information on fisheries interactions, and the influence of oceanographic variables on distribution.

Martin Hall reviewed population sizes of albatrosses ([IATTC background document](#)). He believed the population trends for waved albatross were problematic because the estimate for 1994 was so much higher than earlier (1970-1971) and later (2001, 2007) surveys. The authors of the 2002 study had stated that the 1994 data point had resulted from an El Niño event, but some of the same authors changed their interpretation when another El Niño event was not reflected in another anomaly. However, several participants remarked that El Niño events are extremely heterogeneous in their characteristics and on their impacts, and therefore there seemed to be a flaw in the most recent judgement. There was a discussion about whether 1994 was an anomaly or not, and what effect that might have on population trends. There is a need to census all the colonies on the island, particularly since the species is considered to be endangered. In any case, the precautionary approach indicates that the doubt should be addressed trying to err on the cautious side.

Orea Anderson estimated seabird bycatch by industrial longliners fishing in the EPO to be about 4,000 per year ([BLI longline seabird bycatch document](#)). There are several caveats about this estimate. The observer coverage is low and non-random, species identification is difficult, and there are portions of the fishery that are not observed. Preliminary estimates seem to show that there were consistent bycatch rates across countries.

## **6. TECHNICAL AND SCIENTIFIC ASPECTS OF MITIGATION MEASURES TO REDUCE INCIDENTAL CATCHES OF SEABIRDS**

Kim Rivera reviewed the FAO Expert Consultation on best practice technical guidelines ([FAO Fisheries and Aquaculture Report No. 880](#)) based on a previous FAO review ([FAO Fisheries and Aquaculture Report No. 1040](#)), and more-recent information obtained from a cyclic process of monitoring, research, and mitigation. It was noted that this is part of a larger FAO program for all bycatch species and all fisheries. She also noted the mitigation measures currently adopted by other international organizations ([FAO Fisheries Circular No. 1025](#)). A description and review of the various mitigation measures are provided in Table 2 in the [ACAP mitigation measures document](#).

Ten best practice technical guidelines were presented ([FAO Fisheries and Aquaculture Report No. 880](#)). Among them were recommendations that measures be adopted by regional fishery management organizations, that technical specifications for mitigation measures be defined, that mitigation research be conducted to improve effectiveness, that independent and representative data from observer programs be obtained, and that performance be periodically reviewed.

Marco Favero reviewed and assessed mitigation measures for pelagic longlines ([ACAP mitigation measures document](#)). While improvements are needed, currently the most effective measures are

streamers (tori lines), weighted branchlines, underwater setting, and night setting. Secondary measures (to be used in conjunction with primary measures, but not alone) include circle hooks, bait casting machines, lineshooters, thawed bait, and strategic offal discharge. He concluded that the highest research priorities were development of bait capsules, determination of the best design and operation for tori lines, and development of practical ways to weight the branch lines. The participants were in agreement that these measures are best used in combinations rather than a single method.

Ed Melvin described studies on tori lines in New Zealand ([Melvin and Walker 2008](#)) and South Africa ([Melvin et al. 2009](#)); more definitive studies will be conducted in 2009. He stressed the importance of getting the bait deeper than the 10-m diving range of some seabirds. There is good evidence that conventional tori lines that extend all the way to the water are effective, but the effectiveness of shorter lines is unproven. Some of the challenges for perfecting a system for pelagic longlines are that surface lines can hang up on the tori poles (and break or damage them), setting speeds may be high (10 knots), few fisheries are observed, and accounting for the wind (seabirds approach the bait into the wind). He added that secondary interactions can occur where diving birds are known to bring a baited hook to the surface that can subsequently hook albatrosses.

Ed Melvin stressed that the focus is on defending the “box,” an area defined in width by the distance between the port and starboard tori lines and in length by the distance from the stern of the boat to the point at which the bait sinks below 10 m. Putting more weight on the branch lines shortens the “box,” but there has been resistance by fishermen to do this because of the possibility of increased fouling of these lines with the tori lines. He noted that bait-casting machines in combination with tori lines may be inaccurate due to the wind, and thus be ineffective. One trial had to be terminated due to high bycatch and bait loss due to this problem. They are working on reducing surface line hangups by attaching cones to the tori lines in order to create more drag. He concluded that this research is not simple. For example, different Japanese fisheries have found differences in the effectiveness of the tori lines, and experimentation is required. However, albatrosses are easier to deter because they are not divers. Weakness of the attachment point of the tori lines can be a key limiting factor. Underwater chutes were also found to be ineffective.

Melvin concluded that the ACAP ranking is best for evaluating the methods currently available. One possibility is to have vessels choose one mitigation measure from a column of options that “shrink the box,” and another measure from a column of options that protect the bait. The participants agreed that effective mitigation measures can be beneficial for the fishermen; they conserve bait, improve the catch, and typically are inexpensive. Hiroshi Minami noted that Japanese longliners have a large amount of experience with tori lines, and expressed willingness to collaborate in research on improved designs.

Guillermo Compean stated that this provides a good basis for the IATTC to adopt mitigation measures. As was done with the dolphin bycatch issue in the purse-seine fishery, one can start with a general approach that then can be fine-tuned when more information is available. The IATTC will need to find an approach that will work for multiple, heterogeneous fisheries, and would welcome suggestions on how best to do this.

## **7. DATA NEEDS TO ESTIMATE INCIDENTAL MORTALITY OF SEABIRDS**

Esteban Frere presented a document outlining data-collection protocols based on the longline observer programs of the NMFS and the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) ([BLI data collection document](#)). There is a need to quantify bycatch mortality, determine the factors that contribute to seabird bycatch, and to extrapolate to unobserved vessels.

There was an extended discussion on observer programs. It was agreed that these programs are key to monitoring seabird bycatches and the effectiveness of mitigation measures. Such programs allow managers to determine which fisheries have interactions, to measure fishing effort, and monitor trends. There was a discussion about the best scientific approach to sampling. A random sampling design of all

fleets could provide information on undetected bycatches, while a stratified sampling design allows focus on those fisheries and areas in which bycatch is known to occur and provide a more-concentrated use of limited resources. It was noted that there are limits on observer time, and that observers are often overburdened by having to collect a wide suite of data on catch and bycatch species and operational details. Observers aboard artisanal boats could perhaps collect more information if provided with binoculars and good species-identification keys.

Esteban Frere suggested that the most effective approach is one of multi-species data collection and management, with a centralized data base, and with an independent observer program with high coverage ([BLI data collection document](#)). The minimum coverage should be 20% over a two-year period, with 70-80% of hooks observed on each observed trip. It was questioned whether 20% coverage is an overly optimistic objective, given limitations on resources, and that perhaps 5% was more realistic, with perhaps incremental increases over time. Frere explained that the 20% objective was chosen because there was a substantial increase in data reliability at that level. There was general agreement that coverage would need to be determined on a case-by-case basis.

Guillermo Compean noted that costs of new observer programs are prohibitive, unless significant new funding sources are found. There is currently no IATTC observer coverage on industrial tuna longliners. For this fishery, in addition to the budget problems associated with establishing a Commission observer program, the logistics are problematic, because many of these vessels are coming from well outside of the IATTC Area. For the longline fisheries that are under IATTC purview, national observer programs would have to be encouraged to collect the data required to estimate seabird bycatch and monitor the effectiveness of mitigation measures, and report this information to the IATTC. It is important that these programs be transparent and reliable.

## **8. OTHER BUSINESS**

No other business was discussed.

## **9. MEETING REPORT**

Guillermo Compean described the process that will follow. The report of the meeting will be prepared and circulated. Compean and the IATTC staff will prepare a draft resolution for the consideration of the IATTC, based on the discussions of the meeting and existing scientific information. The draft resolution will likely express the need for more information, call for more national observer coverage of industrial longliners, and suggest appropriate mitigation measures. Future research would be based, *inter alia*, on assessments by the observer programs.

A discussion ensued about whether artisanal vessels should be exempted from the measures and potential definitions that would distinguish between industrial and artisanal vessels. A vessel length of 15 m had been suggested in a previous proposal to the IATTC. One suggestion from the meeting was using deployment height as the distinguishing variable, with any vessel deploying its gear from 1.5 m or higher above the waterline being considered as a separate stratum from the others. Another suggestion was to target the vessels that have the most effort, as measured by the number of hooks deployed.

## **10. ADJOURNMENT**

Guillermo Compean thanked the participants and the interpreters, and adjourned the meeting.