

## Educational and training material for use in reducing seabird bycatch

### Paper for the 2<sup>nd</sup> meeting of the Indian Ocean Tuna Commission's Working Party on Bycatch

Mark Tasker

[mark.tasker@jncc.gov.uk](mailto:mark.tasker@jncc.gov.uk)

#### Introduction

The process to reduce seabird (or any other unwanted) bycatch involves several steps that include fisheries managers, scientists, fishery observers, fisheries enforcement agencies and perhaps most importantly of all, individual fishers. Each of these groups requires information and in some cases, training, in order to participate effectively in any bycatch reduction process. There are many examples globally of such materials. The Agreement on the Conservation of Albatrosses and Petrels is in the process of gathering examples of such materials, both in hard copy and, where available, electronic form. Examples from CCSBT are included below, hard copies of other material can be shown and/or copied.

#### 1. Identification of seabirds

This is needed by observers and fishers wishing to identify seabirds caught in fishing gear or seen near vessels.



## 2. Reduction of bait loss to seabirds (and reduction in seabird deaths)

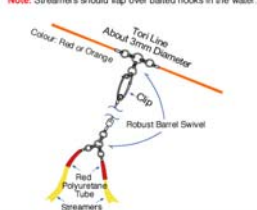
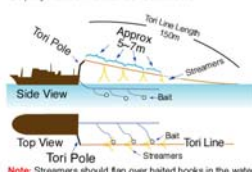
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### How to reduce bait loss (and seabird deaths)

#### Using a correctly made and set seabird line

A bird line (also called a tori line) is simply used to scare seabirds from the bait. It consists of a line with attached streamers towed astern directly above the area in which baits enter the water. Baits can be taken by a bird immediately after they are thrown from the vessel and before they have had time to sink. All SBT vessels should be using a bird line as standard practice. They are inexpensive, easy to construct and set and if they are used correctly, they will serve to not only reduce seabird deaths, but will also help fishermen avoid considerable bait loss.

CCSBT has adopted 'A Guideline for the Deployment of Tori Lines' as follows.



#### Setting gear at night

Line setting at night can minimise bait loss and seabird deaths during longline fishing, since albatrosses feed mostly during day time. But during a full moon, albatrosses will sometimes take baited hooks set at night. Also, some smaller species of seabirds such as Grey petrels, White-chinned petrels and shearwaters search for baits behind vessels at any time, day or night. As a result certain birds may continue to be caught regardless of night setting. However, lines set at night are still far less likely to catch birds than lines which are set partly or wholly in the daylight. Night setting should be combined with the use of a good bird line, particularly on moonlit nights, and with appropriate combinations of other methods.

#### Reducing lighting

Birds rely on their eyes to see baits in order to take them, so floodlights which brightly illuminate a large area astern assist them to do this. Where it does not compromise safety on board, operators can reduce seabird catches by reducing lighting.

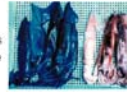
#### Bait quality

Baits that are frozen or bait which have air in their swim bladders are likely to be taken by birds. Both are more likely to float, or to sink more slowly, making them easy pickings for birds. Use fully thawed baits and avoid bait types that have a high incidence of air retained in swim bladder.



#### Colouring Bait

Blue dyed bait is less visible in the water and shows promise as another way to reduce incidental capture of seabirds without reducing target fish catch.



#### Weighting branch lines

Obviously with more weight on branch lines, baits will sink faster and out of reach of seabirds. The amount and position of weights on the branch-line is particularly important to increase the sink rate of the bait. Less weight is required if placed close to the hook. If not weighted correctly, particular ocean currents may also cause branch lines to rise to the water surface. If this happens, your line will not be set at a depth to target fish and bait can be taken by birds at the surface. Birds still alive on hooks, which haven't been caught during hauling, can indicate that the set line has been lying close to the surface. When using weighted lines however, crew members must be careful about their safety when handling the line.

#### Using bait casting machines

Bait casting machines throw baited hooks so that these hooks will not be influenced by propeller turbulence, and, by ensuring the baits are placed under the bird line, can maximise the protection from the bird line.



#### Using hydraulic line haulers

Seabirds can also be caught during hauling, especially if branch lines are

recovered too slowly. Vessel speed and the main line hauling rate must be synchronised with branch line recovery rate so that baited hooks never trail on the sea surface astern.

#### Paying close attention to wind and setting course

It is important that the mainline is set such that it is never pulled taut by the motion of the vessel. This requires careful attention to line shooter or drum speed, especially when setting gear in downwind conditions. If the line does pull tight astern, bait immediately becomes more available to birds.

#### Retaining offal

Discarding any edible materials from your vessel during line setting or line hauling only increases the number of birds following the vessel and encourages them to search intensively for baits. Retaining offal and used baits during fishing operations and discharging them once each night will reduce the number of birds feeding behind your vessel.

#### An aware crew

It is important that crew members understand the actions needed to reduce capture of seabirds.



#### Request for fishers

Some of the above-mentioned mitigation measures (such as night setting, coloring bait) are under development or are in the improvement stages. We would therefore appreciate any feed back from fishers on the measures including their effectiveness and any effects on fishing activities observed as a result of using the measures.

The Working Party may wish to consider a process by which relevant educational and training material could be assembled to help implement IOTC's Seabird Bycatch Resolution 06/04.